

CHAPTER 1

U.S.-CHINA ECONOMIC AND TRADE RELATIONS

SECTION 1: YEAR IN REVIEW: ECONOMICS AND TRADE

Introduction

China is navigating a complex economic transformation as it experiences a slower pace of growth. The Chinese leadership proclaimed during the 2013 Third Plenary Session of the 18th Chinese Communist Party (CCP) Central Committee (hereafter, “Third Plenum”) that it is working toward a more market-based economic system. However, Party documents and official actions indicate the Chinese government’s approach to reform is different from the liberal market reform Western observers expect. By “reform,” China’s leaders mean an economy that more efficiently achieves the strategic goals of the state. While reform in the Chinese sense allows for incremental movements toward a free market in certain areas, it precludes any changes that substantially reduce the government’s power over the economy.

Beijing’s state-directed approach raises questions about the sustainability of China’s economic growth. Government stimulus has largely accrued to the state sector while the private sector struggles to secure credit, endangering China’s rebalancing. Within China’s economic downturn, a tale of two Chinas is emerging. In one, traditional drivers of growth—heavy industry and low-end manufacturing—are in decline, while in another, newer sectors—services, consumer goods, and technology—are burgeoning. Still, the old economy remains critical for some provinces, and the new economy—so vital to China’s future growth—is nascent, underfunded, and not pulling its weight. National-level economic data also belie sharp discrepancies between the northeastern and western provinces dependent on the old economy and the southern and eastern regions with more diversified economies.¹ Externally, China’s rebalancing has proceeded slowly as the country continues to run massive global trade surpluses: in 2015, China’s global trade surplus in goods and services reached \$595 billion, up from \$382 billion in 2014.²

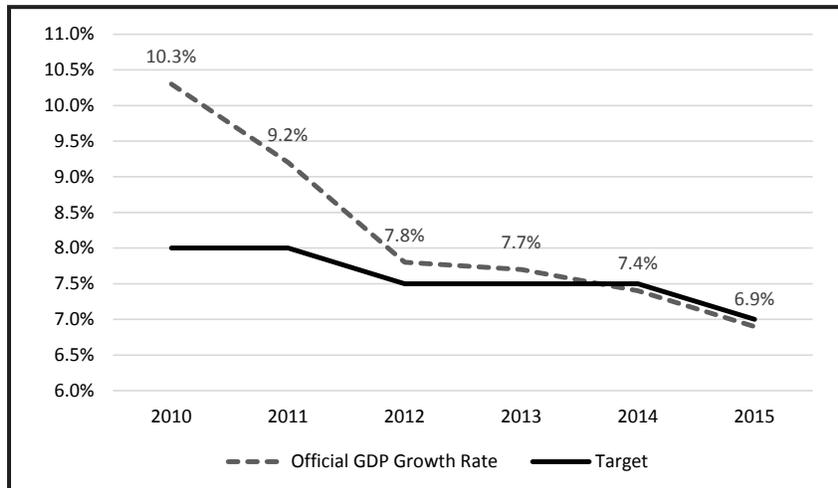
This section examines China’s domestic and external rebalancing as well as key developments in U.S.-China bilateral and multilateral engagement since the Commission’s *2015 Annual Report to Congress*. For analysis of some of the key challenges China faces as it seeks to rebalance its economy, see Chapter 1, Section 2, “State-Owned Enterprises, Overcapacity, and China’s Market Economy

Status.” For an in-depth examination of China’s reform agenda, see Chapter 1, Section 3, “13th Five-Year Plan.”

China’s Domestic Rebalancing

In 2015, China’s officially reported gross domestic product (GDP) growth fell to 6.9 percent—a 25-year low—in line with the official GDP target of “around 7 percent” (see Figure 1).³ The Chinese government announced a 6.5 percent to 7 percent growth target for 2016.⁴ The range acknowledges China’s “new normal” of slower growth and gives it more flexibility to meet its target. In the second quarter of 2016, China’s economy grew 6.7 percent, the same rate as in the previous quarter, its weakest pace of expansion since 2009.⁵ Key economic indicators show the government’s hand in stabilizing the economy through large-scale stimulus. Industrial production and retail sales rose, buoyed by government stimulus measures, while fixed asset investment (FAI)* weakened.

Figure 1: China’s GDP Growth, 2010–2015
(year-on-year)



Source: Various.⁶

Statistics with Chinese Characteristics: The Reliability of China’s GDP Data

In the first half of 2016, the Chinese government reported GDP growth of 6.7 percent, but many foreign economists believe official statistics overstate the economy’s performance. There has been longstanding skepticism among economists, investors, and analysts about the reliability of Chinese official economic data, par-

* FAI is a measure of capital spending referring to any investment by government and businesses in physical assets, such as buildings, machinery, and equipment.

Statistics with Chinese Characteristics: The Reliability of China's GDP Data—Continued

ticularly the politically sensitive GDP growth rate.* They point to inconsistencies with official statistics—discrepancies between GDP data published at the national and provincial levels and the headline GDP and sectoral data—which raise the likelihood of inaccurate statistics.⁷ Moreover, China's quarterly and annual GDP data are unusually smooth compared to other major economies, evincing “little or no volatility compared to growth targets.”⁸

Most unofficial estimates of China's growth in the first half of 2016 fall below the reported 6.7 percent.⁹ For example, economic research consultancy Capital Economics estimates China's GDP grew at 4.5 percent in the second quarter of 2016.¹⁰ Preliminary estimates from Lombard Street Research, another research consultancy, assess China's GDP growth at 6 percent in the second quarter of 2016.¹¹ However, estimates struggle to accurately capture the rising role of services in China's economy due to the dearth of available data.¹² The International Monetary Fund's (IMF) annual review of China's economic and financial policies finds that while “there is some evidence pointing to possible overstatement of growth recently ... the overstatement is likely moderate and the official national accounts data—while there is much room for improvement—likely provides a broadly reliable picture.”¹³

Top officials, including Premier Li Keqiang and Ning Jizhe, the new head of China's National Bureau of Statistics,† have pushed for better data on the country's “new economy” industries.‡ Official data focus on measuring industrial activity and fail to reflect newer economic drivers, such as online retail sales, because they do not fit neatly into existing categories.¹⁴ China's National Bureau of Statistics is expected to issue guidelines for compiling data across new economy sectors by the end of 2016.¹⁵

In the second quarter of 2016, FAI grew 9 percent from the second quarter of 2015 (year-on-year), its slowest pace since 2000.¹⁶ Conditions in China's industrial sector were weaker than in the first quarter. Unofficial estimates by Caixin, a Chinese financial media group, showed China's manufacturing Purchasing Managers' Index (PMI)§

*For an in-depth examination of the reliability of China's economic statistics, see Jacob Koch-Weser, “The Reliability of China's National Economic Data: An Analysis of National Output,” *U.S.-China Economic and Security Review Commission*, January 28, 2013.

†Ning Jizhe's predecessor was ousted in January 2016 over unspecified corruption allegations after less than a year on the job. Gabriel Wildau, “China's Statistics Chief Wang Baoan Accused of Corruption,” *Financial Times*, January 26, 2016.

‡In a press conference after the conclusion of the National People's Congress in March 2016, Premier Li said, “The concept of the new economy covers a wide range of areas and has many dimensions.... It's not just about emerging forms of business and industries such as e-commerce, cloud computing, the Internet of things and Internet. It can also be found in smart manufacturing, large-scale customer-made production in the industrial sector.” State Council of the People's Republic of China, *Premier Li Keqiang Meets the Press: Full Transcript of Questions and Answers*, March 16, 2016.

§The PMI measures the level of economic activity in the manufacturing sector based on five sub-indicators: production level, new orders, inventories, supplier deliveries, and employment level. The Caixin-Markit China manufacturing PMI is compiled by Markit Economics, a global financial information services provider, based on monthly responses to questionnaires sent to purchasing executives from over 420 manufacturing firms, including small and medium-sized enterprises. The China Mixin PMI, a less high-profile private gauge of manufacturing activity,

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at 48.6 in June 2016, down from 49.2 in May, the third consecutive monthly decline (a reading below 50 points indicates contraction of the manufacturing sector).¹⁷ Value-added industrial growth—viewed by markets as a proxy for economic growth—expanded 6.2 percent year-on-year in June.¹⁸ The recovery in the property market during the first half of 2016 helped to cushion the slowdown in the broader economy; housing sales rose 44.4 percent year-on-year in the first half of 2016.¹⁹ However, slowing property investment growth in the first half of 2016 indicates the stimulus-driven recovery in the property sector is tapering off.*

Consumption's contribution to GDP in 2016 continued to increase, accounting for 73.4 percent of growth in the first half of 2016, compared to 60 percent of growth in the first half of 2015.²⁰ Retail sales of domestic goods and services, a proxy measure for overall consumption, grew at a better-than-expected 10.6 percent year-on-year in June 2016, the highest reading since December 2015.²¹ However, because China's retail sales figures include private and government purchases, disposable personal income† can be a more accurate indicator of household spending.²² In the first half of 2016, China's national per capita disposable income, adjusted for inflation, grew 6.5 percent year-on-year to \$1,774 (renminbi [RMB] 11,886).‡²³ (For comparison, the U.S. national per capita disposable income was \$43,095 in the second quarter of 2016.)²⁴ Despite strong retail sales data, growth in consumer spending is likely to weaken, as income gains slow§ and household savings rates remain high—the average Chinese household saves as much as 40 percent of its income.¶²⁵

Beijing is relying on a stronger service sector to help offset the contraction in its manufacturing sector and to provide jobs for laid-off factory workers.²⁶ In 2015, services grew 8.3 percent, generating for the first time more than half of China's GDP (50.5 percent).²⁷ The sector expanded at a slightly slower pace in 2016—in the second quarter, it grew 7.5 percent, surpassing a 6.3 percent increase in the secondary industry, and accounted for 54.1 percent of GDP,

was suspended "indefinitely" in July 2016 by its publishers, the China Minsheng Bank and the government-affiliated China Academy of New Supply-Side Economics. China's official PMI, compiled by the National Bureau of Statistics, tracks larger state-owned companies and generally shows a stronger reading than the private PMIs. *Financial Times*, "Independent Chinese PMI Gauge Suspended Indefinitely," July 20, 2016; Caixin Purchasing Managers' Index, "Caixin China General Manufacturing PMI," July 1, 2016.

*The decline in property investment growth is due in part to weak property developer sentiment and housing inventory oversupply. Property investment from January to June 2016 rose 6.1 percent year-on-year, slowing from an increase of 7 percent from January to May 2016. Property investment for June 2016 increased a mere 3.5 percent from a year ago, compared with 6.6 percent in May. Clare Jim, "China Property Investment Growth Slows, Recovery Seen at an End," Reuters, July 15, 2016; Elias Glenn and Kevin Yao, "Government Spending Steadies China's Economy in Second-Quarter but Risks Grow," Reuters, July 15, 2016; and *Financial Times*, "Real Estate to Remain a Growth Lifeline for China through 2016," July 10, 2016.

†Disposable personal income is the amount of income households have for spending and saving after income tax.

‡Unless otherwise specified, this Report uses the following exchange rate throughout: 1 U.S. dollar = 6.70 RMB.

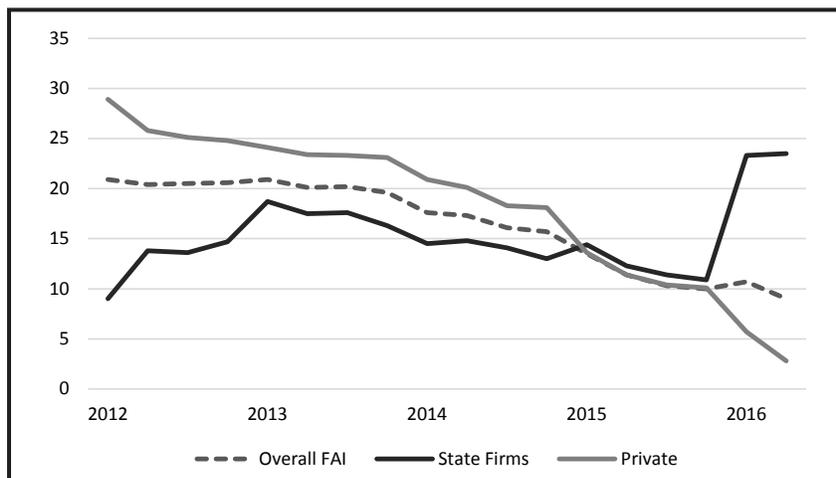
§In July 2016, Xin Changxing, vice minister of China's Ministry of Human Resources and Social Security, called for a slowdown in wage increases to maintain competitiveness. Several provinces have slowed or halted increases to minimum wages this year, as Chinese companies face increasing pressure from weakening demand and rising expenses. Nick Heath and Winni Zhou, "China Will Struggle to Maintain Growth Pace for Wages: Statistics Bureau," Reuters, July 16, 2016.

¶In comparison, the U.S. household savings rate is 5.2 percent. Chinese officials, meeting with Commission, Beijing, China, June 24, 2016; China's National Bureau of Statistics, *China Had a Good Start in the First Quarter of 2016*, April 15, 2016; and Alexandra Stevenson, "As Growth Slows, China Pins Hopes on Consumer Spending," *New York Times*, January 19, 2015.

up from 52.3 percent in the second quarter of 2015.²⁸ The fastest growth has come from “other” services, a broad category that includes business services, education, entertainment, and healthcare.* While financial services was the main contributor to overall service growth in the first half of 2015, its share has been in decline since the stock bubble burst last June.²⁹

Although China’s state-owned economy has declined in relative importance, it remains significant, accounting for 16 percent of GDP and more than half of corporate debt.³⁰ The Xi Administration has identified state-owned enterprise (SOE) reform as an essential step to restructuring the economy.³¹ Concentrated in heavy industry and construction, and burdened by overcapacity and debt, the state sector is tied to the old growth model from which Beijing says it has been trying to move away. China’s political reality, however, shows that the government continues to support SOEs. Even as Beijing states its intent to promote a productive private sector, it largely channels credit to the inefficient state sector.³² (In 2015, industrial SOEs had a return on assets of 2.9 percent, compared with 10.3 percent for private industrial enterprises.)^{†33} During the second quarter of 2016, state sector investment expanded 23 percent year-on-year, while private investment growth slowed to a record low of 2.8 percent (see Figure 2).³⁴ Meanwhile, SOE profits fell 6.7 percent year-on-year in 2015 and 8.5 percent year-on-year in the first half of 2016, despite the government’s efforts to boost economic growth.³⁵ (For more on China’s efforts to restructure its SOEs, see Chapter 1, Section 2, “State-Owned Enterprises, Overcapacity, and China’s Market Economy Status.”)

Figure 2: China’s Fixed Asset Investment
(% change year-on-year, year-to-date)



Source: China’s National Bureau of Statistics via CEIC database.

*A lack of detail on “other” services makes it difficult to assess which service industries within that category are driving growth. Gabriel Wildau, “China Services Sector Key to Growth,” *Financial Times*, December 6, 2015.

†For comparison, the average 2015 year-end return on assets of the top 20 U.S. companies listed on the Fortune 500 was 4.9 percent. Return on assets data were compiled from YCharts, a financial data and analytics provider. YCharts. <https://ycharts.com/companies>.

Key Government Statements on Economic Reform

Third Plenum Decision (November 2013):³⁶

We must deepen economic system reform by centering on the decisive role of the market in allocating resources, adhere to and improve the basic economic system, accelerate the improvement of the modern market system, macro-control system and open economic system.

The basic economic system with public ownership playing a dominant role and different economic sectors developing side by side is an important pillar of the socialist system with Chinese characteristics and is the foundation of the socialist market economy. Both the public and nonpublic sectors are key components of the socialist market economy, and are important bases for the economic and social development of China. We must unswervingly consolidate and develop the public economy, persist in the dominant position of public ownership, give full play to the leading role of the state-owned sector, and continuously increase its vitality, controlling force and influence. We must unwaveringly encourage, support and guide the development of the nonpublic sector, and stimulate its dynamism and creativity.

Guiding Opinion on Deepening the Reform of State-Owned Enterprises (September 2015):³⁷

The fundamental requirement for deepening SOE reform is to uphold and improve the basic economic system. We must unswervingly consolidate and develop the public economy, and unswervingly encourage, support, and guide the development of the nonpublic economy. We must uphold the dominant position of public ownership and develop the leading role of the state-owned economy.

China's Supply-Side Structural Reforms

Chinese President and General Secretary of the CCP Xi Jinping has made “supply-side structural reform” the dominant theme of economic policy in 2016, after announcing it during the Central Economic Work Conference last December.³⁸ In the Chinese context, supply-side reform has become an umbrella term for structural reforms: the main thrust of the reforms, according to President Xi, is “to reduce ineffective supply, increase effective supply, and make the supply structure more fitting to the demand structure.”³⁹ President Xi differentiates China’s version of “supply-side structural reform” from Western supply-side economics: the end goal of Chinese reform, according to President Xi, is not “small government, big market,” but “effective government and effective markets.”⁴⁰ Key elements of the policy include cutting excess industrial capacity and housing inventories, deleveraging, and reducing business costs.⁴¹ The central government has put the onus on local governments to work out how to operationalize and implement these broad policy planks.⁴²

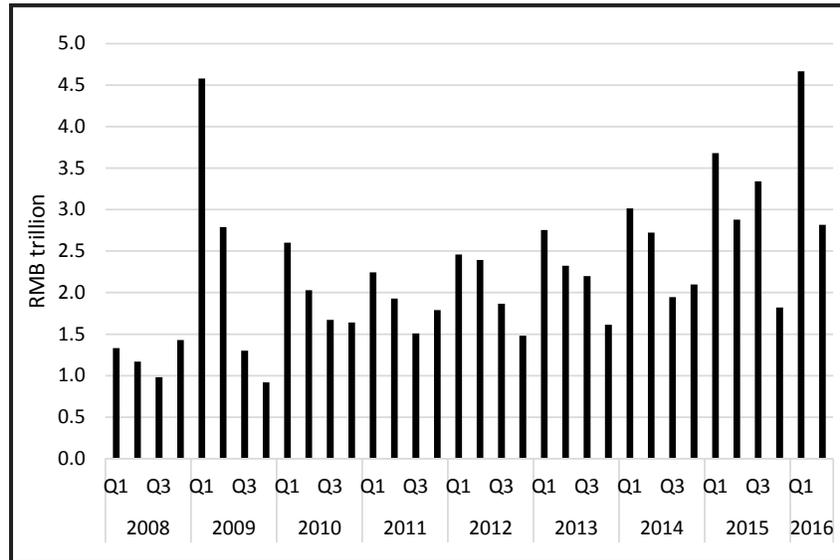
Early signs suggest President Xi's supply-side focus has not yet translated into a serious change of course. Facing a sharp slowdown in growth and large capital outflows at the beginning of 2016, Chinese economic policymakers turned to stimulus measures to revive growth.⁴³ Moreover, capacity reduction efforts in the coal and steel sectors have fallen far short of stated goals.⁴⁴ In response, President Xi has sought to rally local officials around the government's agenda.⁴⁵ In a May 2016 meeting with senior Party leaders, he expressed his frustration with the lack of progress on supply-side reforms, noting that, "some local governments haven't started vigorous implementation yet, and some efforts are missing the point."⁴⁶ In the same month, the *People's Daily* published a transcript of an internal speech President Xi delivered to principal ministerial and provincial officials in January 2016, in which he emphasized the need to "prevent some people from using their interpretations to promote 'neoliberalism.'"^{*47}

More Stimulus amid Rising Debt

Escalating lending belies the Xi Administration's promises of supply-side reforms. The Chinese government has ramped up efforts to inject money into the economy and boost economic performance. In February 2016, the People's Bank of China (PBOC) lowered the reserve requirement ratio—or the amount of customers' deposits banks must hold in reserve—by 0.5 percentage points, injecting an estimated \$100 billion in the economy.⁴⁸ Furthermore, in the first quarter of 2016, China's state-controlled banks released a record \$701 billion (RMB 4.7 trillion) of credit, slightly surpassing the \$687 billion (RMB 4.6 trillion) released in the first quarter of 2009 during the global financial crisis.⁴⁹ The 2009 stimulus helped China rebound from the global slump, but it also greatly worsened the country's industrial overcapacity and debt levels.⁵⁰ While lending eased overall to \$432.8 billion (RMB 2.9 trillion) in the second quarter of 2016, the pace of lending picked up again in June, with new loans totaling \$209 billion (RMB 1.4 trillion) (see Figure 3).⁵¹

*Neoliberalism is an economic philosophy that emphasizes transferring control of economic factors from the public sector to the private sector. Key tenets include deregulation, privatization, free trade, fiscal austerity, and reduced government spending.

Figure 3: New Loans Issued by Chinese Banks, 2008–2016 Q2
(year-on-year)

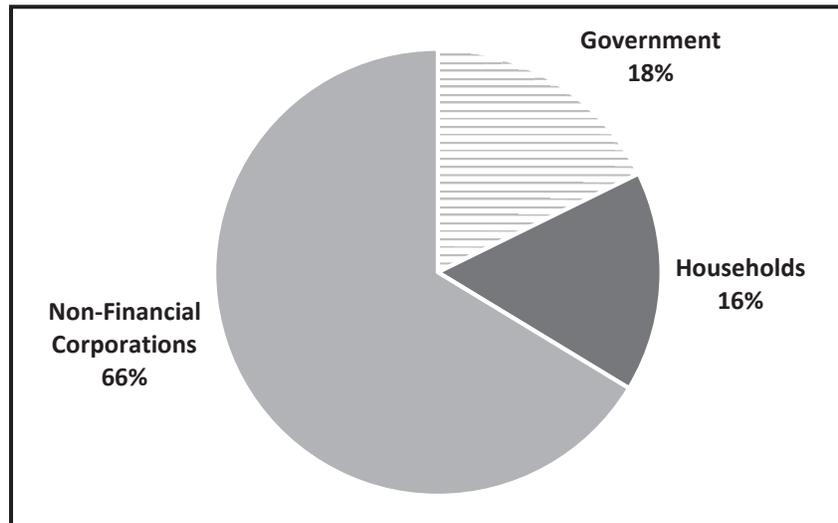


Source: The People's Bank of China via CEIC database.

China's continued reliance on borrowing from its state-controlled banks to bolster growth raises concerns about the sustainability of gains made in the first half of 2016. China's stimulus policies are delivering rapidly diminishing returns. According to Morgan Stanley, it now takes nearly six RMB of additional credit to generate one RMB of GDP growth.⁵² From 2003 to 2008, it took one RMB of extra credit to generate one RMB of growth; this ratio rose to two to one between 2009 and 2010, and reached four to one in 2015.⁵³

China's total debt reached a record \$27.2 trillion, or 255 percent of GDP, in the first quarter of 2016, according to data from the Bank for International Settlements (see Figure 4).⁵⁴ While China's overall level of debt is a concern, more alarming is the speed at which it has amassed—the country's total debt was only 148 percent of GDP in 2007.⁵⁵ In particular, the rapid growth in China's corporate debt—which stands at 169 percent of GDP—is worrying.⁵⁶

*China's total debt as a proportion of national income is comparable to that of the United States (251 percent of GDP at the end of 2015), but is much higher than in other developing economies. For instance, at the end of 2015, India's total debt was 129 percent of GDP, while Brazil's was 149 percent of GDP. Bank for International Settlements, "Total Credit to the Non-Financial Sector (Core Debt)," May 27, 2016.

Figure 4: China's Total Debt by Holder, 2016 Q1

Source: Bank for International Settlements.

China's high and still rising corporate debt levels present elevated risks to economic growth and financial stability.⁵⁷ Rising corporate indebtedness, driven by firms in the real estate and construction sector and SOEs in general, has led to a drop in profitability and return on assets, indicating deteriorating debt-servicing capacity.⁵⁸ As Chinese banks make about a half of their loans to companies, an uptick in corporate defaults could have broader implications for the banking sector, such as a worsening of banks' asset quality.⁵⁹

SOEs hold more than half of corporate debt, despite generating only one-fifth of China's total economic output.⁶⁰ In addition, state-owned banks are SOEs' biggest creditors, enabling the government to issue nonproductive loans and forgive SOE debts—a classic example of moral hazard.^{*61} (For more on the challenges associated with SOE debt, see Chapter 1, Section 2, "State-Owned Enterprises, Overcapacity, and China's Market Economy Status.") At the same time, nonperforming loans (NPLs)—loans that are unlikely to be paid back—are piling up. According to the China Banking Regulatory Commission, Chinese banks' NPLs amounted to 2.15 percent of total loans at the end of May 2016, up from 1.75 percent at the end of March.⁶² However, the actual NPL ratio may be much higher; brokerage firm CLSA estimates that NPLs accounted for 15 percent to 19 percent of loans in 2015, compared with the official 1.67 percent.[†]

*Moral hazard occurs when one party takes greater risks than it would otherwise because another party bears the cost of the risks.

†The sizable discrepancy between the official NPL ratio and unofficial estimates comes from how banks categorize NPLs. The IMF considers a loan nonperforming if interest and principal payments are more than 90 days overdue. In China, a loan more than 90 days overdue is considered nonperforming only if loans are doubtful or loss making. As SOE borrowers are presumed to have government backing, it can be difficult for banks to characterize their loans as nonperforming. There is also a separate category—"special mention" loans—for loans that are at risk of becoming nonperforming. CLSA derived its bad debt ratio estimate from Chinese companies' financial statements; a company's

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A 2016 IMF report estimated the potential losses for China's banks from bad corporate loans at 7 percent of GDP.⁶³

The rapid growth of China's shadow banking* sector is another cause for concern due to the risks it poses to financial stability.⁶⁴ According to the IMF's 2016 annual Article IV review of China's economy, shadow credit products grew by almost 50 percent in 2015 to \$6 trillion (RMB 40 trillion), or about 58 percent of China's GDP.⁶⁵ About half of these shadow credit products pose an "elevated" risk of default or loss.⁶⁶

RMB Reforms

Amid rising financial sector vulnerabilities, the PBOC has found it difficult to maintain momentum on financial reforms while delivering on its mandate to support economic growth. The central bank stated that it wants a more flexible, market-oriented exchange rate regime, but it also desires RMB stability.⁶⁷ In pursuit of a stable RMB, the PBOC has been trying to shift market attention from the RMB's movement against the dollar, announcing in December 2015 it would start tracking the value of the RMB based on a broader basket of currencies.⁶⁸ According to Eswar Prasad, professor of trade policy at Cornell University, "This move would make it easier for the [PBOC] to delink the RMB from the dollar."⁶⁹ In addition, Dr. Prasad said, "The [PBOC] may be preparing the market for further RMB depreciation relative to the dollar in the short turn—if the dollar were to strengthen further—and focusing attention on a more suitable benchmark for future movements in the currency."⁷⁰ Some analysts believe China's move to unpeg its currency from the dollar could allow the PBOC to alternate between setting the RMB against the dollar and the currency basket depending on the strength of the dollar, affording the Chinese government greater flexibility with monetary policy.⁷¹

Beijing has continued to increase the flexibility of its exchange rate,† driven in part by its goal of expanding the international use of the RMB. It achieved an important victory in November 2015 when the IMF executive board voted to include the RMB in the Special Drawing Rights (SDR) basket, to become effective in October 2016 (see following textbox).⁷² The PBOC has stated that it sees the inclusion of the RMB as a starting point for deeper financial reforms, which include a greater liberalization of China's capital account.⁷³ Despite this progress, the PBOC still carefully manages the value of the RMB, intervening in foreign exchange markets to keep the currency's external value stable.⁷⁴ From August 2015 to June 2016, the PBOC spent about \$473 billion in foreign exchange

loans are classified as nonperforming if its interest expenses surpass operating income, or if its net debt is greater than five years of operating income. Reuters, "UPDATE 1-China's Non-Performing Loans Hit 11-Year High – Regulator," May 12, 2016; Shuli Ren, "CLSA: 15-19% of China's Bank Loans Are Bad," *Barron's Asia* (Blog), May 6, 2016; and Paul Panckhurst, "CLSA Sees China Bad-Loan Epidemic with \$1 Trillion of Losses," *Bloomberg*, May 6, 2016.

*Shadow banking is lending—to include wealth management products, credit guarantees, entrusted loans, and peer-to-peer lending—that occurs outside of the formal banking sector. For more information on China's shadow banking sector, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, "Governance and Accountability in China's Financial System," in *2013 Annual Report to Congress*, November 2013, 113–152.

†Notably, the PBOC took an important step toward a more market-determined exchange rate in August 2015 when it revised its method for setting the daily reference rate for the RMB in the onshore currency market; the PBOC said it would take into account the previous day's closing exchange rate—which could rise or fall up to 2 percent under the currency's trading band—as well as the exchange rate movements of other major currencies. Nicholas Lardy, "China's Latest Currency Actions Are Market Driven," *China Economic Watch* (Peterson Institute for International Economics blog), August 11, 2015.

reserves to defend the RMB.⁷⁵ It also has failed to communicate its foreign exchange policy; twice in the past year, the PBOC's poorly communicated efforts to make the RMB more market driven resulted in significant market turbulence.*

China's RMB Joins the IMF's Special Drawing Rights Currency Basket

The RMB's addition to the basket of the SDR—the IMF's international reserve asset—took effect on October 1, 2016.† The IMF executive board decided in November 2015 that the RMB “met all existing criteria” for SDR basket inclusion, including being “freely usable,” defined as being “widely used” for international transactions and “widely traded” in major foreign exchange markets.⁷⁶ The decision was reportedly unanimously supported by IMF executive board members, including the United States.⁷⁷ The addition of the RMB to the SDR basket—currently composed of the dollar, euro, pound, and yen—has been a key policy objective for Beijing both as a symbol of its economic importance and role in the global economy and as part of its efforts to increase the international use of the RMB.⁷⁸

Christine Lagarde, managing director of the IMF, said the RMB's inclusion is “a recognition of the progress that the Chinese authorities have made in the past years in reforming China's monetary and financial systems.”⁷⁹ Following the announcement, the PBOC pledged China “will speed up the effort to promote financial reforms and opening.”⁸⁰ Dr. Prasad said that while the decision will encourage China's reformers, “domestic opposition to further financial-sector reforms and market-oriented liberalization measures remains fierce, and this decision by itself is unlikely to shift the balance substantially.”⁸¹

Aside from earning China economic prestige, the immediate impact of the RMB's inclusion in the SDR basket will be limited, given the SDR's minor share of global reserves.‡ In the longer term, central banks may increase their holdings of the RMB, and investors may be encouraged to hold RMB-denominated assets. Standard Chartered, a multinational banking and financial services company, estimates the RMB's new status as a reserve asset will lead to a 1 percent shift (about \$1 trillion) of global reserves into RMB-denominated assets over the next five years.⁸² Use of the RMB for trade settlement is still small, but has been growing steadily: according to SWIFT, a global provider of financial mes-

*In August 2015, an unexpected move by the PBOC to cut its daily reference rate for the RMB prompted a further fall in its currency market and market selloffs. In January 2016, the PBOC's surprise move to guide the RMB weaker against the dollar sparked a second selloff. In both cases, the PBOC had to intervene heavily, using its foreign exchange reserves to prevent the RMB from falling too much. Keith Bradsher, “China to Track Renminbi Based on Basket of Currencies,” *New York Times*, December 11, 2015; Lingling Wei, “China Challenged to Keep Yuan Stable as Dollar Rises,” *Wall Street Journal*, May 16, 2016.

†Effective October 1, 2016, the weights of the SDR currencies will be: 41.7 percent for the U.S. dollar, 30.9 percent for the euro, 10.9 percent for the RMB, 8.3 percent for the Japanese yen, and 8.1 percent for the pound sterling. International Monetary Fund, “Review of the Special Drawing Right (SDR) Currency Basket,” April 6, 2016; International Monetary Fund, “IMF's Executive Board Completes Review of SDR Basket, Includes Chinese Renminbi,” November 30, 2015.

‡According to IMF data, SDR holdings made up 2.1 percent of global reserves at the end of 2014. International Monetary Fund, “IMF Annual Report 2015: Appendix I,” 2015.

China's RMB Joins the IMF's Special Drawing Rights Currency Basket—*Continued*

saging, in July 2016 the RMB was the fifth most used currency, accounting for 1.9 percent of all international payments.*

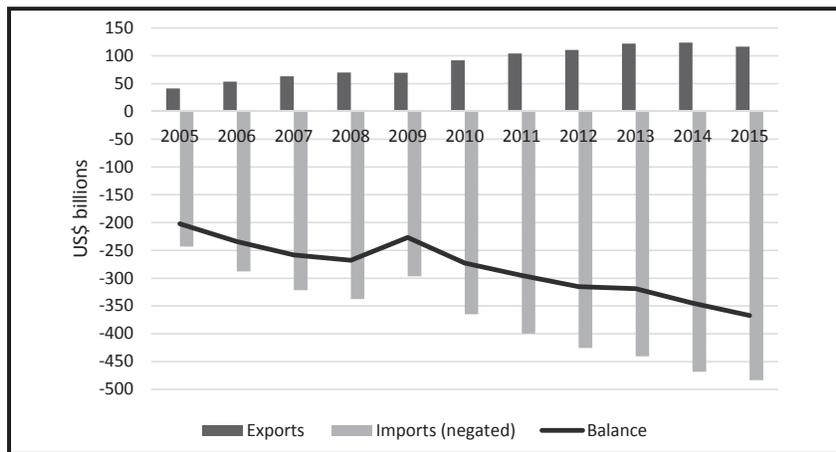
China is also pushing for greater use of the SDR as a way to reduce the dominance of the U.S. dollar.⁸³ In August 2016, the World Bank issued \$700 million worth of SDR bonds in China's domestic market for the first time, a move aimed at reviving the global market for SDR bonds.[†] The bonds are denominated in SDRs and payable in RMB.⁸⁴

U.S.-China Bilateral Trade and Investment

The United States is running a record trade deficit with China driven by U.S. goods imports; it has a substantial but much smaller trade surplus with China in services. Compared with bilateral trade flows, investment levels between the two countries are far smaller. In recent years, U.S. direct investment in China has remained flat, while Chinese foreign direct investment (FDI) in the United States is increasing rapidly and making up a growing share of China's outward investment.

In 2015, the U.S. goods trade deficit with China increased by 6.5 percent year-on-year to \$367.2 billion, a new record (see Figure 5).⁸⁵ U.S. exports to China declined 6.4 percent year-on-year to \$116 billion, while imports increased 3.6 percent to \$483.2 billion.⁸⁶

Figure 5: U.S.-China Goods Trade, 2005–2015



Source: U.S. Census Bureau.

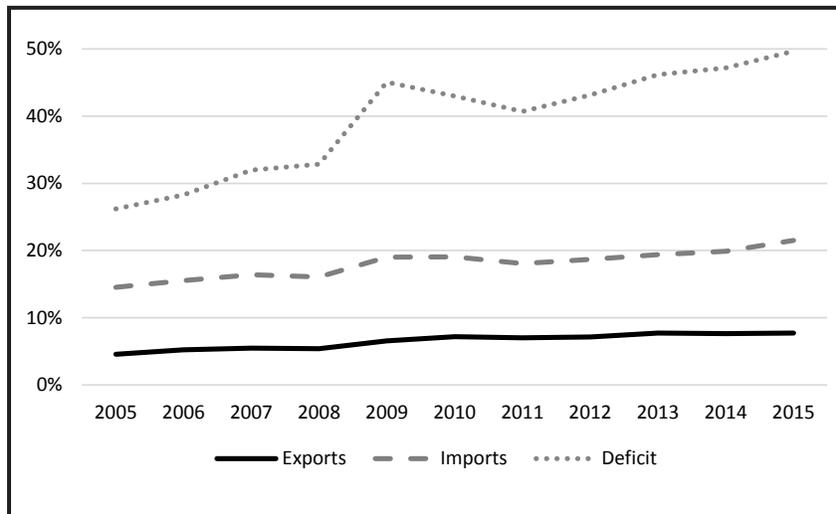
*The U.S. dollar leads SWIFT rankings with 41.3 percent, followed by the euro (31.3 percent), pound sterling (7.9 percent), and Japanese yen (3.4 percent). SWIFT, "RMB Continues to Penetrate the South African Market," August 24, 2016.

[†]Analysts anticipate limited demand from commercial investors given the bonds' low yields, but China's major state-owned banks are expected to step in and buy up bonds in the absence of market demand. SDR-denominated bonds were first issued in 1975 but floundered in the 1980s due to a lack of investor demand. Pete Sweeney, "China Is Wrong Venue for an SDR Revival," September 1, 2016; Michelle Chen and John Ruwicz, "World Bank Sells Landmark SDR Bonds at Lower-End of Guidance, Challenges Loom," Reuters, August 31, 2016.

The pace of U.S. export growth to China has always been modest (for instance, U.S. exports grew 1.5 percent in 2014), falling far short of expectations. However, the 2015 decline in exports made for a disappointing new development.⁸⁷ The decline was driven by China's trade protectionism, weak demand in China, and a strong U.S. dollar, which made U.S. exports more expensive.⁸⁸ U.S. export growth to China last declined during the height of the global financial crisis, when exports fell from \$69.7 billion in 2008 to \$69.5 billion in 2009, before making a quick recovery in subsequent years.⁸⁹

China's share of the U.S. goods deficit with the world also set a new record in 2015, reaching 50 percent (see Figure 6).⁹⁰ The overall goods deficit for 2015 was \$745.7 billion.⁹¹ U.S. exports to China remained flat for the third year in a row at 8 percent of total U.S. exports.⁹²

Figure 6: China's Share of U.S. Goods Exports, Imports, and Deficit, 2005–2015



Source: U.S. Census Bureau.

In the first eight months of 2016, the U.S. goods deficit with China fell 5.7 percent year-on-year to \$225.2 billion due to weaker imports (see Table 1).⁹³ U.S. imports from China in the first eight months of the year fell 5.8 percent year-on-year—a sharp contrast to the last five years.⁹⁴ The drop was driven by a 27.4 percent year-on-year decrease in March imports.⁹⁵ U.S. exports to China fell 6.3 percent year-on-year in the first eight months of 2016.⁹⁶ In the last two years, China's slowing economic growth has contributed to a year-on-year decline in U.S. export growth.*

*Meanwhile, foreign-invested enterprises (FIEs) continue to account for a significant share of China's foreign trade. According to official Chinese data, in the first half of 2016, FIEs in China

Continued

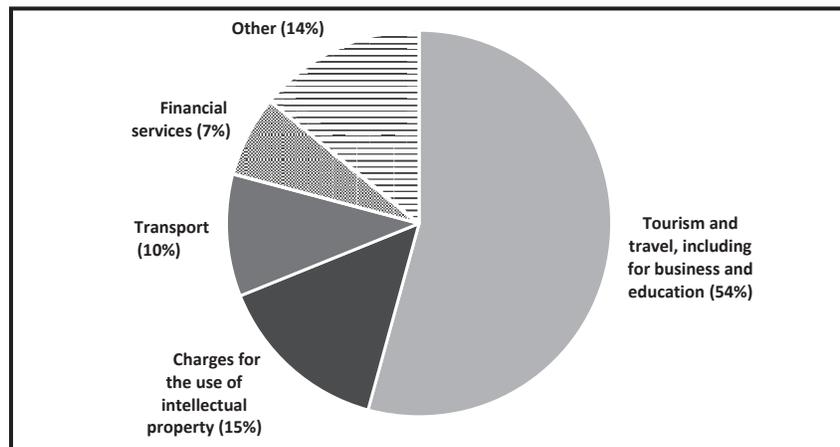
Table 1: U.S. Goods Trade with China, January–August 2016
(US\$ billions)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Exports	8.2	8.0	9.0	8.7	8.5	8.8	9.2	9.4
Imports	37.1	36.2	29.9	33.0	37.5	38.6	39.5	43.3
Balance	(28.9)	(28.1)	(20.9)	(24.3)	(29.0)	(29.8)	(30.3)	(33.9)
<i>Balance YTD</i>								
2015	(29.1)	(51.9)	(83.2)	(110.0)	(140.3)	(172.1)	(203.8)	(238.8)
2016	(28.9)	(57.0)	(77.9)	(102.2)	(131.2)	(161.0)	(191.4)	(225.2)

Source: U.S. Census Bureau.

The United States continues to maintain a sizable surplus in services, although the amount is much smaller than the U.S. deficit in goods. In 2015, the U.S. trade surplus in services with China totaled \$29.5 billion, a 5 percent increase from 2014.⁹⁷ Total bilateral trade in services rose approximately 7.9 percent in 2015, with U.S. service exports growing 7 percent, and Chinese service imports growing 10.5 percent.⁹⁸ Tourism and travel, including for business and education,^{*} is the top U.S. service export to China,[†] followed by charges for intellectual property[‡] (see Figure 7); travel is also the top U.S. service import from China, followed by transportation services.⁹⁹

Figure 7: U.S. Service Exports to China, 2015



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Note: "Other" includes other business services; maintenance and repair services; telecommunications, computer, and information services; government goods and services; and insurance services.

produced 42.8 percent of China's exports and 49 percent of its imports. China's Ministry of Commerce, *Import & Export Statistics by FIEs from Jan to June 2016*, July 15, 2016.

^{*}Under international and U.S. standards, tourism is broadly defined to include travel and related expenses for business purposes and travel and expenses for personal purposes, such as vacation, education, and medical services. International Monetary Fund, "Balance of Payments and International Investment Position Manual," 2009; U.S. Department of Commerce, *Comprehensive Restructuring of the International Economic Accounts: New International Guidelines Redefine Travel*. <http://travel.trade.gov/pdf/restructuring-travel.pdf>.

[†]For more on China's tourism spending and investment in the United States, see Matt Snyder, "Chinese Tourism and Hospitality Investment in the United States," *U.S.-China Economic and Security Review Commission*, July 25, 2016.

[‡]Charges for the use of intellectual property include charges for the use of proprietary rights, such as patents, trademarks, copyrights, industrial processes and designs, and franchises.

The United States continued to run a deficit in advanced technology product (ATP) trade with China, but that deficit decreased by \$3 billion to \$120.7 billion from 2014 to 2015.¹⁰⁰ In the first eight months of 2016, the U.S. deficit with China in ATP reached \$67.1 billion, a \$5.9 billion decline from the same period in 2015 (see Table 2).¹⁰¹ Imports of information and communication technology (ICT) products continue to be the main contributor to the deficit, accounting for 89 percent of total ATP imports in the first eight months of 2016.¹⁰² While large, ICT imports fell 7.2 percent year-on-year in the first eight months of 2016, contributing to a slowing deficit.¹⁰³

Table 2: ATP Trade, January–August 2016
(US\$ millions)

	Monthly			Cumulative year-to-date			
	Exports	Imports	Balance Aug'16	Exports	Imports	Balance 2016	Balance 2015
TOTAL	3,006	12,684	-9,678	22,119	89,240	-67,121	-73,058
(01) Biotechnology	77	14	63	548	87	461	397
(02) Life Science	295	258	37	2,233	1,729	504	523
(03) Opto-Electronics	32	539	-507	303	3,783	-3,480	-3,849
(04) Information & Communications	439	11,291	-10,852	3,227	79,521	-76,294	-82,262
(05) Electronics	539	355	184	3,875	2,531	1,344	1,557
(06) Flexible Manufacturing	221	108	113	2,071	672	1,399	1,231
(07) Advanced Materials	17	34	-17	156	233	-77	-148
(08) Aerospace	1,382	69	1,313	9,494	598	8,896	9,442
(09) Weapons	0	14	-14	2	85	-83	-89
(10) Nuclear Technology	4	0	4	209	1	208	139

Source: U.S. Census Bureau.

Foreign Investment Climate in China

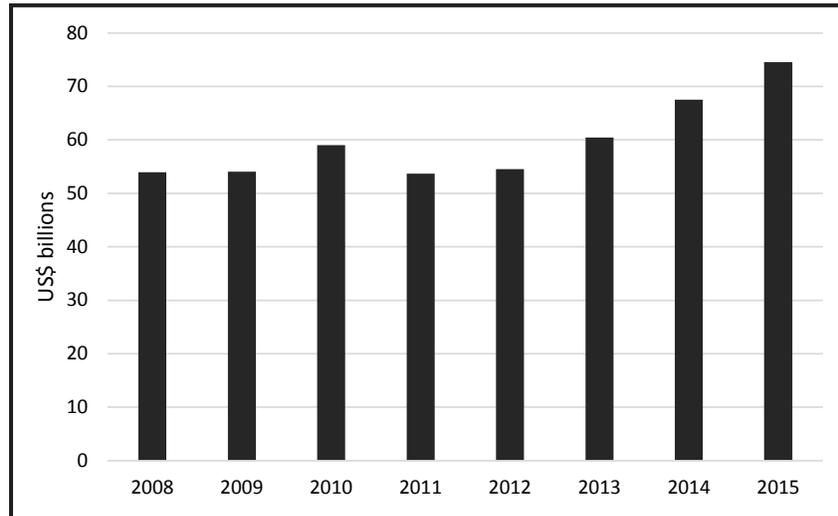
Trends in U.S. Direct Investment in China

Growth in U.S. direct investment in China has stagnated over the past five years, even as overall outward U.S. direct investment has expanded.¹⁰⁴ According to the U.S. Bureau of Economic Analysis (BEA), in 2015, annual U.S. FDI in China inched up to \$7.1 billion, bringing the share of U.S. FDI flowing into China to 2 percent of total outbound U.S. FDI, the same as in 2014.*¹⁰⁵

From 2008 to 2015, BEA data show a steady increase in U.S. FDI stock (cumulative) in China from around \$53.9 billion to \$74.6 billion (see Figure 8).¹⁰⁶ While U.S. FDI stock in China remains considerably higher than China's FDI stock in the United States (from 2008 to 2015, China's FDI stock in the United States rose from around \$1.1 billion to \$14.8 billion), annual Chinese FDI flows into the United States have grown much faster than U.S. annual FDI flows into China.¹⁰⁷

*For a breakdown of U.S. FDI stock in China by sector, see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 73–74. The latest data available are for 2014.

Figure 8: U.S. FDI Stock in China, 2008–2015
(cumulative, historical-cost basis)



Source: U.S. Department of Commerce, Bureau of Economic Analysis.

This reflects broader inbound FDI trends in China: FDI flows into China have slowed in recent years due to rising costs, concerns over the foreign investment climate, expectations for further RMB weakness, and competition from Southeast Asian countries.¹⁰⁸ Official statistics from China’s Ministry of Commerce (MOFCOM) show nonfinancial FDI in China reaching \$117 billion (RMB 781.4 billion) in 2015, a modest increase of 6.4 percent from 2014.¹⁰⁹ In the first half of 2016, nonfinancial FDI rose 5.1 percent year-on-year to \$69.4 billion; the service sector accounted for 70.4 percent of total FDI during the period, reaching \$48.9 billion.¹¹⁰

Challenges for U.S. Companies in China

Market Access Restrictions

China’s restrictive investment regime has earned it the second-worst rating on the Organisation for Economic Co-Operation and Development’s (OECD) FDI Regulatory Restrictiveness Index* every year since the index’s inception in 2010.¹¹¹ To protect domestic industries, particularly those deemed strategic, China continues to limit foreign investment in many sectors where the United States maintains a competitive advantage, such as research and development (R&D)-intensive and value-added sectors.† Despite high-level

*The OECD FDI Regulatory Restrictiveness Index includes both OECD economies and non-OECD member economies and is based on four main indicators: “equity restrictions, screening and approval requirements, restrictions on foreign key personnel, and other operational restrictions (such as limits on purchase of land or on repatriation of profits and capital). The discriminatory nature of measures is the central criterion to decide whether a measure should be scored.” Blanka Kalinova, Angel Palerm, and Stephen Thomsen, “OECD’s FDI Restrictiveness Index: 2010 Update,” *OECD Working Papers on International Investment* 03 (2010): 6.

†For more on China’s foreign investment restrictions, see U.S.-China Economic Security Review Commission, Chapter 1, Section 2, “Foreign Investment Climate in China,” in *2015 Annual Report to Congress*, November 2015.

commitments, China has only taken incremental steps to broaden market access for foreign investors.

China has affirmed its intent to further liberalize its foreign investment regime in several high-level documents, including the Third Plenum Decision and 13th Five-Year Plan (FYP). These documents direct China to expand foreign investment access in China, use a negative list approach* to govern access, set up more free trade zones, and streamline its foreign investment regulatory framework.¹¹² However, the rising tide of complaints from foreign companies indicates a lack of progress on liberalization.¹¹³

The 13th FYP calls for a “fair competitive market environment, highly efficient and clean governing environment, a just and transparent legal and policy environment, and an open and inclusive cultural environment” to improve the business climate for foreign firms.¹¹⁴ The plan encourages “expanding” market entry for foreign companies in the service sector, including banking, insurance, securities, and senior care, while “encouraging greater foreign investment” in advanced manufacturing, high-tech, conservation and environmental protection, modern services, and in central, western, and northeastern China more generally.¹¹⁵ It also promotes expanding the construction of free trade zones and fully implementing a “pre-establishment national treatment negative list management system.”¹¹⁶

However, the 13th FYP also makes it clear that market access is encouraged only to the extent that greater access for foreign companies benefits China’s economic priorities. According to a report from the Center for Strategic and International Studies, “Investment is encouraged only in those sectors where China is seeking to develop domestic capacity to move up the value-added chain or in areas required by previous commitments.”¹¹⁷ (For more on China’s 13th FYP, see Chapter 1, Section 3, “13th Five-Year Plan.”) Continued asymmetries in market access have led the Office of the U.S. Trade Representative (USTR) to conclude in its 2016 *National Trade Report on Foreign Trade Barriers* that “sustained bilateral engagement has not led to a significant relaxation of China’s investment restrictions, nor has it appeared to curtail *ad hoc* actions by Chinese government officials.”¹¹⁸

Deteriorating Business Environment

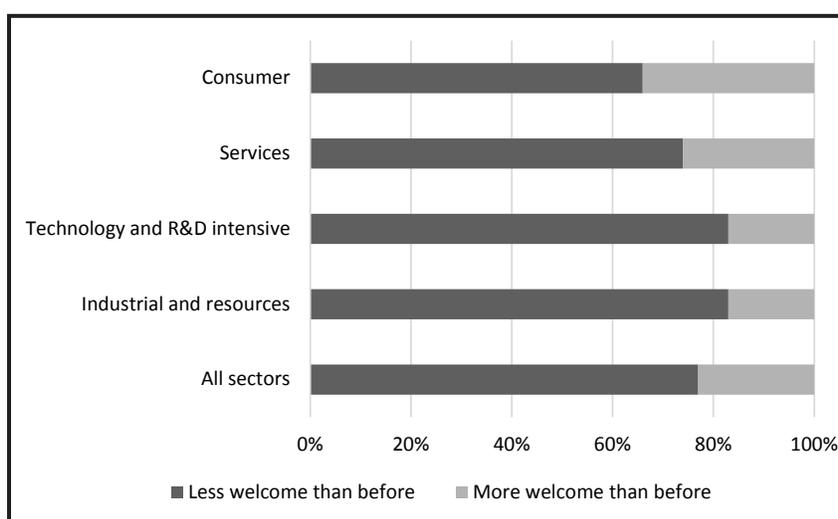
These developments have contributed to increasing pessimism among the foreign business community. According to the American Chamber of Commerce in China’s (AmCham China) 2016 Business Climate Survey, 77 percent of surveyed U.S. companies reported they felt foreign businesses are less welcome in China than in years past, while 83 percent of technology, R&D, industrial, and resources companies reported China to be less welcoming (see Figure 9).[†]¹¹⁹

*Under a negative list approach, countries specify which sectors are restricted or prohibited for foreign investment.

†AmCham China’s 2016 Business Climate Survey analyzed responses from 496 U.S. companies operating in China, representing 52 percent of the organization’s 961 member companies. Respondent companies were categorized into four sectors: services (excluding information services), information/knowledge-based services, R&D-intensive industries, and resources and industrial. Thirty-one percent of respondents forecasted a revenue of \$100 million or more for 2015. American Chamber of Commerce in the People’s Republic of China, “2016 China Business Climate Survey Report,” 2016, 8.

This represents a dramatic increase in dissatisfaction over previous years: in 2015 and 2014, less than half of U.S. companies reported feeling less welcome than before.¹²⁰ However, 55 percent of companies also reported improvements to the business environment due to better enforcement of Chinese government policies; in particular, companies reported marked improvements in China’s enforcement of intellectual property rights.¹²¹

Figure 9: Percentage of U.S. Businesses Reporting China More or Less Welcoming to Foreign Business by Sector, 2016



Source: American Chamber of Commerce in the People’s Republic of China, “2016 China Business Climate Survey Report.”

Fifty-seven percent of surveyed U.S. firms reported that “inconsistent regulatory interpretation and unclear laws”^{*} presented the greatest challenge to doing business in China (see Table 3).¹²² Alongside these regulatory concerns, difficulties in obtaining Chinese licenses rose to the third most frequently cited challenge, with 29 percent of respondents identifying it as a top concern.¹²³ Industry overcapacity—a new addition to the survey in 2016—was the fifth most cited challenge for U.S. firms.¹²⁴ The results are mirrored in the findings of the EU Chamber of Commerce in China’s 2016 Business Confidence Survey, where over half of surveyed companies reported that doing business in China has become more difficult over the previous year, and 70 percent said they felt less welcome in China than they did ten years ago.¹²⁵

^{*}For example, China’s Anti-Monopoly Law enforcement agencies—MOFCOM, the National Development and Reform Commission, and the State Administration of Industry and Commerce—have failed to treat identical or similar violations of the law equally, resulting in more leniency toward SOEs, more rigorous enforcement against foreign companies, and substantially varied penalties imposed on companies in similar circumstances. U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, “Foreign Investment Climate in China,” in *2015 Annual Report to Congress*, November 2015, 107.

Table 3: Top Five Business Challenges in China Reported by U.S. Firms, 2012–2016

2012	2013	2014	2015	2016
Shortage of qualified management: 43%	Labor costs: 44%	Labor costs: 61%	Labor costs: 61%	Inconsistent regulatory interpretation and unclear laws: 57%
Inconsistent regulatory interpretation and unclear laws: 37%	Inconsistent regulatory interpretation and unclear laws: 38%	Inconsistent regulatory interpretation and unclear laws: 39%	Inconsistent regulatory interpretation and unclear laws: 47%	Labor costs: 54%
Shortage of qualified employees: 29%	Shortage of qualified employees: 35%	Shortage of qualified employees: 37%	Shortage of qualified employees: 42%	Obtaining required licenses: 29%
Obtaining required licenses: 26%	Corruption: 30%	Shortage of qualified management: 31%	Shortage of qualified management: 32%	Shortage of qualified employees: 29%
Corruption: 26%	Shortage of qualified management: 30%	Obtaining required licenses: 31%	Increasing Chinese protectionism: 30%	Industry overcapacity: 29%

Source: American Chamber of Commerce in the People's Republic of China, "2016 China Business Climate Survey Report."

Information and Communications Technology and Cybersecurity Policies

Over the past several years, the foreign investment climate for companies in the information and communications technology (ICT) sector has worsened, as Beijing has strengthened oversight and control over foreign companies. Part of this reflects an unprecedented drive under the Xi Administration to deliver on domestic industrial innovation goals.¹²⁶ Through two central government plans, the "Made in China 2025" initiative and the "Internet Plus" plan introduced in 2015, President Xi has increased state support for domestic technology companies, putting foreign companies at a competitive disadvantage.¹²⁷ (For more on these initiatives, see Chapter 1, Section 3, "13th Five-Year Plan.")

National security is the other key driver behind China's increasingly tough line on foreign technology companies.¹²⁸ Emboldened by allegations in 2013 regarding the U.S. government's use of U.S. companies to conduct cyber espionage, along with a more general desire to increase Chinese authorities' ability to monitor domestic Internet discourse and activity, Beijing has argued it must reduce its dependence on foreign technology.¹²⁹ Over the past year, Beijing has introduced stricter ICT requirements and stronger cybersecurity policies. Many of these measures involve "secure and controllable" technology requirements; while the term is not clearly defined, foreign companies and industry groups fear it would compel foreign companies to give the Chinese government

access to networks, encryption keys, and source code, as well as require data storage within the country.¹³⁰

China's State Council has codified these policies in three security laws: the National Security Law, Counterterrorism Law, and Cybersecurity Law. Passed in July 2015, the National Security Law serves as an umbrella statute bolstering state control across all sectors of the economy under a broad definition of national security, and enshrines the concept of cyberspace sovereignty in national law.¹³¹ The law lays the groundwork for more formalized national security review of inbound foreign investment.¹³² The Counterterrorism Law, passed in December 2015, requires telecommunications and Internet service providers (ISPs) to assist Chinese security agencies with decryption and other "technological assistance and support" in terrorism cases, leaving out controversial requirements present in earlier drafts of the law that firms provide security "backdoors" to authorities and store server and user data locally.*¹³³ Finally, a draft Cybersecurity Law released in July 2015 mandates data localization and cybersecurity reviews, but offers no details on what the reviews will entail.¹³⁴ In general, the language in these laws is broad and vague, and is expected to be clarified in forthcoming implementing regulations. Some analysts are concerned the more worrisome requirements will be rolled into the implementing regulations, or that the provisions may be kept deliberately vague to give authorities flexibility in their enforcement.¹³⁵

The term "secure and controllable" has also cropped up in a series of industry-specific regulations over the past year, including in the insurance, e-commerce, and cloud computing sectors.¹³⁶ A high-profile example was a draft bank technology measure that called for 75 percent of technology products used by Chinese financial institutions to be "secure and controllable" by 2019.¹³⁷ The rules were temporarily suspended in April 2015 after feedback from Chinese banks as well as pressure from the U.S. government, industry groups, and technology firms.¹³⁸ Although many of these regulations are still pending, the Chinese government has already begun to implement them by asking foreign vendors to certify they are "secure and controllable."¹³⁹ The Chinese government's clear commitment to reduce the country's reliance on foreign technology and linkage of localization and security means these security standards are unlikely to go away. Chinese technology companies have a distinct competitive advantage in meeting these new security standards, putting pressure on foreign firms to partner with local companies.¹⁴⁰

U.S. Tech Firms and Their Chinese Partners

There is evidence of U.S. technology firms forming or deepening partnerships with Chinese firms as a result of pressure from Beijing to localize product development and data.† In 2013, Chi-

*For more information on China's draft counterterrorism law, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 4, "Commercial Cyber Espionage and Barriers to Digital Trade in China," *2015 Annual Report to Congress*, November 2015, 215–216.

†Examples of pressure include antitrust investigations, data localization requirements, and security reviews. Eva Dou, "China's Tech Rules Make It Hard for U.S. Firms to Take Control," *Wall Street Journal*, June 2, 2016; Paul Mozur and Jane Perlez, "China Quietly Targets U.S. Tech Companies in Security Reviews," *New York Times*, May 16, 2016; and U.S.-China Economic and Security Review Commission, *Hearing on Foreign Investment Climate in China: Present Challenges and Potential for Reform*, written testimony of Robert D. Atkinson, January 28, 2015.

U.S. Tech Firms and Their Chinese Partners—*Continued*

nese state media labeled eight U.S. technology firms—Cisco, IBM, Google, Qualcomm, Intel, Apple, Oracle, and Microsoft—“guardian warriors” of U.S. interests that had “infiltrated” the Chinese market.¹⁴¹ Of the eight firms, six have since found it necessary to work with local partners to expand their business in China.¹⁴²

- In 2014, IBM agreed to share proprietary technology with Chinese information technology (IT) provider Teamsun to help the company develop a full supply chain of computers and software based on IBM technology.¹⁴³
- In June 2015, Cisco formed a joint venture with Chinese server maker Inspur on localized cloud computing and networking products.¹⁴⁴
- In December 2015, Microsoft partnered with Chinese state-owned China Electronics Technology Group (CETC) to develop a version of Windows 10 for Chinese government users.¹⁴⁵
- In January 2016, Qualcomm formed a joint venture with the Guizhou provincial government to make server chips customized for Chinese customers.¹⁴⁶ Several months earlier, Qualcomm formed a joint venture company with China’s largest chipmaker, SMIC, and Huawei* to develop next-generation semiconductor technology;† this came just four months after the company received a \$975 million fine from Chinese anti-trust regulators.¹⁴⁷
- In January 2016, Intel announced a “strategic collaboration” with state-controlled Tsinghua University and Montage Technology Global Holdings Ltd. to develop custom computer processors that satisfy Chinese security requirements.¹⁴⁸
- In May 2016, Apple invested \$1 billion in Didi Chuxing, China’s top private ride-sharing company.¹⁴⁹

U.S. technology firms have largely resisted pressure from Beijing to share their product source code; doing so would reveal their core intellectual property and increase the risk of intellectual property theft.¹⁵⁰ In 2015, however, IBM said it had agreed

*Huawei’s close ties to the Chinese government have long concerned U.S. government officials. A 2012 U.S. House Intelligence Committee panel report found that Huawei’s penetration of the U.S. telecommunications market poses risks to national security. In August 2016, AT&T announced it had begun preliminary discussions with several technology companies, including Huawei, to create global standards for the 5G network. According to media reports, a formal review led by the National Security Agency and the Federal Bureau of Investigation is underway to examine the national security implications of Huawei’s potential participation in building the U.S. 5G wireless network. Eli Lake, “U.S. Spies Think China Wants to Read Your E-Mail,” *Bloomberg*, September 13, 2016; AT&T, “AT&T Teams up with Global Technology Leaders for Faster 5G Deployment,” August 17, 2016; and Mike Rogers and C.A. Dutch Ruppertsberger, “Investigative Report on the U.S. National Security Issues Posed by Chinese Telecommunications Companies Huawei and ZTE,” *House Permanent Select Committee on Intelligence*, October 8, 2012.

†For more details on this case, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, “Foreign Investment Climate in China,” in *2015 Annual Report to Congress*, November 2015, 96–97.

U.S. Tech Firms and Their Chinese Partners—Continued

to allow the Chinese government to review some of its product source code in a controlled environment.*

China is also intensifying its advocacy of “cyber sovereignty” as a global regulatory norm. In his keynote address at the second annual World Internet Conference in December 2015, President Xi argued for “the right of individual countries to independently choose their own path of cyber development, model of cyber regulation and Internet public policies, and participate in international cyberspace governance on an equal footing” and defended Beijing’s Internet censorship.¹⁵¹ Chinese authorities have shifted away from not publicly admitting China’s censorship efforts to using the concept of “cyber sovereignty” to argue for increased government control of the Internet. According to Samm Sacks, a China technology policy analyst at the Eurasia Group, the Chinese government’s intense advocacy of sovereignty in cyberspace “could eventually over the long term lead to fragmentation of the U.S.-led global Internet.”¹⁵²

Update on China’s Commercial Cyber Espionage

In addition to enacting ICT and cybersecurity policies aimed at extracting technologies from U.S. companies, China has conducted cyber theft operations to gain access to U.S. intellectual property and technology. Pervasive Chinese cyber espionage against U.S. commercial entities—detailed in the Commission’s *2015 Annual Report to Congress*†—continues to pose a grave threat to U.S. economic security despite China’s agreement in 2015 not to support commercial cyber espionage conducted by Chinese actors. In a September 2015 memorandum of understanding (MOU), the United States and China pledged that “neither country’s government will conduct or knowingly support cyber-enabled theft of intellectual property, including trade secrets or other confidential business information, with the intent of providing competitive advantages to companies or commercial sectors.”¹⁵³ (For a discussion of China’s non-commercial cyber espionage activities, see Chapter 2, Section 3, “China’s Intelligence Services and Espionage Threats to the United States.”)

Public reports suggest Chinese cyber espionage against U.S. companies persists, but has declined in frequency since September 2015.¹⁵⁴ It is unclear whether this trend is attributable to the MOU.¹⁵⁵ FireEye, a cybersecurity firm, reported in June 2016 that a precipitous drop in detected incidents of Chinese cyber espionage against U.S. companies began more than one year before the MOU came into effect.¹⁵⁶ Notably, the beginning of this decline roughly coincided with the U.S. Depart-

* IBM said in a statement it “has in several countries established the capability to conduct limited demonstrations of specific aspects of [its] technology in highly-controlled IBM environments that have no external communication links.” According to the company, its intent in sharing some product source code was “to reassure key stakeholders, including our clients, that no means exist for other parties to access IBM technology or data we manage on behalf of clients.” IBM further maintained it “does not provide government access to client data or ‘back doors’ into [its] technology.” IBM, “IBM Statement on Limited Technology Demonstrations,” October 16, 2015.

† U.S.-China Economic and Security Review Commission, Chapter 1, Section 4, “Commercial Cyber Espionage and Barriers to Digital Trade in China,” in *2015 Annual Report to Congress*, November 2015, 192–225.

ment of Justice’s May 2014 indictment of five People’s Liberation Army (PLA) officers for cyber espionage against U.S. companies.¹⁵⁷ Moreover, although the number of incidents of Chinese cyber espionage detected by FireEye has declined, this likely reflects a shift within China away from prolific amateur attacks toward more centralized, professionalized, and sophisticated attacks by a smaller number of actors, rather than a trend toward the cessation of Chinese cyber espionage.¹⁵⁸ According to a report from the U.S. Department of State Overseas Security Advisory Council, many studies suggest “China-based network intrusions are still ongoing, only a fraction of which may be detected by researchers.”¹⁵⁹ In the words of one expert consulted by the Commission, while some of China’s “noisier” cyber espionage efforts have ceased, its “A-team [of sophisticated hackers] has gone deeper.”¹⁶⁰ President Xi’s efforts to consolidate control over the PLA—some of whose employees have supplemented their incomes by operating outside their chains of command to conduct cyber espionage on behalf of third parties—as well as political pressure generated by the MOU and international attention to Chinese cyber espionage activities could have contributed to this trend.*¹⁶¹ Some noteworthy reports of Chinese commercial cyber espionage since September 2015 include:

- In the three weeks following the U.S.-China cyber MOU, cybersecurity firm CrowdStrike observed 11 instances of intrusions by Chinese government-affiliated actors into U.S. technology and pharmaceutical companies; the first of these intrusions occurred the day after the MOU was signed. CrowdStrike assessed each of these incidents “fit squarely within the hacking provisions covered under the cyber agreement.”¹⁶²
- FireEye reported several instances of what appeared to be China-based groups compromising several U.S.-owned or U.S.-based software, semiconductor, and other high-technology corporations, as well as a U.S. healthcare organization, in the first five months of 2016.¹⁶³
- In April 2016, Admiral Michael S. Rogers, commander of the U.S. Cyber Command, testified to the Senate Armed Services Committee that since September 2015, “cyber operations from China are still targeting and exploiting U.S. government, defense industry, academic, and private computer networks.”¹⁶⁴

Chinese cyber espionage threatens the economic competitiveness of U.S. companies. According to one analyst—Jeffrey Johnson, president and CEO of SquirrelWerkz, a cyber, competitive, and economic threat intelligence firm— Chinese actors have consistently applied a sophisticated commercial espionage campaign strategy against U.S. companies involving a combination of cyber espionage and human infiltration to systematically penetrate strategic organizations and information systems of U.S. companies to steal their intellectual property, sabotage operations, devalue

*The value of the MOU, according to one expert who met with the Commission, is not that it will lead to a cessation of Chinese cyber espionage against U.S. companies, but rather that it establishes a mutually agreed-upon bilateral standard for behavior in cyberspace and a blueprint for an international norm against which China’s actions can be scrutinized. U.S.-China Economic and Security Review Commission, private discussion with cybersecurity experts, June 9, 2016.

them, and position them for acquisition at dramatically reduced prices.¹⁶⁵ According to Mr. Johnson,

In the case of the cyber-economic campaign against the U.S. mobile phone industry, evidence supports a conclusion that the government of China worked in collusion with a number of Chinese companies to optimize cyber-economic sabotage to degrade Western mobile provider performance; conduct espionage to accelerate its own development of critical components and competitive mobile devices; introduce significant barriers to performance within the Chinese market for purposes of degrading the value of the Western competitors after having gained from their investments into China and to deprive the same companies of the traditional returns; introduce additional duress through state sponsored legal actions; and leverage cyber intelligence to optimize the timing of these events and obstacles. The same pattern exists in at least 10 other key industries.¹⁶⁶

The threat from Chinese commercial espionage is unlikely to subside as China's cyber espionage operations are poised to become more sophisticated and well coordinated.¹⁶⁷ Notably, the September 2015 MOU does not prohibit state-sponsored cyber espionage operations to support national security.¹⁶⁸ As China views economic security as a component of national security, it likely does not perceive many of its commercial cyber espionage activities as a violation of the MOU.

U.S. Steel's Section 337 Case against China

In April 2016, U.S. Steel filed a complaint with the U.S. International Trade Commission (ITC) under Section 337 of the Tariff Act of 1930. This law allows the ITC to ban products made through unfair methods of competition, including theft of intellectual property, from the U.S. market.¹⁶⁹ The firms listed in U.S. Steel's petition include some of China's largest steel producers and their distributors.¹⁷⁰ U.S. Steel alleged these firms colluded to fix prices and control production and export volumes, and engaged in false labeling to circumvent trade duties.¹⁷¹ U.S. Steel also alleged Chinese government hackers stole U.S. Steel's proprietary methods for making advanced high-strength steel, one of the company's most valuable products, and provided this information to Chinese steel firms.*¹⁷² U.S. Steel alleged that at least one Chinese firm, Baosteel, began producing and exporting advanced high-strength steel using these stolen trade secrets, undercutting U.S. Steel's own products.¹⁷³ The ITC announced its plans to initiate a Section 337 investigation in May 2016.¹⁷⁴ If successful, U.S. Steel's Section 337 case could provide U.S. companies with a new use of an existing tool to combat cyber theft of trade secrets by foreign companies or governments.¹⁷⁵

*The alleged cyberattack on U.S. Steel was among those included in a criminal case brought by the U.S. Department of Justice against five PLA officers in May 2014. U.S. Department of Justice, Office of Public Affairs, *U.S. Charges Five Chinese Military Hackers for Cyber Espionage against U.S. Corporations and a Labor Organization for Commercial Advantage*, May 19, 2014.

Internet Censorship

As a result of Beijing's desire to tighten government control over freedom of speech, Internet censorship has worsened. In April 2016, the USTR listed China's Internet censorship in its *2016 National Trade Estimate on Foreign Trade Barriers* as a "significant burden" on foreign suppliers wishing to do business in China.¹⁷⁶ The USTR noted that China's Internet restrictions affected both foreign Internet content providers and businesses that rely on Internet services for their operations.¹⁷⁷ While the report did not propose any official actions to address China's Internet restrictions, it explicitly described China's censorship as a trade barrier; previous reports characterized China's Internet regime as being merely "restrictive and non-transparent."¹⁷⁸ The report also stated that China's restrictions appear "to have worsened over the past year, with eight of the top 25 most trafficked global sites now blocked in China."¹⁷⁹

China's online censorship apparatus—known as the Great Firewall—is regarded as the most extensive in the world, and a 2015 ranking by Freedom House found China to be the world's worst abuser of Internet freedom.¹⁸⁰ The number of blocked sites is increasing. According to Internet watchdog GreatFire.org, about 14 percent of the sites it monitors were blocked in China when President Xi took office in 2013.¹⁸¹ As of April 2016, almost a full quarter of the online content GreatFire.org monitors is blocked in China.¹⁸²

Estimating the revenue U.S. companies lose from Chinese censorship is difficult.* Many U.S. companies decline to publicly disclose their losses associated with Chinese Internet restrictions. During a press investigation last year, Google, Dropbox, Snapchat, and several other companies that are routinely blocked in China chose not to discuss costs resulting from Chinese restrictions.¹⁸³

The Chinese government took further steps to strengthen control over the Internet by issuing new regulations that limit access to the country's multibillion-dollar online content market.† In February 2016, China's State Administration of Press, Publication, Radio, Film and Television (SAPPRFT) released the *Administrative Regulations for Online Publishing Services*, which restricts foreign companies—including foreign joint ventures—from distributing online content in China except on a project basis with Chinese partners.¹⁸⁴ The regulation applies to online distribution of games, video, books, newspapers, animations, pictures, articles, and other online content

*These losses are likely significant, given the growing size of China's Internet population—668 million online users as of the end of 2015. For example, the *New York Times* disclosed it lost \$3 million in the first year after it was blocked by Chinese authorities after reporting on the wealth of China's then prime minister Wen Jiabao's family. Google has frequently seen its services blocked or slowed by Chinese regulators. In 2014, the company made an estimated \$1 billion in advertising revenue in China—largely from Chinese companies that place ads to attract foreign buyers. If Google had the same share of China's advertising market before its search engine was restricted in 2010—roughly 36 percent—the company likely would have made \$3.5 billion from Chinese advertising in 2014, almost 5 percent of its total revenue. Marco Huang, "More Than Half of China's Population Is Online—And Most Use Smartphones," *Wall Street Journal*, January 26, 2016; Julie Makinen, "Chinese Censorship Costing U.S. Tech Firms Billions in Revenue," *Los Angeles Times*, September 22, 2015; and Margaret Sullivan, "The Thorny Challenge of Covering China," *New York Times*, December 7, 2013.

†China's online content market is one of the largest in the world. In 2012 China had more than twice as many viewers of online videos as the United States, and the Chinese digital audience is projected to increase to 700 million people in 2016. Total revenue from Chinese digital videos is predicted to reach \$3.95 billion in 2016 (from \$1.86 billion in 2013). David Barboza, "New Chinese Rules on Foreign Firms' Online Content," *New York Times*, February 19, 2016; Go-globe.com, "Online Video Market in China," January 6, 2014.

to be designated by SAPPRFT at a later date.¹⁸⁵ The measure's broad scope makes it difficult to predict which companies will be affected. While China bans many U.S. online content companies, the new regulation may affect U.S. companies already operating in China.* As one analyst noted, it was unclear whether a company that "just had an instruction manual online" would be subject to these rules.¹⁸⁶ Some analysts have argued the measure may only apply to content created in China and thus may not affect foreign firms at all.¹⁸⁷ Most analysts agree the impact of this regulation will depend heavily on how it is implemented.¹⁸⁸

In a move to further tighten online censorship, in July 2016 China's Internet regulator ordered several major Chinese Internet companies, including Sina, Tencent, and NetEase, to shut down or "clean up" their online news sites.¹⁸⁹ In recent years, many Chinese Internet companies have hired investigative journalists to conduct original reporting, in a bid to increase readership and revenue.¹⁹⁰ The practice had been operating in a regulatory gray zone but was largely tolerated by regulators.¹⁹¹ Following the ban, online news sites can only carry articles provided by the state media.¹⁹²

Foreign Nongovernmental Organization Law

China has tightened control over the activities of foreign nongovernmental organizations (NGOs). In April 2016, the Chinese government approved the Law on the Management of Foreign NGO Activities in Mainland China, which places greater state oversight on more than 7,000 foreign NGOs in China and gives the government broad powers to inspect NGO offices and operations.[†]¹⁹³ According to AmCham China's 2016 Business Climate Survey, 75 percent of NGO respondents reported that the law as it existed in 2015 would limit the scope of their operations in China, and 17 percent reported that it would cause them to leave the country.¹⁹⁴

U.S. businesses lobbied the Chinese government to remove provisions included in the current law. In June 2015, 45 U.S. industry associations signed a letter urging the Chinese government not to place NGOs under the management of security forces and to narrowly define NGOs to exclude groups such as trade and professional associations.[‡]¹⁹⁵ The letter noted that if the law were passed "without major modifications," it would "have a significant adverse impact

*For example, Apple currently runs a Chinese app store that provides games and software, and Microsoft offers Windows products online through a Chinese joint venture. Vimeo and Amazon also run online distribution platforms in China and may be affected. David Barboza, "New Chinese Rules on Foreign Firms' Online Content," *New York Times*, February 19, 2016; Scott Livingston, "A Guide to China's New Online Publishing Rules for Foreign Media," *Techcrunch.com*, February 23, 2016.

†The law's broad language gives Chinese authorities a wide degree of latitude in admitting, monitoring, and closing foreign NGOs. To establish an office in China, NGOs must seek the permission of the security ministry, and NGOs with existing offices in China must also obtain permission to register. Chinese security forces can enter NGO offices, seize bank accounts and property, and interrogate NGO staff if they suspect the NGO is engaged in vaguely defined activity such as damaging the national interest. Similarly, NGOs can be closed if they are found to violate these broadly worded interests. ChinaLawTranslate.com, "2016 PRC Law on the Management of Foreign Non-Governmental Organizations' Activities within Mainland China."

‡U.S. business groups argued the draft was worded broadly enough that it appeared to apply to foreign universities, industry organizations, and professional associations. The law as passed defines foreign NGOs as "not-for-profit, non-governmental social organizations lawfully established outside mainland China such as foundations, social groups, and think tank institutions." While foundations and think tanks are specifically identified as falling under the law, the definition is not limited to them and may be applied to any nonprofit, nongovernment organization—a classification that includes universities and business organizations. ChinaLawTranslate.com, "2016

on the future of U.S.-China relations” and negatively impact Chinese commerce.¹⁹⁶ In the letter, U.S. business representatives also cited the key role nonprofit organizations such as universities and trade associations play in their operations, calling them an “integral part” of their business practices.¹⁹⁷ Nevertheless, not every U.S. industry organization has stated that the law will have a negative effect on U.S. companies. For instance, the president of the US-China Business Council commented that the new law will have a relatively minor impact on U.S. industry compared to other concerns businesses have in China, noting, “By and large, American companies will not be impacted by the NGO law; companies are more directly impacted by the market access and level playing field concerns.”¹⁹⁸

Chinese Investment in the United States

While Chinese investment remains a small percentage of total inward FDI in the United States,* it is rising rapidly, driven by the Chinese government’s “going out” strategy, capital flight, and a generally more open policy environment for outbound investment.¹⁹⁹ A more pronounced slowdown in economic growth has also spurred Chinese investment abroad as Chinese companies seek to diversify their investments.²⁰⁰ Chinese investment in the United States grew to a record \$15 billion in 2015 from \$11.9 billion in 2014, according to data from Rhodium Group.²⁰¹ In 2016, Chinese FDI appears set to surpass 2015’s record, with at least \$30 billion worth of deals in the pipeline (see Table 4).²⁰²

Table 4: Notable Chinese Bids and Acquisitions of U.S. Companies, 2015–2016

Chinese Buyer	U.S. Target	Price (US\$ billions)	Status	Industry
AVIC Auto; Bohai Harvest RST (BHR)	Henniges Automotive	\$0.60	Deal closed, Sep. 2015	Automotive
Fosun International Ltd.	Ironshore Inc.	\$1.84	Deal closed, Nov. 2015	Financial services
Dalian Wanda	World Triathlon Corp.	\$0.65	Deal closed, Nov. 2015	Sports

PRC Law on the Management of Foreign Non-Governmental Organizations’ Activities within Mainland China”; ChinaLawTranslate.com, “Changes Anticipated in the New FNGO Law.”

*This section relies on private estimates of Chinese FDI in the United States. Both U.S. and Chinese official statistics underestimate the volume of Chinese investment because they do not fully account for flows of FDI, including investment routed through Hong Kong and other offshore financial centers. Official data are also provided after a significant delay, hindering analysis. For example, as the International Trade Administration (ITA), a bureau within the U.S. Department of Commerce, stated in a 2013 report, estimates from Rhodium Group showed \$6.5 billion of FDI flows from China to the United States in 2012, while U.S. government estimates showed only \$219 million for the same year. ITA noted that private sector valuations employ different definitions of FDI, data gathering mechanisms, and accounting methods that lead to differences in reported value of investments. U.S. Department of Commerce, International Trade Administration, *Report: Foreign Direct Investment (FDI) in the United States from the China and Hong Kong SAR*, July 17, 2013.

Table 4: Notable Chinese Bids and Acquisitions of U.S. Companies, 2015–2016—Continued

Chinese Buyer	U.S. Target	Price (US\$ billions)	Status	Industry
Uphill Investment Co. (Chinese consortium)	Integrated Silicon Solution, Inc.	\$0.74	Deal closed, Dec. 2015	Semiconductors
Dalian Wanda	Legendary Entertainment	\$3.5	Deal closed, Mar. 2016	Entertainment
Beijing E-Town Dragon Semiconductor Industry Investment Center	Mattson Technology	\$0.30	Deal closed, May 2016	Semiconductors
Haier Group	General Electric home appliances unit	\$5.6	Deal closed, Jun. 2016	Home appliances
Anbang	Fidelity & Guaranty Life	\$1.57	Pending, agreed to acquire Nov. 2015	Financial services
Chongqing Casin Enterprise Group	Chicago Stock Exchange	n/a	Pending, agreed to acquire Feb. 2016	Financial services
Tianjin Tianhai	Ingram Micro	\$6.0	Pending, agreed to acquire Feb. 2016	Electronics & IT
Anbang	Blackstone Group Strategic Hotels & Resorts Inc.	\$6.5	Pending, agreed to acquire Mar. 2016	Real estate
Humanwell Healthcare, PuraCap Pharmaceutical	Epic Pharma	\$0.55	Pending, agreed to acquire Mar. 2016	Pharmaceuticals
Zhongwang USA LLC	Aleris Corp.	\$2.3	Pending, agreed to acquire Aug. 2016	Aluminum

Source: Various.²⁰³

According to research from Rhodium Group, private Chinese companies accounted for 84 percent of total Chinese FDI in the United States in 2015, up from 19 percent five years ago, as investments by Chinese state-owned firms fell sharply.* (For more on the thin line between Chinese state-owned companies and private companies, see

*Rhodium Group defines private companies as companies with less than 20 percent government ownership. Thilo Hanemann and Cassie Gao, "Chinese FDI in the US: 2015 Recap," *Rhodium Group*, January 19, 2016; Thilo Hanemann and Adam Lysenko, "Chinese FDI in the United States: Q1 2013 Update," *Rhodium Group*, April 30, 2013.

Chapter 1, Section 2, “State-Owned Enterprises, Overcapacity, and China’s Market Economy Status.”) Mergers and acquisitions (M&A) remained the dominant form of FDI flows that year, with Chinese companies completing over 100 M&A deals worth \$13.5 billion.²⁰⁴ The trend of growing Chinese FDI in the United States reflects a broader shift in China’s outbound FDI away from natural resource extraction and energy in developing countries toward a broader range of industries in high-income economies, such as Europe and the United States.²⁰⁵

The sectoral composition of Chinese investment in the United States has become much more diverse.²⁰⁶ In 2015, the biggest industries were real estate and financial services, followed by ICT, energy, automotive, health and biotechnology, and entertainment. About two-thirds of total investment went into services, up from 14 percent in 2009.²⁰⁷ The top three destinations for Chinese FDI were New York (led by investments in the financial services and real estate sectors), California (ICT and real estate), and Texas (energy).²⁰⁸

The increased acquisition of U.S. assets by Chinese companies has led to growing political concern over the national security risks of such acquisitions.²⁰⁹ Chinese firms, which often receive state funding, have been particularly active in bidding for U.S. technology assets. For example, technology distributor Ingram Micro announced in February 2016 that it was being sold to Tianjin Tianhai Investment for \$6 billion.²¹⁰ While many analysts anticipate the sale will go forward without a Committee on Foreign Investment in the United States (CFIUS) review, a few attempted Chinese acquisitions of U.S. technology firms have recently fallen apart as a result of CFIUS scrutiny or even just its likelihood.²¹¹ In February, hard disk drive manufacturer Western Digital’s sale to China’s Unisplendor collapsed after CFIUS announced it would review the deal, and the sale of the lighting division of Dutch electronics firm Royal Philips was purportedly blocked by CFIUS.²¹² Fairchild Semiconductor, another electronics firm, rejected a bid from a Chinese buyer in February for fear the acquisition would trigger a CFIUS review.²¹³

In another example, the acquisition of insurance company Ironshore by Chinese conglomerate Fosun International came under CFIUS review after the deal closed in November 2015.* Media reports indicate the purchase drew CFIUS’s interest because an Ironshore subsidiary, Wright USA, is a key provider of legal liability insurance for U.S. intelligence officials.²¹⁴

Overall, the data do not demonstrate that CFIUS has been a significant obstacle for Chinese investment in the United States. In 2014, the latest year for which data are available, China led foreign countries in CFIUS reviews with 24 reviewed transactions out of more than 100 total Chinese acquisition deals.²¹⁵ Although the number of Chinese transactions reviewed increased in absolute terms, it declined as a share of all Chinese acquisitions, and the vast majority of reviewed transactions proceed. As a percentage of total

*News of the CFIUS review first broke in June 2016. Fosun issued a statement that it and Ironshore had voluntarily notified CFIUS of the acquisition and both parties “have been working closely with CFIUS.” Ironshore stated in a July 2016 filing for a U.S. initial public offering that it expects the results of the CFIUS review before its registration statement becomes effective. Josh Beckerman, “Fosun Group Insurance Unit Ironshore Inc. Files for IPO in U.S.,” *Wall Street Journal*, July 22, 2016; Fosun, “Fosun’s Statement,” June 4, 2016. www.fosun.com/language/en/p/8473.html.

Chinese acquisition deals, the number of CFIUS-reviewed Chinese transactions has decreased every year since 2012.²¹⁶

A number of China's M&A deals have unraveled, in some cases due to regulatory concerns, in others due to the inability of Chinese buyers to follow through with financing (see Table 5). According to data from international financial software firm Dealogic, nearly half of the unsolicited offers made by Chinese companies over the past five years have failed.²¹⁷ Notably, in March 2016 the Chinese insurance giant Anbang surprised Starwood Hotels & Resorts Worldwide by abandoning its \$14 billion bid for the hotel chain, without offering a full explanation.* Worried about the ability of Chinese companies to secure financing or pass CFIUS review, a growing number of U.S. acquisition targets are asking for escrow accounts or letters of credit to guarantee deal financing or breakup-fee payments.²¹⁸

Chinese investment in the United States is expected to grow, but perhaps at a more moderate pace than the breakneck speed of the first quarter of 2016.²¹⁹ With increased M&A activity, Chinese companies face rising pressure from U.S. business and government stakeholders to be transparent, particularly with regard to ownership structure, corporate governance, and funding sources.²²⁰ The increasingly high leverage of Chinese companies † also places financial constraints on their ability to pursue new investment opportunities overseas.²²¹

Table 5: Failed Chinese Bids for U.S. Companies, 2015–2016

Chinese Buyer	U.S. Target	Price (US\$ billions)	Status	Industry
Montage	Pericom Semiconductor Corp.	\$0.4	Pericom rejected bid, citing a lack of committed financing and potential regulatory hurdles in China, Taiwan, and the United States, Nov. 2015	Semiconductors
Tsinghua Unigroup	Micron	\$23.0	Micron rejected bid, citing concerns over CFIUS approval, Feb. 2016	Semiconductors

*Anbang said it was withdrawing its offer “due to various market considerations.” However, Caixin reported that Anbang’s decision likely stemmed from fears that China’s insurance regulator would reject its bid to buy Starwood, since it would put Anbang’s offshore assets above a 15 percent threshold for overseas investments. Chinese regulators’ concerns over Anbang’s reliance on high-cost borrowing for its overseas acquisitions may have been another contributing factor. In a panel discussion days before Anbang withdrew its bid, China’s former Minister of Commerce Chen Deming said the company should not use high leverage to acquire overseas assets, warning that “it will leave us with systemic risks.” Esther Fung, “Anbang: What We Know and Don’t Know,” *Wall Street Journal*, August 23, 2016; Greg Roumeliotis and Matthew Miller, “China’s Anbang Abandons \$14 Billion Bid to Buy Starwood Hotels,” Reuters, April 1, 2016; and Ding Feng, “Regulator Said Close to Rejecting Insurer’s Plans for Foreign Hotel Investments,” Caixin, March 22, 2016.

†According to data from S&P Global Market Intelligence, the median debt-to-equity ratio of Chinese buyers since the beginning of 2015 has been 71 percent, compared to 44 percent for foreign targets. *Economist*, “Money Bags: China’s Global Investment Spree Is Fueled by Debt,” April 2, 2016.

Table 5: Failed Chinese Bids for U.S. Companies, 2015–2016—Continued

Chinese Buyer	U.S. Target	Price (US\$ billions)	Status	Industry
China Resources Microelectronics Ltd. and Hua Capital	Fairchild Semiconductor	\$2.5	Fairchild turned down bid over fears it would be blocked by CFIUS; accepted takeover offer from U.S. rival ON Semiconductor, Feb. 2016	Semiconductors
GO Scale Capital	Philips Lumileds	\$2.8	Buyer withdrew after CFIUS blocked the deal, Jan. 2016	Lumileds & Automotive Lighting
Unisplendor	Western Digital	\$3.8	Buyer withdrew after CFIUS announced investigation, Feb. 2016	Electronics
Anbang	Starwood Properties	\$14.0	Buyer withdrew bid, Mar. 2016	Real estate
Origin Technologies Corp.	Affymetrix Inc.	\$1.5	Origin Technologies withdrew bid in Mar. 2016 after Affymetrix board recommended a lower bid from Thermo Fisher Scientific Inc., citing concerns over approval from U.S. and Chinese regulators	Health & biotechnology
Zoomlion	Terex	\$3.4	Buyer withdrew bid; deal went to Finnish company Konecranes, May 2016	Construction machinery

Source: Various.²²²

Limited Progress at Eighth Strategic and Economic Dialogue

At the eighth and final round of the Strategic and Economic Dialogue (S&ED) talks under the Obama Administration, held in Beijing on June 6–7, 2016, participants failed to achieve any major breakthroughs on fundamental strategic and economic issues, but left with some deliverables on financial sector and environmental cooperation. (For more information on the outcomes of the strategic track of the S&ED, see Chapter 2, Section 1, “Year in Review: Security and Foreign Affairs.”) On the economic side, overcapacity topped the U.S. agenda, replacing currency valuation as the top concern. The lack of improvements to the investment climate for U.S. com-

panies in China, along with China's recently passed law restricting foreign NGOs,* added friction to the talks.²²³

The S&ED has been touted as a valuable high-level forum for the United States and China to communicate policy decisions, find common ground, and prevent misunderstandings.²²⁴ Although S&EDs have rarely produced major deliverables, outcomes from this year's talks were modest, with a number of the announcements merely restatements of previous commitments. The limited outcomes of the 2016 S&ED include:

- *Addressing excess production capacity:* China pledged to ensure that its central government policies and support do not “target the net expansion” of its steel capacity, but did not make similar assurances for other key industrial sectors or for local government policies.²²⁵ China also promised to “wind down consistently loss-making ‘zombie enterprises’ through a range of efforts, including bankruptcy and liquidation.”²²⁶ (For more on the measures China said it would undertake to address overcapacity, see Chapter 1, Section 2, “State-Owned Enterprises, Overcapacity, and China’s Market Economy Status.”)
- *Exchange rate reform:* China repeated its pledge to “continue market-oriented exchange rate reform that allows for two-way flexibility and to refrain from competitive devaluation.”²²⁷ China stressed that “there is no basis for sustained depreciation of the RMB,” which investors fear could amplify global financial instability, as happened in January 2016.²²⁸ In turn, U.S. Treasury Secretary Jack Lew acknowledged moves by the PBOC to make the RMB exchange rate more market-oriented: “We were pleased to see reforms made last year and the recognition of that progress in the IMF decision to include the renminbi in the SDR basket.”²²⁹
- *Expanding RMB trading and clearing capacity in the United States:* China announced it will allow U.S. investors to directly access China’s financial markets through an RMB Qualified Foreign Institutional Investors (RQFII) quota of \$37 billion (RMB 250 billion), the second-largest quota China has granted after Hong Kong.²³⁰ The RQFII program allows approved foreign fund managers to use RMB raised outside China to invest in the country’s financial markets. China also agreed to allow certain U.S. financial institutions to act as clearing houses for settling RMB transactions in the future, which can lower transaction costs for U.S. firms doing business in China.†²³¹ These new measures advance Beijing’s goals of internationalizing the RMB and attracting more capital inflows while giving U.S. investors greater access to China’s tightly regulated financial markets.²³²

*There was significant high-level engagement on China’s new foreign NGO law at the S&ED, with both Secretary of State John Kerry and Treasury Secretary Jack Lew raising U.S. concerns over the law. In his opening remarks at the S&ED, Secretary Lew said, “We are very concerned that China’s recently passed Foreign NGO Management Law will weaken [China’s integration with the global economy] by creating an unwelcome environment for foreign NGOs. President Obama and President Xi have discussed this issue, and addressing it will be important for our bilateral relationship.” U.S. Department of the Treasury, “Remarks by Treasury Secretary Lew at the 2016 U.S.-China Strategic and Economic Dialogue Joint Opening Session,” June 6, 2016.

†In September 2016, the PBOC named Bank of China’s New York branch as the first RMB clearing house in the United States. Bloomberg, “PBOC Appoints Bank of China as First Yuan Clearing Bank in U.S.,” September 20, 2016.

- *Accelerating Bilateral Investment Treaty (BIT) negotiations:** The United States and China agreed to submit revised negative list offers in mid-June, after both countries missed a March 2016 deadline for exchanging offers. Both sides agreed to accelerate negotiations, but did not set a deadline for concluding BIT negotiations.²³³ After both sides exchanged new offers, U.S. Trade Representative Michael Froman said China's latest offer "[showed] a serious effort on their part" but remained "a fair distance away from being acceptable."²³⁴
- *Enhanced cooperation on climate change and environment:* The United States and China strengthened their cooperation on climate change and environmental protection, which comprised nearly half of the listed strategic outcomes; however, most of the outcomes highlighted existing exchanges and agreements.²³⁵ For instance, the two countries committed to working toward full implementation of the Paris Agreement.[†]²³⁶ The listed outcomes also enumerated multiple collaborative projects under the Climate Change Working Group, including initiatives on smart grids, heavy-duty vehicles, and building and industry efficiency.²³⁷

U.S.-China Bilateral Investment Treaty Negotiations

A recent report prepared by Commission staff analyzes the costs and benefits of the U.S.-China Bilateral Investment Treaty (BIT) and concludes that while a U.S.-China BIT "could potentially unlock sizable benefits, there are a number of potential concerns derived from China's recent BIT practice that policymakers should weigh when considering the treaty."²³⁸ For the United States, the BIT presents an opportunity to address and ban Chinese investment practices that are out of line with international investment and legal standards, including unclear regulatory and legal enforcement, forced technology transfer, preferential policies for SOEs, and long-standing market access barriers.²³⁹ For China, the BIT could secure a more politically stable operating environment for Chinese companies in the United States and also serve to facilitate domestic reform of its investment framework by imposing external obligations.²⁴⁰ However, given China's history of noncompliance with its World Trade Organization (WTO) obligations, critics of the BIT worry that even a high-standard U.S.-China BIT may not be meaningfully enforceable because it conflicts with Beijing's stated development path.²⁴¹

To date, the United States and China have exchanged negative list offers four times, mostly recently in September 2016.²⁴² According to David Dollar, senior fellow at the Brookings Institution (and formerly the Treasury attaché to China), "China has been slow to produce a credible offer on the BIT because enterprises and ministries with vested interests have opposed to opening up

*For background on U.S.-China BIT negotiations, see Lauren Gloudeman and Nargiza Salidjanova, "Policy Considerations for Negotiating a U.S.-China Bilateral Investment Treaty," *U.S.-China Economic and Security Review Commission*, August 1, 2016.

†For more information on China's commitments at the Paris Climate Conference, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, January 6, 2016.

**U.S.-China Bilateral Investment Treaty Negotiations—
Continued**

and the leadership is apparently not willing to take them on.”²⁴³ U.S. Treasury Secretary Jack Lew has said China’s willingness “to engage in serious negotiations on a high-quality U.S.-China BIT will be [an] important barometer” of whether it views foreign companies as a partner in its economic development.²⁴⁴

Hangzhou G20 Summit

On September 4–5, 2016, China hosted the 11th G20 Summit, an annual meeting of leaders from the 20 largest economies, in Hangzhou.* Beijing viewed its first time chairing the G20 Summit as a high-profile opportunity to showcase China’s leadership on the world stage and promote its vision for the global economy.²⁴⁵ The G20 Summit’s final communique was a broad consensus document organized around five themes: policy coordination, innovation-driven growth, economic and financial governance, trade and investment, and sustainable development.²⁴⁶ While the communique covered a wide range of issues, its decisions were mainly incremental and lacked concrete and measurable actions.²⁴⁷ Key issues addressed in the final communique include:

- *Maintaining global economic growth and open trade:* G20 leaders called on countries to use all policy tools—monetary, financial, and structural—to generate greater global growth. They also adopted action plans on innovation and the “new industrial revolution,” two areas expected to provide the basis for future growth.²⁴⁸ G20 leaders defended open trade, reaffirming their “opposition to protectionism on trade and investment in all its forms.”²⁴⁹ They also adopted the Guiding Principles for Global Investment Policymaking, laying out basic principles for how countries should treat foreign direct investment.²⁵⁰
- *Creating the foundation for an international tax system:* In an effort to address tax evasion and improve transparency, G20 countries and OECD members developed the Inclusive Framework on Base Erosion and Profit Shifting (BEPS), a package of measures governments can implement to close gaps in tax rules. G20 leaders called for the implementation of the BEPS package and endorsed a proposal to identify countries that fail to meet specified criteria for tax transparency. They noted “defensive measures will be considered against listed jurisdictions.”²⁵¹
- *Resolving global excess capacity in industrial sectors:* G20 leaders recognized that excess capacity in steel and other industries is a global issue that requires a collective response. The G20 agreed to set up an OECD-facilitated global forum on steel ex-

*The Group of Twenty (G20) is an international forum for governments and central banks from 20 major countries to meet and discuss international financial stability issues. Members include Argentina, Australia, Brazil, Canada, China, the EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, and the United States. International organizations such as the Financial Stability Board, International Labor Organization, IMF, OECD, UN, World Bank, and WTO also participate. G20 2016 China, “About G20,” November 2015.

cess capacity, which will share information and produce a progress report in 2017.²⁵²

- *Reforming governance arrangements at the IMF and World Bank:* G20 leaders called for a new IMF quota formula—to be developed before the 2017 Annual Meetings—to reflect increased shares for emerging and developing countries “in line with their relative positions in the world economy.”²⁵³ Similarly, the statement called for the World Bank to implement its shareholding review “with the objective of achieving equitable voting power over time.”²⁵⁴

On September 3, ahead of the G20 Summit, President Barack Obama met with President Xi. The top outcome was the announcement that the United States and China formally joined the 2015 Paris Agreement on Climate Change, putting the agreement within reach of entering into force this year.*²⁵⁵ On cybersecurity, the two countries reaffirmed their commitment to fully implement the September 2015 cyber commitments, including not conducting cyber-enabled theft of intellectual property for commercial gain.²⁵⁶ On counternarcotics, China agreed to target exports of substances controlled in the United States even if they are not controlled in China.²⁵⁷ Flows of precursor chemicals from China to the United States are a persistent problem.

Methamphetamine Precursor Chemicals from China

A recent report prepared by Commission staff analyzes the scope of methamphetamine (meth) precursor chemical flows from China and their implications for the United States.²⁵⁸ While Mexican cartels produce the majority of meth used in the United States, around 80 percent of precursor chemicals used in Mexican meth come from China.²⁵⁹ China is home to the world’s second-largest pharmaceutical industry by revenue, producing and exporting vast quantities of generic drugs and active pharmaceutical ingredients used to manufacture legal and illegal drug products.²⁶⁰ In addition, Chinese non-pharmaceutical chemical companies ship more than one-third of the world’s chemicals, making it the world’s largest chemical producer and exporter.²⁶¹ According to the U.S. Department of State’s estimates, China has more than 160,000 precursor chemical companies and production facilities operating nationwide.²⁶² The Commission report finds Chinese manufacturers of meth precursors have thrived due to weak regulations and poor oversight over the country’s chemical and pharmaceutical industries.²⁶³ As a result, flows of meth precursors and other dangerous synthetic drugs from China into the Western Hemisphere continue to increase, contributing to a growing drug problem in the United States.²⁶⁴

*The Paris Agreement enters into force when 55 countries representing at least 55 percent of global emissions finalize their domestic processes for joining the agreement; together, China and the United States account for about 40 percent of the world’s carbon dioxide emissions. On October 5, 2016, the United Nations announced the agreement would enter into force on November 4, 2016. United Nations, “Paris Climate Agreement To Enter into Force on 4 November,” October 5, 2016; Eliza Northrop and Melisa Krnjaic, “US and China Join Paris Agreement, Bringing It Much Closer to Taking Effect,” *World Resources Institute*, September 3, 2016; and Alicia Parlapiano, “Climate Goals Pledged by China and the U.S.,” *New York Times*, October 2, 2015.

United States and China at the WTO

In 2016, tensions between the United States and China heightened over trade, much of which has played out at the WTO. December 2016 marks 15 years since China acceded to the WTO. Beijing contends its accession agreement guarantees it market economy status at the end of 2016, but the United States and the EU dispute this assertion. Gaining market economy status would make it harder for China's trading partners to restore fair market conditions through the imposition of antidumping (AD) duties on its goods. China still falls short of key U.S. criteria for market economy treatment.²⁶⁵ (For more on the debates and developments on China's market economy status, see Chapter 1, Section 2, "State-Owned Enterprises, Overcapacity, and China's Market Economy Status.")

The United States continues to urge China to report its subsidies to the WTO.²⁶⁶ Although China agreed to do so when it acceded to the WTO in 2001, China's subsidy notifications are irregular and "significantly incomplete."²⁶⁷ In their 2016 *Subsidies Enforcement Annual Report to the Congress*, the USTR and the U.S. Department of Commerce noted that China's three subsidy notifications to date* "exclude numerous central government subsidies for certain sectors (e.g., steel, wild capture fisheries, aluminum), and none of the three included a single subsidy administered by provincial or local government authorities."²⁶⁸ China's poor record of compliance with WTO transparency obligations makes it difficult to evaluate the nature and extent of its subsidy programs and their trade effects.²⁶⁹ In response to China's failure to carry out its obligations, the United States conducted its own research and analysis and filed "counter notifications" of Chinese subsidy measures with the WTO. According to the USTR and U.S. Department of Commerce report, "To date, China has not provided a complete, substantive response to these counter notifications" and refuses to discuss this matter with the United States, instead claiming the United States has "misunderstood" China's subsidy programs.²⁷⁰

Over the last year, the United States brought WTO cases against China over its agricultural subsidies, export restrictions on raw materials, and aircraft taxation. The United States also requested consultations over alleged Chinese noncompliance with an earlier WTO ruling faulting Chinese AD duties on U.S. broiler chicken products. China challenged the United States' compliance with a WTO ruling that faulted U.S. methodology in determining countervailing duties (CVDs) on certain Chinese products.† Key developments in U.S.-China engagement at the WTO are discussed in the following subsections. New and pending WTO cases between the United States and China are summarized in Addendum I.

*China filed its first subsidy notification in 2006, five years after joining the WTO; the notification covered 2001–2004. China's second subsidy notification, filed in 2011, covered 2005–2008. China submitted its most recent notification in 2015, covering 2009–2014. Office of the U.S. Trade Representative and the U.S. Department of Commerce, *Subsidies Enforcement Annual Report to the Congress*, February 2016, 13.

†The products are solar panels, pressure pipes, steel line pipes, oil country tubular goods, lawn groomers, kitchen shelving, steel wire, coated paper, aluminum extrusions, steel cylinders, thermal paper, and citric acid. *Inside U.S. Trade*, "China Ramps Up WTO Fight with U.S. over Methodology in CVD Cases," May 19, 2016.

United States Challenges Chinese Agricultural Subsidies

On September 13, 2016, the United States brought a trade complaint against China at the WTO regarding “excessive” government support provided for rice, wheat, and corn production.²⁷¹ According to the USTR’s analysis, the value of China’s price support for rice, wheat, and corn last year was nearly \$100 billion in excess of its commitments under the WTO Agreement on Agriculture.²⁷² Through its “market price support” programs, China annually sets minimum prices at which the government purchases rice, wheat, and corn in major producing provinces during the harvest season.²⁷³ The USTR alleged that since 2012, China has maintained domestic prices at levels “substantially” above its WTO commitment to cap levels of domestic support at 8.5 percent of the value of production.²⁷⁴

China’s use of agricultural subsidies influences domestic production decisions and hurts the ability of U.S. agricultural producers to compete in China and around the world.²⁷⁵ The United States is the world’s largest agricultural producer. In 2015, China was the United States’ second-largest agricultural export market, with U.S. agricultural exports to China totaling over \$20 billion.²⁷⁶ The USTR estimates U.S. rice, wheat, and corn exports contribute an additional \$70 billion to the U.S. economy annually and support 200,000 U.S. jobs.²⁷⁷

United States Challenges Chinese Export Restrictions on Raw Materials

On July 13, 2016, the United States launched a trade enforcement action against China at the WTO regarding its use of export duties on nine raw materials.²⁷⁸ In the request for consultations, USTR officials said the duties, which range from 5 percent to 20 percent, impose on U.S. manufacturers production costs Chinese manufacturers do not have to pay, encouraging companies to locate production operations in China.²⁷⁹ The nine raw materials—antimony, cobalt, copper, graphite, lead, magnesia, talc, tantalum, and tin—are key inputs for high-value products in important sectors for the U.S. economy, including aerospace, automotive, electronics, and chemicals.²⁸⁰ The USTR said the export duties are inconsistent with provisions of China’s WTO accession protocol, where it committed to eliminate export duties for all products unless specified in the protocol’s annex; the raw materials named in the case are not included in the annex of exceptions.²⁸¹

On July 19, the United States and the EU filed a joint WTO challenge over China’s export restrictions on raw materials, broadening the United States’ July 13 request for consultations.²⁸² The new request added chromium and indium to the original list of raw materials subject to export duties and challenged China’s quotas on exports of antimony, indium, magnesia, talc, and tin.²⁸³ China’s MOFCOM defended the restrictions, noting, “They are part of comprehensive measures to strengthen the protection of the ecological environment and are in line with WTO rules.”²⁸⁴ The U.S. and EU challenge marks the third time the United States and the EU have taken China to the WTO over export restrictions on raw materials.²⁸⁵ The previous cases, filed in 2012 and 2014, involved rare earths and other raw materials such as bauxite and zinc. In both

cases, the WTO ruled that China's export duties were inconsistent with its accession protocol, and rejected China's defense that its export restraints protected the environment.*²⁸⁶

United States Alleges Chinese Noncompliance in a WTO Case on Chicken Broiler Product Duties

In May 2016, the USTR requested a second round of consultations with China at the WTO, alleging China's noncompliance with a 2013 WTO decision faulting Chinese duties on U.S. chicken broiler[†] products.²⁸⁷ The United States initiated the case in 2011, alleging China was imposing illegal duties on exports of U.S. poultry.[‡] In August 2013, the WTO dispute settlement panel sided with the United States in the majority of the claims.²⁸⁸ According to the ruling, MOFCOM significantly overestimated U.S. subsidization amounts, which led to excessive imposition of CVDs.²⁸⁹ It also refused to use records of major U.S. poultry producers, and incorrectly calculated dumping margins and "all others"[§] dumping margins by relying on weight-based methods.[¶]²⁹⁰ The United States and China agreed upon July 9, 2014, as the final date for China to rescind excessive duties. On that date, however, China asserted that U.S. broiler product exports continued to adversely affect China's domestic poultry industry, and adjusted AD duties and CVDs with either slight declines or increases.²⁹¹ In August 2016, MOFCOM announced it would extend antisubsidy duties on U.S. broiler chicken imports for a further five years.²⁹²

China Alleges U.S. Noncompliance in a WTO Case on Countervailing Duties

In May 2016, China's MOFCOM initiated dispute settlement proceedings against the United States for noncompliance with the WTO's January 2015 ruling on the U.S. methodology for determining CVDs on certain Chinese-made products.** This case is one of the most far-reaching and complex WTO disputes because China is challenging the technical and legal basis of the U.S. Department of Commerce's methodology across different sectors and numerous products.²⁹³ China alleges the United States has failed to "achieve full, final, and effective compliance with the recommendations and

*For example, in the raw materials case, the panel report stated, "The difficulty with China's contention is that export restrictions generally do not internalize the social environmental costs of EPRs' [energy-intensive, highly polluting, resource-based products] production in the domestic economy. This is because export restrictions reduce the domestic price of EPRs and therefore they stimulate, instead of reduce, further consumption of polluting EPR products." World Trade Organization, *China – Measures Related to the Exportation of Various Raw Materials*, Dispute DS394, July 5, 2011, 163.

[†]Broiler products include most chicken products, except for live chickens and a few other products such as cooked and canned chicken. U.S. Department of Agriculture, *United States Wins Trade Enforcement Case for American Farmers, Proves Export-Blocking Chinese Duties Unjustified under WTO Rules*, August 1, 2013.

[‡]For the history of China's unfair treatment of U.S. poultry exports, see U.S.-China Economic and Security Review Commission, *Economics and Trade Bulletin*, June 3, 2016.

[§]The "all others" rate falls upon companies that neither received company-specific rates nor were individually investigated. This rate is calculated by weight averaging all company-specific rates.

[¶]Dumping margins are found by comparing sales of comparable merchandise within a certain timeframe. Weight-based methods refer to taking a specific chicken product's (e.g., breast, leg quarters, paws) weight over the entire chicken's weight.

**For full text of the consultation request, see World Trade Organization, *United States – Countervailing Duty Measures on Certain Products from China*, May 13, 2016.

rulings of the DSB [Dispute Settlement Body].”* The U.S. Department of Commerce failed to finalize CVDs on four of the 15 cases within the required implementation period.²⁹⁴ The Chinese government further claims that eight U.S. CVD investigations and determinations continue to use a flawed methodology.²⁹⁵

This case takes place against a backdrop of escalating trade tensions. While the U.S. government has the authority to initiate action, every recent AD/CVD case initiated was done so based on petitions filed by private parties.²⁹⁶ The United States now initiates more AD and other trade defense cases than any other WTO member.²⁹⁷ In the 2015 fiscal year, the U.S. government initiated 62 investigations, the largest number of investigations in 14 years.²⁹⁸ China was involved in over half of those cases.²⁹⁹ In 2016, the number of cases is expected to exceed those in 2015.³⁰⁰ Of the 48 investigations initiated in first nine months of 2016, China is involved in 28.³⁰¹ (For a list of AD/CVD investigations involving China initiated by the United States in 2016, see Chapter 1, Section 2, “State-Owned Enterprises, Overcapacity, and China’s Market Economy Status.”) In turn, Chinese officials seek to challenge U.S. AD duties at the WTO in an effort to protect China’s domestic industries, particularly the strategically and economically important steel industry.³⁰²

China Ends “Demonstration Bases” Export Subsidy Program after U.S. Challenge

In April 2016, China agreed to end one of its export subsidy programs in a MOU with the United States; this MOU comes a year after the United States challenged the practice for violating WTO rules.³⁰³ The program in question provided around \$1 billion in central and sub-central government subsidies to seven sectors: textiles, light industry products, specialty chemicals, medical products, hardware materials, agriculture, and advanced materials and metals (including specialty steel and aluminum products).³⁰⁴ The subsidies were provided through China’s “Demonstration Bases” program, which supported exporters in 179 industrial clusters across the country.³⁰⁵ Under the program, the Chinese government provided enterprises with subsidies contingent on meeting certain export targets. Some subsidies took the form of cash grants, while other subsidies took the form of free or discounted services provided by designated suppliers known as “common service platforms.”†³⁰⁶

*In the original dispute, China claimed the U.S. Department of Commerce’s methodology and determination of 17 CVD investigations from 2007 to 2012 violated the WTO’s Agreement on Subsidies and Countervailing Duties. The WTO’s Appellate Body found the U.S. Department of Commerce cannot presume that all majority government-owned entities are “public bodies” capable of providing subsidies, and that it must conduct “necessary market analysis” in 15 of the 17 cases to include the consideration of in-country prices as benchmark prices in its CVD investigations and calculations. Previously, the U.S. Department of Commerce calculated the duty using third-country proxies without consulting in-country or private prices in China. In April 2015, the U.S. Department of Commerce initiated compliance proceedings on the 15 CVD investigations faulted by the WTO but failed to finalize CVDs on solar panels, pressure pipes, steel line pipes, and oil country tubular goods within the required implementation period. World Trade Organization, *United States—Countervailing Duty Measures on Certain Products from China*, Dispute DS437, January 16, 2015; *Inside U.S. Trade*, “China Ramps up WTO Fight with U.S. over Methodology in CVD Cases,” May 19, 2016; and U.S. Department of Commerce, International Trade Administration, *Notice of Commencement of Compliance Proceedings Pursuant to Section 129 of the Uruguay Round Agreements Act*, April 27, 2015.

†While the total amount of subsidies provided under the program is unknown, the United States estimates the Chinese government provided certain enterprises with “at least \$635,000

As a result, products from demonstration bases were cheaper and more competitive in export markets.³⁰⁷ In 2012, for example, 16 demonstration bases in the textile sector accounted for 14 percent of China's total textile exports.³⁰⁸

The subsidy program was discovered as part of a separate WTO dispute the United States raised with China in 2012 regarding unfair auto parts subsidies.³⁰⁹ While China eliminated the auto parts subsidy program, the investigation revealed the network of demonstration bases and illegal export subsidies.³¹⁰ The United States challenged the program at the WTO in February 2015, citing concerns that "China's actions [were] damaging [the] international marketplace, undercutting American businesses, and hurting workers in communities across [the] country."³¹¹

For some U.S. industries, however, the MOU may not be comprehensive enough to maintain free and fair trade in international markets. The steel industry, for example, remains wary of the Chinese government's claims, anticipating Chinese steel companies will receive additional forms of support—like cheap loans from state banks, artificially low prices for inputs such as energy and water, and support for R&D and technology acquisitions—that continue to put U.S. firms at a disadvantage.³¹²

United States Challenges China's Discriminatory Taxation for Small Aircraft

In December 2015, the USTR initiated dispute settlement proceedings at the WTO over China's discriminatory tax exemptions for domestically produced small aircraft. These measures impose a 17 percent value-added tax on imported aircraft while exempting domestically produced aircraft, particularly aircraft under 25 metric tons by weight, in violation of the WTO's nondiscriminatory taxation rules.³¹³ Examples of exempted aircraft include China's domestically produced regional jet, the ARJ21, and general aviation aircraft ranging from propeller-driven aircraft to business jets.³¹⁴ The USTR noted these tax measures were not reported to the WTO as required.³¹⁵ (For a discussion of China's industrial policies in the aviation manufacturing industry, see Chapter 1, Section 3, "13th Five-Year Plan.")

The USTR noted that unfair taxation policies disadvantage the U.S. general aviation manufacturing industry, which provides approximately 103,000 jobs and contributes \$14 billion annually to the U.S. economy.³¹⁶ According to Ambassador Froman, "China's discriminatory, unfair tax policy is harmful to American workers and American businesses of all sizes in the critical aviation industry, from parts suppliers to manufacturers of small and medium-sized aircraft."³¹⁷ Since 2011, U.S. exports of civilian aircraft, engines, equipment, and parts to China more than doubled—reaching \$13.9 billion in 2014, or about 12 percent of total U.S. exports.³¹⁸ Based on Chinese regulators' estimates, China's general aviation sector is expected to grow 19 percent annually through 2020, creating enormous potential opportunities for U.S. firms.³¹⁹

worth of benefits annually" and provided "common service platform" suppliers with "almost \$1 billion over a three-year period." Office of the U.S. Trade Representative, *United States Launches Challenge to Extensive Chinese Export Subsidy Program*, February 2015.

Conclusions

- In 2015, the U.S. goods trade deficit with China increased by 6.5 percent year-on-year to \$367.2 billion, a new record. Over the same period, the U.S. deficit with China in advanced technology products reached \$120.7 billion, a decrease of \$3 billion from 2014. In the first eight months of 2016, the U.S. goods deficit with China fell 5.7 percent year-on-year to \$225.2 billion due to weaker imports. The United States has a substantial but much smaller trade surplus with China in services: in 2015, the U.S. trade surplus in services with China totaled \$29.5 billion. China continues to stall on liberalizing key sectors in which the United States is competitive globally, such as services.
- The Chinese government has made “supply-side structural reform” the dominant theme of economic policy. This concept includes cutting excess industrial capacity and housing inventories, deleveraging, and reducing business costs. Early signs suggest the central government’s supply-side focus has not yet translated into a serious change of course. Facing a slowdown in growth, Chinese policymakers have leaned on stimulus measures to boost growth. Government stimulus has largely accrued to the state sector while the private sector struggles to secure credit, endangering China’s rebalancing.
- China’s rapidly rising debt levels heighten risks to the stability of the country’s financial markets, which can quickly spill over into global markets. Beijing continues to increase the flexibility of its exchange rate, driven in part by its goal of internationalizing the renminbi (RMB). Despite this progress, the People’s Bank of China still carefully manages the value of the RMB, intervening in foreign exchange markets to keep the currency’s external value stable.
- China’s foreign investment climate continues to worsen for companies in strategic industries because of the Xi Administration’s focus on domestic industrial innovation goals. In addition, Beijing has forcefully argued that the country must reduce its dependence on foreign technology due to national security concerns, and introduced stricter information and communications technology requirements and stronger cybersecurity policies.
- While Chinese investment remains a small percentage of total inward foreign direct investment in the United States, it is rising rapidly and will continue to rise, driven by the Chinese government’s “going out” strategy, capital flight, and a generally more open policy environment for outbound investment. Chinese companies’ record acquisition of U.S. assets—in particular, their drive to acquire U.S. technology firms—has led to growing political concern. However, some major Chinese acquisition deals have fallen apart due to regulatory concerns or questions over Chinese buyers’ ability to pay. The Committee on Foreign Investment in the United States (CFIUS) reviews foreign investments in the United States for national security implications. In 2014, the latest year for which data are available, China led foreign countries in CFIUS reviews with 24 reviewed transactions out of more than 100 total

acquisition deals. Although the number of Chinese transactions reviewed increased in absolute terms, it declined as a share of all Chinese acquisitions, and the vast majority of reviewed transactions proceed.

- China appears to be conducting a campaign of commercial espionage against U.S. companies involving a combination of cyber espionage and human infiltration to systematically penetrate the information systems of U.S. companies to steal their intellectual property, devalue them, and acquire them at dramatically reduced prices.
- The U.S. government's efforts to address tensions in the U.S.-China relationship continue to yield only limited results. At the final round of the Strategic and Economic Dialogue talks under the Obama Administration, participants failed to achieve any major breakthroughs but left with some deliverables on financial sector cooperation. Industrial overcapacity topped the U.S. economic agenda, replacing currency as its primary concern, but China only made a vague pledge with regard to steel overcapacity. The unwelcoming investment climate for U.S. companies in China, along with China's recently passed law restricting foreign nongovernmental organizations, also added friction to the talks.
- China's adherence to the World Trade Organization (WTO) principles and its Protocol of Accession remains mixed, partly due to China's opaque subsidy regime. Recently, the United States initiated WTO cases on China's aircraft taxation, export restrictions on raw materials, and agricultural subsidies. The United States also requested consultations over China's continued imposition of antidumping duties on U.S. broiler chicken products, in violation of an earlier WTO ruling.

Addendum I: WTO Cases

Recent and Ongoing WTO Cases Brought by the United States against China

No.	Title	Request for Consultations	Panel Report	Status
DS427	Antidumping and Countervailing Duty Measures on Broiler Products	September 20, 2011	August 2, 2013	In May 2016, the United States requested a second round of consultations with China over China's alleged noncompliance with a DSB ruling on AD and CVD duties on broiler products from the United States.
DS450	Certain Measures Affecting the Automobile and Automobile-Parts Industries	September 17, 2012	Dispute resolved in consultations stage	China agreed to end its subsidy program for automobile and automobile parts enterprises.
DS489	Subsidies for Demonstration Bases and Common Service Platform Programs	February 11, 2015	Panel established on April 22, 2015; MOU reached April 14, 2016	China agreed to end its demonstration bases export subsidy program in an MOU reached with the United States.
DS501	Tax Measures Concerning Certain Domestically Produced Aircraft	December 8, 2015	In consultations; panel not yet formed	The United States requested consultations with China regarding tax measures in relation to the sale of certain domestically produced aircraft in China.
DS508	Export Duties on Certain Raw Materials	July 13, 2016	In consultations; panel not yet formed	The United States requested consultations with China over China's exports subsidies on nine raw materials.
DS511	Domestic Support for Agricultural Producers	September 13, 2016	In consultations; panel not yet formed	The United States requested consultations with China over China's domestic support for rice, wheat, and corn.

Source: World Trade Organization; compiled by Commission staff.

Recent and Ongoing WTO Cases Brought by China against the United States

No.	Title	Request for Consultations	Panel Report	Status
DS437	Countervailing Measures	May 25, 2012	July 14, 2014 (Appellate Body Report, December 18, 2014)	The Panel ruled against some of China's claims but also found the United States acted inconsistently with some of its WTO obligations. China appealed the decision, and the Appellate Body reversed several of the Panel's findings against China's claims. In May 2016, China requested consultations over the United States' alleged failure to implement the DSB ruling. A compliance panel was established July 21, 2016; the panel report is expected November 2016.
DS471	Antidumping Methodologies	December 3, 2013	Panel established March 26, 2014	China requested consultations with the United States regarding the use of certain methodologies in AD investigations involving Chinese products.

Source: World Trade Organization; compiled by Commission staff.

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SECTION 2: STATE-OWNED ENTERPRISES, OVERCAPACITY, AND CHINA'S MARKET ECONOMY STATUS

Introduction

In China's centralized, state-run economic system, the government's legitimacy is closely tied to its ability to deliver high levels of economic growth. With China's economy slowing down, the government is facing a difficult choice between maintaining short-term growth and undertaking economic restructuring. The Chinese Communist Party (CCP) appears to have chosen the former path. Although the CCP has repeatedly announced new policies to address structural problems in the country's economy, it has failed to implement changes that meaningfully put the economy on a path to becoming market led. This is because the CCP's reform efforts are aimed at managing its state-led system, not transitioning toward a market-led economy.

In the reforms announced to date, Beijing has sought to take superficial steps toward privatization and improved efficiency, while increasing government control over the economy. The country's large and inefficient state-owned enterprises (SOEs) epitomize this trend: SOEs contribute a sizable share of the country's jobs and revenue, but are in need of significant restructuring to reduce mounting debt levels resulting from a legacy of imbalanced, government-led growth. However, it is increasingly evident that the top CCP leadership does not want to implement free market SOE reforms.

To date, the CCP has not demonstrated a commitment to a free market economy as a matter of principle, and powerful practical considerations mitigate against reform efforts. SOEs in strategic sectors are the primary entities through which the CCP directs the economy towards the regime's strategic ends; real reform in these sectors would mean giving up control and dramatically reducing the government's ability to achieve the goals identified in the 13th Five-Year Plan (FYP). Reforms would also reduce the size of the state sector, creating significant job losses at a time when economic growth is already slowing. Finally, huge political obstacles in the form of entrenched interests resist any substantial changes in SOEs' structure that might reduce the CCP's control. For all of these reasons, what passes for reforms of SOEs has taken the form of consolidating state control and pressuring firms to act in line with government interests. As a result, in response to CCP policies, the Chinese government continues to subsidize the state sector despite warnings from the International Monetary Fund (IMF) that effects from a large wave of SOE defaults could ripple through the global economy.

The need for reform is particularly pressing in China's heavy industries, where years of government subsidies have created overcapacity and market distortions. China's industrial capacity, for instance, has suppressed global commodity prices and hindered global industrial activity. Rampant overcapacity also poses a national security risk to the United States, as cheap Chinese steel and finished aluminum product imports threaten to hollow out the domestic industries and weaken the national defense industrial base.

To offset Beijing's anticompetitive policies, the United States and other major Chinese trading partners are increasingly using trade remedies like antidumping and countervailing duties. In December 2016, however, the provision of China's World Trade Organization (WTO) accession protocol enabling countries to automatically treat China as a nonmarket economy expires, sparking debate among Chinese, U.S., and European officials about the future of China's market economy status.

Drawing on expert testimony received at the Commission's February 24, 2016, hearing on "China's Economic Realities and Implications for the United States," information from the Commission's fact-finding trip to China in June 2016, and additional research throughout the year, this section explores the implications of China's economic decision making for U.S. firms, industry, and consumers, as well as for the global economy.

China's State Capitalism in the Global Context

As China's economic growth—reported to be 6.7 percent* in the first half of 2016 compared to the first half of 2015, according to official Chinese data—hits its lowest level in 25 years, inefficient and debt-ridden SOEs have become one of the most pressing problems facing the Chinese government.¹ Despite repeated pledges to let the market play a "decisive role" in resource allocation, Beijing continues to use SOEs as a tool to pursue social, industrial, and foreign policy objectives, offering direct and indirect subsidies and other incentives to influence business decisions and achieve state goals.² During the Commission's June 2016 trip, Chinese government officials acknowledged that China would benefit from some deregulation and privatization of its SOEs.³ However, the government's continued reluctance to revoke SOEs' privileged status in the economy has created imbalances in global markets, hindering efforts by private domestic and foreign firms to compete in and outside China.

Current State of Chinese SOEs

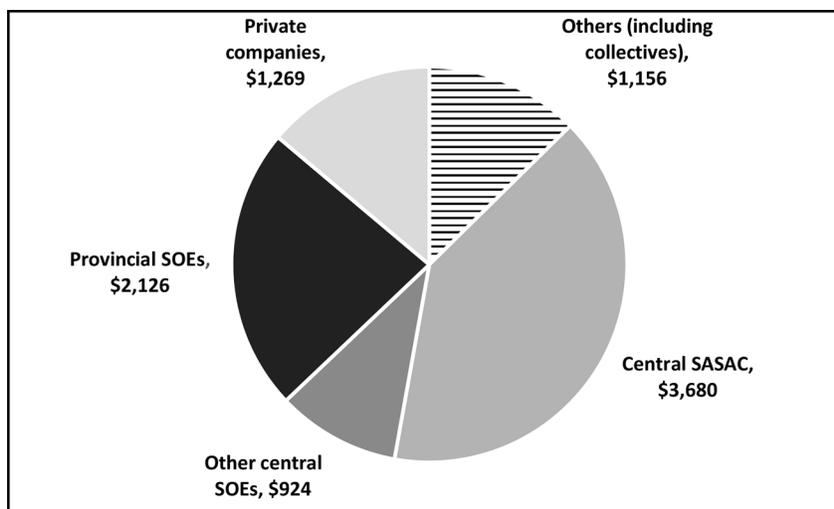
State-owned and state-controlled companies remain significant contributors to China's economic growth, providing a substantial source of China's revenue and employment. In 2014, all SOEs accounted for 17 percent of urban employment, 22 percent of total industrial profits (with industrial production accounting for 42.7 percent of gross domestic product [GDP] in 2014), and 38 percent of China's industrial assets.⁴ Using official Chinese data, Nicholas

*Most private estimates put China's economic growth far below 6.7 percent. For example, the economic research firm Capital Economics estimates China's gross domestic product (GDP) grew only 4.5 percent in the second quarter of 2016. Sue Chang, "China's Economy Likely Lost More Momentum amid Mounting Debt," *MarketWatch*, July 13, 2016.

Lardy, senior fellow at the Peterson Institute for International Economics, estimates state firms contribute between 25 percent and 30 percent of China's industrial output on average, although SOE contribution in some monopoly sectors can exceed 90 percent.⁵ Likewise, SOEs maintain a controlling position in China's stock markets—the ten top-valued companies by market capitalization in China's Shanghai Composite Index are state owned.⁶ Chinese SOEs are also present on U.S. stock exchanges. For example, there are 14 Chinese SOEs listed on the New York Stock Exchange, including PetroChina, China Mobile, Sinopec, and China Telecom.⁷

Many Chinese companies operate in gray zones between private and public ownership, with both SOEs and private companies receiving incentives to execute government objectives, making it difficult to delineate state-owned and private businesses.⁸ Still, SOEs remain the driving force behind sectors of fundamental importance to the Chinese economy, with most of the largest companies by revenue owned or controlled by the central government.⁹ Large state monopolies in sectors like oil and gas, electricity, and tobacco, for instance, contribute to SOEs' disproportionately large share of China's economic growth.¹⁰ In 2013, one-third of total SOE assets were controlled by the 113 SOEs administered by the central State-Owned Assets Supervision and Administration Commission (SASAC), while the remaining assets were controlled by SOEs administered by local governments and other government ministries, including financial institutions, cultural institutions, the national postal system, and the national tobacco monopoly.¹¹ According to a recent study by Paul Hubbard, a scholar at the Australian National University, China's 500 largest firms—both private and public—earned \$9.2 trillion in 2013.¹² Of that \$9.2 trillion, only 14 percent was earned by private companies (see Figure 1).¹³

Figure 1: Revenue of China's Top 500 Firms by Ownership, 2013
(US\$ billions)



Source: U.S.-China Economic and Security Review Commission, *Hearing on China's Shifting Economic Realities and Implications for the United States*, written testimony of Paul Hubbard, February 24, 2016.

SOEs' Growing Debt Problem

Despite the controlling status enjoyed by some SOEs in China's economy—largely due to their monopolistic market positions and barriers for private sector competitors—inefficiency and mismanagement of assets run rife. Because SOEs are given access to cheap financing and lower interest rates* in return for delivering investments and public services in line with government interests, they often operate based on state preferences rather than market principles.¹⁴ As a result, Chinese SOEs face growing corporate debt, sluggish demand, weak pricing, and high leverage.¹⁵ SOE profits have been steadily declining in recent years, falling 6.7 percent year-on-year in 2015 and 8.5 percent year-on-year in the first half of 2016.¹⁶ To remain viable, many SOEs are reliant on loans from state banks, leading to the proliferation of “zombie” companies† that require constant bailouts to operate. Since 2008, non-financial SOEs have increased their loans relative to assets from 53 percent to 64 percent—nearing the United States' 70 percent debt-to-asset ratio before the 2008–2009 financial crisis—while private companies' loans relative to assets declined over the same period.¹⁷

According to a June 2016 speech by David Lipton, First Deputy Managing Director of the IMF, “corporate debt [in China] remains a serious—and growing—problem that must be addressed immediately and with a commitment to serious reforms.”¹⁸ In the first quarter of 2016, corporate debt for all Chinese companies rose to 169 percent of GDP (up from 108 percent in 2008), compared to 72 percent in the first quarter of 2016 for the United States.¹⁹ Dr. Lipton's speech indicates that SOEs account for around 55 percent of corporate debt.²⁰ According to Chinese regulators, non-performing loans (NPLs) held by Chinese banks amounted to \$300 billion, or 2.15 percent of total loans, at the end of May 2016.²¹ Although China's official NPL ratio is down from 7.5 percent at the end of 2006, the actual NPL ratio may be much higher.²² Ultimately, Dr. Lipton concluded that Chinese SOEs are “essentially on life support,” warning that if the problem is not dealt with soon it could evolve into a larger crisis.²³ As a result of surging debt and stagnant reforms, Standard & Poor's ratings agency cut the outlook for China's credit rating from stable to negative in March 2016, following similar revisions by Moody's Investors Service earlier that month.²⁴

Efforts to Address Debt

China has begun allowing some state-owned companies to default to incentivize more prudent investing by SOEs and by other companies in SOEs.²⁵ Baoding Tianwei Group, a power generation equip-

*According to an August 2016 IMF report, implicit government financing guarantees grant SOEs an estimated four to five notch credit rating upgrade (i.e., a B– rating under Standard & Poor's rating system would be upgraded to a BB or BB+) and lower SOE borrowing costs by 1 to 2 percentage points. International Monetary Fund, “The People's Republic of China: 2016 Article IV Consultation: Selected Issues,” August 2016, 33.

†A “zombie” company generates only enough revenue to repay the interest on its debt. Because banks are reluctant to take the losses from a write-down of this debt and apply forbearance, these indebted firms are given additional time to repay loans. Hugh Pym, “Zombie Companies Eating Away at Economic Growth,” BBC, November 13, 2012.

ment company, became the first SOE to default on bonds when it missed a \$13 million interest payment in September 2015.²⁶ Two months later, state-owned China Shanshui Cement Group defaulted on a \$300 million loan.²⁷ In March 2016, Guangxi Nonferrous Metals Group Co.—which had been receiving state aid since 2012—defaulted on \$2.3 billion of its debt, and Dongbei Special Steel, a state-owned steelmaker in Liaoning Province, defaulted on its corporate debt for the seventh time on payments worth a total of \$715 million across all seven defaults.²⁸ According to Bloomberg, the total number of Chinese companies with more debt than equity jumped to 913 in 2015, a nearly 30 percent increase since 2007.²⁹ As a result, total bond defaults have skyrocketed, with 34 defaults accounting for around \$3 billion in China’s domestic bond market—including both SOEs and private enterprises—in the first half of 2016, nearly double the number of defaults in all of 2015.³⁰ In September 2016, state-owned Guangxi Nonferrous Metals Group Co. became the first company liquidated by Beijing after it could not reach an agreement with investors to bail out the company following its March 2016 default.³¹ China’s central bank governor, Zhou Xiaochuan, has expressed concern over the highly leveraged state of the economy, encouraging the development of “robust capital markets” to reduce China’s reliance on debt and increase equity financing.³²

Notwithstanding rising debt levels, Chinese companies are increasingly acquiring foreign companies in strategic sectors to earn government subsidies and other incentives.³³ SOEs in different sectors have varying reasons for looking abroad: energy and resources firms aim to stabilize their domestic supply of resources, avoid price volatility, and learn about new resource extraction methods; technology firms aim to acquire new technology; and manufacturing firms aim to be closer to their target markets and mitigate concerns over protectionism.³⁴ For example, China National Chemical Corporation’s (ChemChina) \$43 billion takeover of Swiss seed giant Syngenta AG likely seeks to boost China’s farm productivity.³⁵ The Syngenta deal may also allow China to monopolize the development of genetically modified crops. In February 2016, China’s Tianjin Tianhai Investment Co. made a bid for the U.S. electronics firm Ingram Micro, Inc. to boost China’s domestic technology capabilities and reduce imports of high-tech products (for a list of Chinese bids and acquisitions of U.S. companies, see Chapter 1, Section 1, “Year in Review: Economics and Trade”).³⁶ By acquiring businesses in line with the Chinese government’s industrial policy,* SOEs earn support from Beijing, including backing from state banks and capital markets.³⁷ These deals ultimately increase SOE debt in China, with companies sometimes relying on extremely risky loans from state banks to finance the deals.³⁸ China has also announced new policies aimed at reducing banks’ NPL ratios, including a securitization program and debt-for-equity swaps (for more on government efforts to address China’s debt problem,

* China’s industrial policy seeks to enhance indigenous innovation, reduce overcapacity, and develop the country’s high-technology and environmental industries, including biotechnology, high-end manufacturing equipment, and new-generation information technology. U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, “China’s State-Led Market Reform and Competitiveness Agenda,” in *2015 Annual Report to Congress*, November 2015, 158–162.

see Chapter 1, Section 3, “China’s 13th Five-Year Plan”).³⁹ These measures are expected to have a limited impact on overall debt, however, with investors noting they expect little global appetite for high-risk Chinese debt.⁴⁰

SOE Reform Agenda

SOEs have been a target of reform for years, with the Chinese government repeatedly promising to address the growing problems inherent in its state-led model. In meetings with the Commission, Chinese officials reaffirmed the government’s intent to undertake institutional SOE reforms.⁴¹ Nevertheless, evidence shows Beijing has effectively abandoned its boldest proposals for restructuring the state sector, with a number of reforms still not implemented despite years of repeated promises by high-ranking officials.⁴² At a State Council executive meeting in May 2016, China’s Premier Li Keqiang discussed SOE reform measures aimed at improving competition, creating a favorable environment for innovation, and promoting efficient deployment of assets.⁴³ These steps—along with promises to streamline SOE management and corporatize* the state sector—echo past SOE reform efforts that continue to be re-packaged and re-announced.⁴⁴ At the November 2013 Third Plenary Session of the 18th CCP Central Committee (Third Plenum), for example, Chinese President and General Secretary of the CCP Xi Jinping announced an SOE reform plan that called for ownership diversification and withdrawal of SOEs from sectors with healthy, competitive environments.⁴⁵ Three years later, Beijing has still not produced an official list of competitive sectors, indicating the withdrawal of state ownership is unlikely.⁴⁶ In September 2015, China’s State Council released the “Guiding Opinion on Deepening SOE Reform,” a high-level policy document that once again set forth a familiar plan for SOE reform that lacked detail and a clear timeline for implementation.⁴⁷

The central tenet of the September 2015 reform plan is to help SOEs become “bigger and stronger,” not to reduce the size of the state sector.⁴⁸ According to Mr. Hubbard, reforms “are designed to simultaneously reduce the interference of the state at a bureaucratic level but reinstitute or strengthen Party leadership.”⁴⁹ A June 2016 article in *Qiushi*, a bimonthly magazine published by the Central Party School and the Central Committee of the CCP, highlighted the growing power of party cells within SOEs, indicating “all the major decisions of [SOEs] must be studied and suggested by the party committees,” with “arrangements involving macro-control, national strategy and national security ... studied and discussed by the party committees before any decision by the board of directors or company management.”⁵⁰ In addition, the 13th FYP released in April 2016 highlighted state control of SOEs as one of its key reform priorities (for more on the 13th FYP, see Chapter 1, Section 3, “13th Five-Year-Plan”).⁵¹ Specific reform plans outlined by Beijing include:

* In 1994, the Chinese government began converting SOEs into corporate firms and creating mixed-ownership enterprises. Curtis Milhaupt and Wentong Zheng, “Why Mixed-Ownership Reforms Cannot Fix China’s State Sector,” *Paulson Policy Memorandum*, January 2016, 4.

Mixed-ownership reforms: To improve management, SOEs in industries deemed by the State Council to have sufficient market competition will actively pursue foreign capital in restructuring through methods including overseas mergers and acquisitions, joint investment and financing, and offshore financing. However, state capital will maintain the “absolute controlling position,” suggesting that even in the absence of full state ownership, SOEs will continue to be controlled by the state.⁵² The guidelines aim to complete mixed-ownership reforms for all SOEs by 2020.⁵³

Mixed-ownership reforms are not expected to result in full privatization of SOEs. One example of the limitations of mixed-ownership reforms is the case of Jiangxi Salt, a legal monopoly in China’s salt market previously owned by the Jiangxi provincial SASAC. After a deal in September 2015 to open the company to foreign investors—hailed by official media as a landmark example of SOE reform—Jiangxi SASAC’s share in the company dropped from 100 percent to 47 percent, with four outside investors collectively holding a 47 percent stake and Jiangxi Salt’s management buying a 6 percent stake.⁵⁴ However, of the four new investors, three were SOEs administered by SASAC, while the fourth was 83 percent owned by the Ministry of Finance.⁵⁵ Rather than selling assets to new investors and raising money for the local government, the Jiangxi deal was primarily structured as a capital injection, thereby undermining an intended result of SOE reform to help reduce local government debt by selling state assets.⁵⁶ Ultimately, “mixed-investment” SOEs have negligible amounts of private capital, with the state maintaining its control over business activities.⁵⁷

Categorization of SOEs: The September 2015 guidelines outline a system for pursuing reforms according to new SOE classifications. Under the plans, SOEs will be categorized as either “commercial” or “public,” with commercial SOEs focusing on seeking profits and opening to private investment (although the state will retain the controlling share), while public SOEs focus on public welfare or national security and remain entirely government owned.⁵⁸ Public SOE reforms will prioritize controlling costs, maintaining the quality of goods and services, and ensuring the stability and efficiency of operations, whereas commercial SOE reform will prioritize market competitiveness and economic value added.⁵⁹ Since announcing the reforms in September 2015, Beijing has not produced plans detailing which SOEs will be classified as commercial and which will be public.⁶⁰

Consolidation of SOEs: The recent reform guidelines announced by Beijing echo earlier directives to consolidate SOEs into globally competitive companies. Beijing has intermittently pursued a policy of consolidation since the 1990s, when then president Jiang Zemin sought to reduce SOE losses by privatizing or shuttering small state-owned companies while increasing the government’s control over larger and more profitable businesses.⁶¹ Most recently, SASAC in 2015 announced plans to reduce the number of SOEs from around 110 to 40 through mergers and acquisitions.⁶² The principal aim of consolidating and merging SOEs is to inject capital via minimal selling of shares and increasing total assets

while retaining majority state control.⁶³ Although the September 2015 guidelines did not specifically address reforms to subcentral SOEs, which account for a majority of the country's 150,000 SOEs, subsequent statements revealed policies to reduce overcapacity and pollution by closing down subcentral SOEs and announced plans to lay off five to six million state workers in the steel and coal industries.⁶⁴ To date, however, there has been little to no progress in reducing overcapacity, and indeed there have been some capacity increases.⁶⁵

Increased dividends: Although the Chinese government is entitled to all SOE profits, it has historically allowed SOEs to retain nearly all of their profits—another instance of the state providing SOEs with preferential treatment.⁶⁶ In 2010, for example, central SOE profits totaled around \$169 billion, only 3.8 percent of which was paid to the government through taxes and dividends, and which was all recycled back to SOEs rather than contributing to the state budget.⁶⁷ Although SOEs pay taxes, the extent of these payments is often overstated, with reported SOE taxes consisting mostly of remittances of indirect taxes (such as the value-added tax and the excise tax) that put economic burden on consumers, not SOEs.⁶⁸ To increase SOE payments to the state, dividend rates for central SOEs were set between 0 percent and 10 percent in 2007, and four years later were increased to between 5 percent and 15 percent.⁶⁹ According to the most recent guidelines, SOEs will be required to pay a 30 percent dividend to the central government by 2020, with an increasing contribution each subsequent year.⁷⁰ However, companies will still be able to adjust their reported profits by shifting them to subsidiaries or adjusting how investments are accounted for to suppress the portion of profits subject to dividend payments.⁷¹

State asset management: The government is establishing state investment and operation companies to supervise and manage state assets on behalf of the government—an approach known as the Temasek model.*⁷² For example, in August 2016, Beijing launched a \$30 billion venture capital fund that will selectively invest in the country's industrial sector, seeking to increase efficiency and upgrade technologies in the sector.⁷³ In effect, this policy shifts the central SASAC's function from asset management to regulating state assets on behalf of the government.⁷⁴ However, Dr. Lardy remains uncertain Beijing will fully embrace the new regulatory model, saying, "SASAC has a penchant for intervention in firm decision making that is the opposite of the Temasek model."⁷⁵

Employee Stock Ownership Plan: SASAC has announced plans to pilot an employee stock ownership program that will allow employees of select SOEs to buy company stocks.⁷⁶ Beijing hopes the plan will incentivize SOE employees to work to improve com-

* Temasek, a Singaporean SOE holding company, was founded in 1974 when it inherited 35 companies from the finance ministries. Today, Temasek's holdings have multiplied and diversified, with only 30 percent remaining in Singapore itself. Its domestic holdings are concentrated in "government-linked companies," allowing the state to maintain ownership without interfering in firms' profit-driven management. *Economist*, "From SOE to GLC," November 23, 2013.

pany competitiveness and stimulate productivity, particularly in innovation- and technology-driven sectors.⁷⁷ However, the SOE equity pilot program will be restricted to small, nonstrategic SOEs, limiting its impact on strategic, high-tech industries.⁷⁸ Additionally, the pilot mandates the state maintain at least 34 percent ownership in the SOEs' total equity while employees' total share cannot exceed 30 percent, further illustrating that maintaining state control remains the central tenet of all SOE reforms.⁷⁹

SOE Accountability System: In August 2016, the State Council announced guidelines to create an SOE accountability system to strengthen supervision of state firms' operations and investments. The accountability system, which will be set up by 2017, seeks to increase the value of SOE assets, strengthen supervision and management, and prevent losses. The new system will impose stricter penalties on SOE managers, holding them directly responsible for state losses if they incorrectly perform their duties. The guidelines also urge SOEs to clarify manager responsibilities, standardize decision making, and establish risk awareness.⁸⁰

State Control in Strategic Sectors—Public and Private

Under Chinese-style state capitalism, government ownership is not the only indicator of the degree and scope of government control. Instead, the government's combined use of markets and state intervention varies depending on the perceived strategic value—be it economic or political—of a sector (see Table 1).⁸¹ In her testimony to the Commission, Roselyn Hsueh, assistant professor of political science and Asian studies at Temple University, emphasized that Chinese-style capitalism requires market coordination, which “combines competition with deliberate regulation to achieve industrial modernization and economic and security goals.”⁸² The higher the degree and the broader the scope of a sector's strategic value, the more likely the Chinese state will enhance its control, centralize bureaucratic coordination, and regulate market entry to achieve state goals, such as restricting competition in strategic sectors.⁸³ As such, the Chinese government's influence over private companies in strategic sectors is often underestimated. Wentong Zheng, an associate professor at the University of Florida's Levin School of Law, stated in his testimony before the Commission that “the hallmark of Chinese state capitalism is an ecosystem in which the government is at the center of the economy and everybody else caters to the government's needs.”⁸⁴ In this ecosystem, public and private managers alike are incentivized to foster close ties with the government, relying on government ties for the financial and regulatory benefits essential for operating a successful business in China.⁸⁵

Table 1: Strategic Sectors Identified in China's State Planning

Made in China 2025 (2015)	Strategic Emerging Industries (2010)	Strategic Industries (2006)	Heavyweight Industries (2006)
(1) Clean energy vehicles (2) Next-generation IT (3) Biotechnology (4) New materials (5) Aerospace (6) Ocean engineering and high-tech ships (7) Railway (8) Robotics (9) Power equipment (10) Agricultural machinery	(1) Clean energy technologies (2) Next-generation IT (3) Biotechnology (4) High-end equipment manufacturing (5) Alternative energy (6) New materials (7) Clean energy vehicles	(1) Armaments (2) Power generation and distribution (3) Oil and petrochemicals (4) Telecommunications (5) Coal (6) Civil aviation (7) Shipping	(1) Machinery (2) Automobiles (3) IT (4) Construction (5) Iron, steel, and non-ferrous metals

Source: State Council of the People's Republic of China, *Made in China 2025*, May 8, 2015; U.S.-China Economic and Security Review Commission, *Hearing on China's Five-Year Plan, Indigenous Innovation and Technology Transfers, and Outsourcing*, written testimony of Willy C. Shih, June 15, 2011; U.S.-China Economic and Security Review Commission, *Hearing on the Extent of the Government's Control of China's Economy, and Implications for the United States*, written testimony of George T. Haley, May 24–25, 2007; and U.S.-China Economic and Security Review Commission, Chapter 1, Section 1, "The Relationship's Current Status and Significant Changes during 2007," in *2007 Annual Report to Congress*, November 2007, 38–39.

In a 2016 report, Professor Hsueh offers case studies examining market governance in the telecommunications and textiles industries, two areas of diverging strategic importance to the Chinese government:

- *Telecommunications (strategic)*: As a strategic sector, telecommunications' perceived value lies in the industry's importance to the government's goals of advancing and controlling China's technology infrastructure, disseminating and controlling information, and protecting national security. The sector is subject to heavy central-level control, and industry actors are commonly state owned or state controlled. Sector-specific rules on pricing, market entry and exit, business scope, technical standards, and ownership structures maximize the benefits of state control and minimize opportunities for foreign companies—for example, by absorbing technology from foreign operators who are unable to compete within the state-promoting regulatory environment—while simultaneously enhancing state management of network infrastructure and technology.⁸⁶
- *Textiles (nonstrategic)*: Following the first wave of economic liberalization and privatization in China, the textile industry was deemed a nonstrategic industry, having few applications for national security and low contribution to the national technology base. As a result, the sector experiences a decentralized market stakeholder pattern, where market coordination is looser and ownership is dominated by quasi-state and private firms. China introduced competition in textiles in the 1980s and devolved market coordination to local governments and commerce bureaus by the early 1990s. During this period, the central government undertook forced closures of failing state-owned textiles factories, mergers of weak and strong compa-

nies, and industrial upgrading across subsectors, allowing local governments to restructure local firms and industries in accordance with their own agendas.⁸⁷ In the 2000s, in compliance with WTO commitments, China liberalized foreign participation in textile retail and distribution, while the Ministry of Commerce delegated administration of the industry to local commerce bureaus and business associations.⁸⁸

According to Professor Hsueh, patterns of state control over industries of divergent strategic importance, as demonstrated by the two aforementioned sectors, display China's adoption of "bifurcated capitalism."⁸⁹ This bifurcated capitalism approach increases government authority and capacity to control assets perceived as strategic to the state and to structure market entry and sectoral developments—regardless of whether the assets are private or state owned.⁹⁰ These market governance patterns are manifested in other sectors across China's economy as foreign investment limits and regulatory actions to influence market actors, among other measures. By restricting investment primarily in strategic sectors, the state is able to maximize the gains and minimize the costs of China's global economic integration.⁹¹ The U.S. Department of State's 2016 Investment Climate Statement notes that China's legal system is also biased against foreign investors:

Foreign investors [in China] have expressed concern that the legal system allows regulators significant discretion to adapt decisions to changing circumstances, which results in an unpredictable business climate and rulings that can appear arbitrary or discriminatory. Generally, unlike the United States, the legal system is designed to serve state and Communist Party interests, and as such, does not consistently protect individual rights or effectively resolve disputes.⁹²

The Committee on Foreign Investment in the United States (CFIUS) scrutinizes foreign SOEs and government entities engaging in economic activity abroad more closely than private businesses, subjecting all transactions involving a foreign government to a mandatory 45-day investigation after the first-round 30-day investigation is complete.⁹³ Nonetheless, both private and public Chinese entities present significant risks to U.S. economic and national security, as the degree of state ownership does not necessarily reflect a business' strategic importance. During the Commission's June 2016 trip to Asia, Chinese officials told the Commission that the Chinese government does not make direct financial payments to private firms.⁹⁴ However, to retain control of strategic industries, the state can exert other methods of "control" over private companies, including through direct ownership, indirect ownership via a controlling interest in a "legal person" entity,* preferential lending by a state bank, board member appointments,⁹⁵ or forcing an agreement among shareholders.⁹⁶ Several policy memoranda published by the Paulson Institute highlight the channels

*For more on "legal person" entities in China, see Marshall W. Meyer and Changqi Wu, "Making Ownership Matter: Prospects for China's Mixed Ownership Economy," *Paulson Institute*, September 2014.

through which the Chinese government influences or controls private firms despite its lack of majority ownership, including:

- *Political connections:* In their research, Professor Zheng and Curtis Milhaupt, a professor at Columbia Law School, found 95 out of the top 100 private Chinese firms by revenue and eight out of the top ten Internet firms by revenue were founded or are controlled by a current or former member of a central or local political organization such as the People's Congresses and People's Political Consultative Conferences.⁹⁷ These connections are integral to a private firm's success, creating and reinforcing important networks to top banks, other leading SOEs, and government regulators.⁹⁸
- *Financial support:* Private firms often rely heavily on government subsidies to increase profit margins. In Professor Zheng's testimony to the Commission, he explained that private companies "have to have the help of the state in order to prosper or even survive."⁹⁹ Huawei, for example, is a privately held firm but receives major funding from state banks due to its status as a "national champion."¹⁰⁰ Privately owned Geely Automobile is another example of a company that benefitted from state support, receiving \$141 million in 2011 from government subsidies, over half of its net profits for the year.¹⁰¹ Another private automobile manufacturer, BYD Co., has also benefitted from state support, receiving \$108 million in 2013 from local and central government subsidies, nearly 130 percent of its net profits for the year.¹⁰²
- *Extralegal control:* Private companies are subjected to largely undefined regulations that dilute the rights of corporate owners. Take, for instance, China's state-run industry associations, which were created in the 1990s amid mounting pressure for the government to separate its regulatory power from its business activities. State-run industry associations † were meant to provide industrial coordination and private regulation, but they have become quasi-governmental entities: created and staffed by former government officials from defunct ministries, they supervise and coordinate the activities of firms whose ministries have been disbanded.¹⁰³ Compulsory participation in these state-led industrial restructuring efforts, along with other forms of pressure from regulators to comply with government-favored policies, contribute to the state's extralegal control over private enterprises.¹⁰⁴

Simultaneously, SOEs in nonstrategic sectors are not necessarily as beholden to direct government control as their shareholding structures may suggest.¹⁰⁵ The state frequently reverts to its role as regulator, rather than owner, to influence nonstrategic SOE behavior but not dictate its activities, suggesting Beijing does not

* Chinese "national champions" are industrial giants capable of competing globally. They are supported by government policies and expected to advance the interests of the state. Derek Scissors, "Deng Undone: The Costs of Halting Market Reform in China," *Foreign Affairs*, May/June 2009.

† One of the most prominent state-run industry associations in China is the China Petroleum and Chemical Industry Association, which oversees 70 percent of the operations in China's petroleum and chemical industries. China Petroleum and Chemical Industry Federation, "About Us."

view corporate control as its most effective means of influencing SOEs in nonstrategic sectors.¹⁰⁶ As a result, gradual privatization has increased competition and profitability in nonstrategic sectors of the economy; for example, between 1996 and 2002, the gross profits of China's textile industry grew 487 percent as the government reduced its role and increased privatization in the sector.¹⁰⁷

Overcapacity and Global Markets

China's overcapacity, or the overproduction of a given product, has become a global problem threatening the vitality of industrial producers around the world.¹⁰⁸ The Chinese government is guilty of stoking the current global commodity glut, with Beijing's preferential treatment of industrial producers distorting markets for products like steel, coal, and aluminum. These industries receive critical financial support from state banks, allowing them to overproduce even as global demand has fallen in recent years.¹⁰⁹ During the Commission's 2016 trip to China, Chinese officials told the Commission that cutting capacity is politically difficult for the Chinese government because it risks creating a surge in unemployment and a sharp deceleration in growth.¹¹⁰ As a result, China has only made small production cuts over the last year,* allowing global prices to fall further and leaving millions of workers outside China—particularly in the United States and Europe—without jobs.¹¹¹

The primary origin of excess capacity is China's legacy of inefficient industrial policies and imbalanced growth, designed to boost exports, support domestic industries and firms, and undermine foreign competition. While overcapacity initially sustained China's economy through pricing and market advantages, these policies have distorted resource allocation and diverted investments from productive uses, resulting in damaging consequences for China's domestic economy and the global economy at large.¹¹² The government's economic policies prioritize short-term growth and employment and rely heavily on exports and investment, resulting in a massive expansion of production capacity and, ultimately, an excess of industrial production.¹¹³

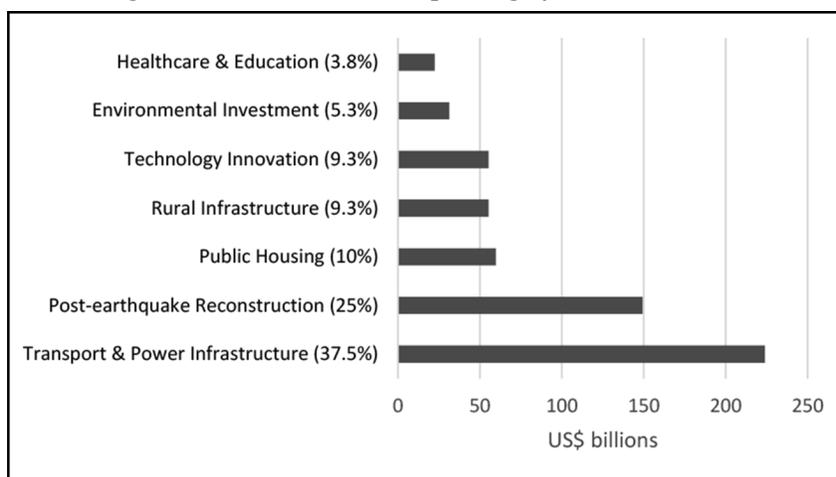
Other policy directives from Beijing have also contributed to global overcapacity. China's renminbi (RMB) 4 trillion (\$597 billion) stimulus program, implemented in 2008 during the global financial crisis, was largely dedicated to infrastructure projects and protecting heavy industry through an array of subsidies and other fiscal support measures (see Figure 2).† This stimulus generated a rapid recovery and expansion in upstream sectors such as steel, machinery, and metals.¹¹⁴ China's industrial policy, designed to support the development of domestic industries and create national champions, also contributed to overproduction in certain government-targeted industries.¹¹⁵ These factors, coupled with a massive

*During the first eight months of 2016, China reduced its production of crude steel by 0.1 percent compared to the same period in 2015. World Steel Association, "August 2016 Crude Steel Production," September 21, 2016.

†During the 2008–2009 global financial crisis, China implemented a two-year, RMB 4 trillion (\$597 billion) stimulus package—equivalent to 13.3 percent of China's 2008 GDP—largely dedicated to infrastructure construction projects. Wayne M. Morrison, "China and the Global Financial Crisis: Implications for the United States," *Congressional Research Service*, June 3, 2009, 5.

demand for construction machinery and building materials amid the country's rapid urbanization,* gave rise to excess capacity in many of China's manufacturing industries.¹¹⁶

Figure 2: Chinese Stimulus Spending by Sector, 2008–2010



Note: Percentages indicate the percentage of spending on one area compared to the total stimulus package.

Source: Rui Fan, “China’s Excess Capacity: Drivers and Implications,” *Stewart and Stewart*, June 2015, 5.

The government’s central role in the economy and state-owned financial sector has enabled it to control industrial markets, creating distortions that perpetuate overproduction (for some examples of overcapacity industries in China, see Table 2).¹¹⁷ Although it is difficult to estimate the total number of state-owned industrial companies in China, a report on Chinese overcapacity released in February 2016 by the European Chamber of Commerce reveals that “the state controls many” industrial companies, and that “capacity, production, and market share goals”—not profitability or efficiency—are used as the primary benchmarks to assess the performance” of SOEs.¹¹⁸ Beijing also has extensive control over the country’s financial sector, often directing state banks to support state policies at the expense of profit goals.¹¹⁹ By directing banks to support industrial growth through direct and indirect measures—including preferential loans, subsidies, and discounted resources for production, which are estimated to lower financing costs 40 percent to 50 percent below the benchmark lending rate—Beijing props up companies and allows them to remain viable despite selling products well below market prices.¹²⁰

*Between 1950 and 2015, the population of urban residents in China grew from 13 percent of the total population to around 55 percent. Karen C. Seto, “What Should We Understand about Urbanization in China?” *Yale Insights* (Yale School of Management blog), November 1, 2013; Li Keqiang, “Report on the Work of the Government” (Fourth Session of the 12th National People’s Congress, Beijing, China, March 5, 2016).

Table 2: Select Chinese Overcapacity Industries

Aluminum	Copper	Paper and Pulp
Chemicals	Cotton	Power Generation Equipment
Cement	Glass	Rubber
Ceramic	Iron	Solar Panels
Coal	Oil Refining	Steel

Source: Various.¹²¹

Because the promotion system for government officials ascribes great value to their ability to achieve high growth, local governments are incentivized to promote local economic expansion through investment without considering potential costs.¹²² As a result, local governments supply productive factors (e.g., land, water, electricity, and bank loans) to inefficient enterprises and industries at below-market prices or with special incentives—such as guarantees for bank loans and tolerating environmental damage—that further distort markets and encourage overinvestment.¹²³

Levels of Overcapacity

China's overcapacity problem was staggering in scale as early as the 1990s, when capacity utilization rates in many industrial sectors ranged from 35 percent to 40 percent, far below the normal capacity utilization rate of around 80 percent.*¹²⁴ China's WTO accession in 2001 temporarily alleviated the overcapacity challenge by introducing a boost in external demand; as a result, China's overcapacity yielded significant advantages in export competitiveness, and its capacity utilization rates peaked around 90 percent in 2007.¹²⁵ However, the 2008 financial crisis saw global demand plummet, once again unmasking the vulnerabilities of the Chinese government's focus on promoting select industries.¹²⁶

Official Chinese studies are indicative of the country's growing overcapacity. Of the 39 products investigated in the National Development and Reform Commission's (NDRC) last study of overcapacity in 2013, 21 products had capacity utilization rates lower than 75 percent, indicating overcapacity in those sectors.¹²⁷ The study found tackling excess capacity was especially urgent in "traditional manufacturing industries," such as steel, cement, aluminum, flat glass, and shipbuilding.† In a 2014 study (latest avail-

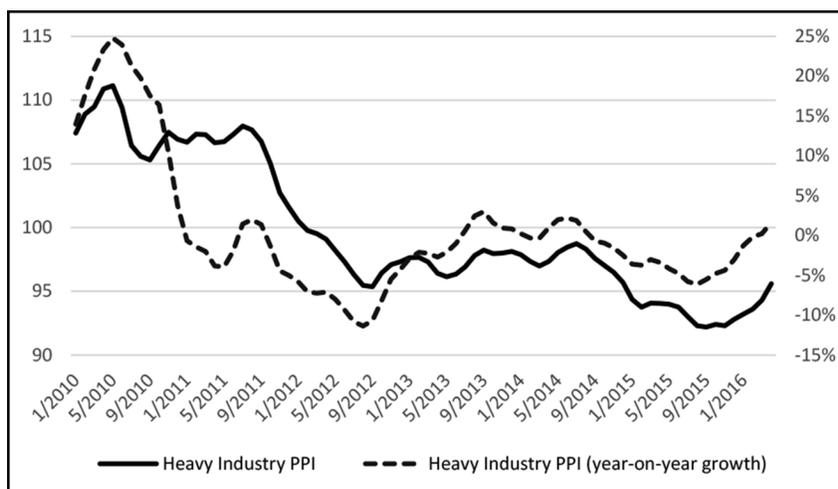
*According to the Asian Development Bank, the normal capacity utilization rate in most developed and developing nations is between 79 percent and 83 percent. A rate above 90 percent denotes a capacity shortage, while a rate below 79 percent implies excess capacity. Biliang Hu and Jian Zhuang, "Knowledge Work on Excess Capacity in the People's Republic of China," *Asian Development Bank*, July 2015, 4.

†According to the NDRC study, capacity utilization rates in 2012 for steel, cement, aluminum, flat glass, and shipbuilding were 72 percent, 73.7 percent, 71.9 percent, 73.1 percent, and 75 percent, respectively. China's National Development and Reform Commission, *Deepening Reform While Maintaining Stability to Promote Restructuring and Development*, December 11, 2013. Staff translation.

able), China's Ministry of Industry and Information Technology identified 15 industries suffering from continued excess capacity.*

Because there are significant gaps in China's official data reporting about capacity utilization, however, overcapacity levels should also be assessed based on other indicators.¹²⁸ One observable symptom of Chinese overcapacity is the country's declining Producer Price Index (PPI), which measures the change in prices received by producers for their goods and services over time. Due to downward pressure on industry profits as a result of overcapacity, China's heavy industry PPI has declined 11 percent since 2010, indicating producers were continually receiving lower and lower prices for their products every month through January 2016 (see Figure 3).¹²⁹

Figure 3: Chinese PPI, January 2010–April 2016



Source: China's National Bureau of Statistics via CEIC database.

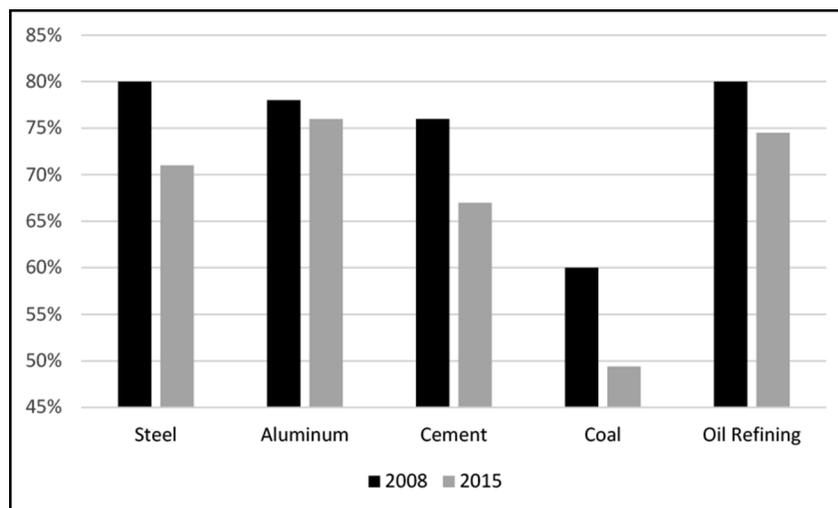
Although domestic prices have declined below production costs, the state continues its unsustainable support for China's unprofitable industrial sectors, propping up unviable companies at the expense of the global market.¹³⁰ In China's steel industry, for example, 50 percent of domestic producers are state-owned.¹³¹ Chinese steel producers experienced losses of \$15.5 billion in 2015, a 24-fold increase from 2014.¹³² In December 2015, approximately half of China's medium- and large-sized steel firms were unprofitable.¹³³ Despite the record losses, subsidies and financial support from state banks allowed many of China's largest state-owned steel firms not only to endure losses, but also to continue to increase their production.¹³⁴ Meanwhile, China's 2015 utilization rate for steel dropped to 71 percent, down 9 percentage points from 2008

*The industries identified as suffering from overcapacity include iron, steel, coal, ferroalloys, calcium carbonate, aluminum, copper, lead, cement, glass, paper, tannery, dye, chemicals, and lead batteries. China's Ministry of Industry and Information Technology, *2014 List of Industries and Companies with Excess Production Capacity*, July 18, 2014.

levels.¹³⁵ The situation is only expected to worsen as Chinese steel companies continue to expand their production capacity despite lower demand, with global steel production declining 1 percent in the first eight months of 2016 compared to the same period in 2015.¹³⁶ World prices for hot-rolled coil and rebar, meanwhile, declined by 29 percent and 20 percent year-on-year, respectively, in 2015.¹³⁷ A brief rebound in Chinese steel prices, up more than 50 percent during the first four months of 2016, led mills to restart or increase production, further contributing to global overcapacity.¹³⁸ In August 2016, China produced 68.6 million metric tons of crude steel, a 3 percent increase from August 2015 and more than half of the month's global steel production, even though domestic use continues to decline.¹³⁹

The severity of China's overcapacity has extended into other industries as well, with utilization rates in oil refineries, cement plants, and coal plants dropping 5 percentage points, 9 percentage points, and 11 percentage points, respectively, since 2008 (see Figure 4).¹⁴⁰ Aluminum utilization rates in China have also seen declines, dropping to 76 percent in 2015, a two percentage point decrease from 2008 levels.¹⁴¹ Of the world's six largest aluminum producers, two—Aluminum Corporation of China Limited (Chalco) and China Power Investment Corp. (CPI)—are Chinese SOEs.¹⁴² Because they receive state funding and financial support, China's aluminum firms also continue to increase production despite declining returns: although 60 percent of China's aluminum producers were unprofitable in 2015, the country produced a record 32 million metric tons of aluminum—a 12 percent increase from 2014.¹⁴³

Figure 4: China's Utilization Rates for Select Industries, 2008 and 2015

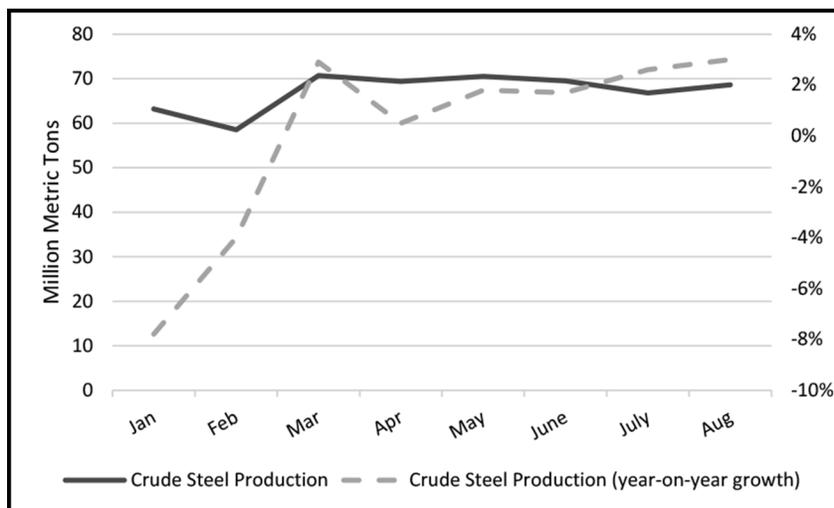


Source: European Chamber of Commerce in China, "Overcapacity in China: An Impediment to the Party's Reform Agenda," February 2016, 6; U.S. Energy Information Administration, *China*, May 14, 2016, 15; Christine Shearer et al., "Boom and Bust 2016," *Sierra Club*, March 27, 2016; Organisation for Economic Co-Operation and Development, "Recent Market Developments in the Global Steel Industry," February 16, 2016, 12; and Nathan Vanderklippe, "China's Huge Cement Industry Latest to Face Massive Cuts," *Globe and Mail*, May 30, 2016.

U.S. Response to China's Overcapacity

The effects of China's rampant industrial overproduction can be seen throughout the global economy, and have necessitated the exploration of policy responses from the U.S. government on behalf of domestic industries. In April 2016, for instance, the Office of the U.S. Trade Representative (USTR) and the U.S. Department of Commerce jointly held a public hearing on the global steel industry and its impact on the U.S. steel industry and market.¹⁴⁴ At the hearing, U.S. steel industry groups pressed for binding commitments to cut global net production capacity, particularly from China, and improve enforcement of antidumping (AD) and countervailing duty (CVD) laws against steel imports flooding the domestic market.¹⁴⁵ For example, the American Iron and Steel Institute, an association of 19 prominent North American steel producers, urged China to cut 337 million to 425 million metric tons of capacity.¹⁴⁶ Ultimately, however, no trade remedies or actionable policy plans came out of the hearing.¹⁴⁷

Chinese officials' continued promises to reduce overcapacity—particularly in the steel industry—have yielded limited production cuts. At a March 2016 meeting of the G20 Finance Ministers and Central Bank Governors in Shanghai, Chinese leaders emphasized their support for cutting capacity.¹⁴⁸ Then, at the 2016 U.S.-China Strategic and Economic Dialogue (S&ED) in Beijing, the United States again pushed China to rein in overcapacity—particularly its steel and aluminum production.¹⁴⁹ However, U.S. Treasury Secretary Jack Lew indicated that conversations at the S&ED failed to bring the United States and China to a “common understanding” on aluminum overcapacity issues and did not produce detailed plans for steel production cuts.¹⁵⁰ A fact sheet released after the discussions revealed the two countries will continue to support international efforts to address global excess capacity, and that China is “firmly committed to support international efforts to address steel excess capacity,” but provided no specifics.¹⁵¹ Most recently, world leaders gathered at the G20 Summit in September 2016 recognized the need to address excess steel capacity, yet they announced no specific plans that would result in immediate reduction of steel production. G20 leaders did, however, call for the formation of a global forum to encourage adjustments in the steel industry and address excess capacity. The forum will report back to the G20 on its progress in 2017.¹⁵² In the meantime, China's monthly steel production increased 8.5 percent between January and August 2016 (see Figure 5).¹⁵³

Figure 5: China's Monthly Crude Steel Production, 2016

Source: World Steel Association, "2016 Press Releases."

Case Study: Impact of Chinese Overcapacity on U.S. Steel Producers

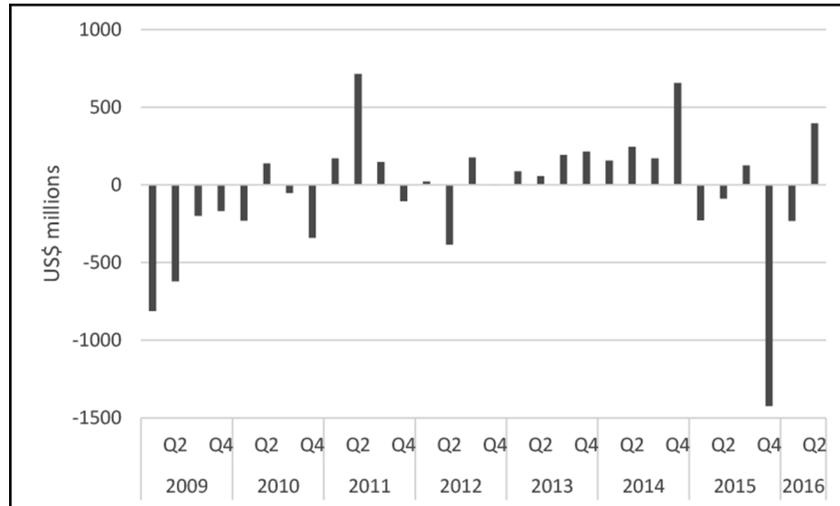
As the leading driver of the current worldwide steel glut, China is widely blamed for triggering a global steel crisis.¹⁵⁴ From 2004 to 2014, global steel production increased by 57 percent, with China contributing 91 percent of the increase.¹⁵⁵ During the same period, global steel demand increased by only 43.3 percent between 2005 and 2015.¹⁵⁶ Although China's steel production declined by 2.3 percent year-on-year in 2015, Chinese factories still produced more than 800 million metric tons of steel—almost eight times more than the United States produced last year and more than the entire world produced in 1995.¹⁵⁷

Faced with declining domestic demand due to cutbacks in residential and commercial construction projects, China's steel industry has relied more heavily on exports, dumping subsidized steel exports into global markets and putting the U.S. steel industry at risk. China was the world's largest steel exporter in 2015, with 110 million metric tons of steel exports—a 378 percent increase from 2009 levels.¹⁵⁸ China's steel exports accounted for 13.7 percent of its total steel production in 2015 amid waning domestic demand, up from 4 percent in 2009.¹⁵⁹ The volume of Chinese steel exports to the United States grew to nearly 2.2 million metric tons in 2015—a 176.7 percent increase since 2010—bringing China's share of U.S. steel imports from 3.6 percent in 2010 to 6.1 percent.* Although Chinese steel exports to the United States decreased 66 percent in the first seven months of 2016 compared to the same pe-

*The largest exporters of steel to the United States are Canada, Brazil, and South Korea, which account for 15 percent, 14 percent, and 13 percent, respectively, of all U.S. steel imports. China is the United States' seventh-largest source of steel. *China Trade Extra*, "New Commerce Report Highlights Largest Importing, Exporting Steel Markets," August 2, 2016.

riod in 2015, they continue to drive global prices lower and add to the already flooded U.S. steel market.¹⁶⁰ U.S. hot-rolled band prices stood at \$636 per metric ton as of September 12, 2016, down 34.4 percent from March 2011 and 47.1 percent from July 2008.¹⁶¹

As a result of the global steel glut and declining prices, dominant U.S. steelmakers were under pressure to shutter capacity for much of 2016.¹⁶² Total U.S. steel production declined 10.6 percent year-on-year in 2015, falling from 88.2 million metric tons in 2014 to 78.9 million metric tons in 2015, and U.S. firms' capacity utilization rates declined 9.5 percent year-on-year to an average of 70.1 percent in 2015.¹⁶³ In the first half of 2016, U.S. steel production remained nearly unchanged compared to the same period in 2015, decreasing just 0.2 percent, while utilization rates increased slightly to 71.3 percent in July 2016.¹⁶⁴ U.S. steel producers posted a net loss of \$1.43 billion in the fourth quarter of 2015 and \$233 million in the first quarter of 2016 (see Figure 6).¹⁶⁵ U.S. firms Nucor Corporation and U.S. Steel, which were the world's 13th- and 15th-largest steel firms in 2014, respectively, were among the companies struggling to remain competitive.¹⁶⁶ U.S. Steel, which dropped to number 24 on the list of world's largest steel firms in 2015, reported a net loss of \$386 million in the first half of 2016, a 14.9 percent increase from the \$336 million net loss in the first half of 2015, and laid off 1,300 workers in January 2016.¹⁶⁷ Nucor, meanwhile, announced a deterioration of its operating performance in December 2015 as a result of global excess capacity and high imports.¹⁶⁸ In testimony to the Commission, Nucor CEO John Ferriola referred to overcapacity as a "crisis," warning that "[the U.S.] steel industry—and the more than one million jobs it supports—will continue to disappear" if China's excess capacity is not removed from the market.¹⁶⁹ According to Leo W. Gerard, international president of the United Steelworkers, nearly 19,000 U.S. steelworkers and iron ore miners are facing layoffs as a result of Chinese overcapacity.¹⁷⁰ U.S. steel companies' profitability has increased notably in recent months, however, with Nucor reporting that net profits rose 87 percent in the second quarter of 2016 compared to the same period in 2015, aided by new tariffs imposed by the U.S. government on steel imports.¹⁷¹

Figure 6: U.S. Steel Industry Quarterly Net Income, Q1 2009–Q2 2016

Note: Data include financials of AK Steel, Carpenter Technology, Commercial Metals Company, Nucor, Steel Dynamics, and U.S. Steel.

Source: U.S. Department of Commerce, International Trade Administration, *Steel Industry Executive Summary: September 2016*, September 2016.

To offset Chinese companies' unfair practices, the United States began imposing some heavy tariffs on Chinese subsidized industries in March 2007.*¹⁷² In June 2016, the U.S. International Trade Commission approved an increase for duties on Chinese cold-rolled steel, which will now reach more than 500 percent—consisting of a 266 percent AD duty and a 266 percent CVD—in response to dumped and subsidized steel from China.¹⁷³

Along with reduced profits and mass layoffs at U.S. steel factories, the influx of Chinese steel poses national security risks to the United States. Over the past 30 years, as U.S. steel manufacturing jobs have been eliminated or moved abroad where manufacturing costs are lower, the United States' critically important defense industrial base has been dramatically reduced.¹⁷⁴ According to Aaron Friedberg, a professor of politics and international affairs at Princeton University, a hollowing out of the U.S. industrial base could become disastrous if the United States is unable to prepare for a protracted conflict.¹⁷⁵ The Specialty Metals Clause (10 U.S. Code § 2533b) currently prevents products like steel armor plate (a critical component for producing and maintaining ground combat vehicles, ships, and submarines) from being melted abroad and imported for military use.¹⁷⁶ However, Brigadier General John Adams, U.S. Army (Ret.) warns that if the U.S. steel industry is hollowed out, U.S. manufacturers of military equipment and ma-

* Under Title VII of the Tariff Act of 1930, a sufficient percentage of U.S. domestic production for a given industry must support a trade case in order for the Department of Commerce to initiate proceedings. However, increasing investment by Chinese state-owned and controlled enterprises in the United States could reach levels that limit the ability of cases to proceed if the domestic subsidiaries choose to oppose action. Tariff Act of 1930, Pub. L. No. 103-465, 1930, codified at 19 U.S.C. § 1677(18).

chinery will be forced to import components from China and elsewhere, raising the possibility that products of subpar or compromised quality could endanger U.S. military personnel and limit the country's ability to respond to a military threat.¹⁷⁷ General Adams notes, “[The United States] cannot sit idly by as [its] most dangerous strategic competitors rob [it] of the capability that ensure [its] weapons and equipment have a reliable source of steel for the future.”¹⁷⁸

Chinese Policy Responses

Beijing has repeatedly stated its commitment to eliminating excess capacity, yet progress has been extremely slow—and in most cases nonexistent.¹⁷⁹ In part, the government's failure to correct longstanding imbalances is the result of entrenched government interests and fears of domestic unrest.¹⁸⁰ Efforts to consolidate industries and eliminate excess capacity necessitate closing weak firms, laying off employees, and restructuring debt—actions that inherently cause political, economic, and social instability.¹⁸¹ As a result, the Chinese government has been unwilling to implement meaningful consolidation and restructuring reforms to reduce excess capacity.¹⁸²

Over the past five years, China has unveiled numerous policy directives aimed at reducing overcapacity, yet there have been few real breakthroughs.¹⁸³ In 2010, the State Council issued guidelines and targets for eliminating excess capacity across several different industries, but at the end of 2012, capacity utilization rates in all those industries, including steel, measured far below normal levels, indicating severe overcapacity.¹⁸⁴ In 2013, the State Council issued its “Guidance to Resolve the Serious Overcapacity Problem,” a policy directive acknowledging the extent of China's overcapacity problem and putting forth recommendations to address the problem, including boosting domestic demand, increasing external demand through a “going global” strategy, promoting SOE consolidation, and strengthening environmental and energy efficiency standards.¹⁸⁵ Last year, China released its “Steel Industry Adjustment Policy,” aimed at reducing the production of the top ten steel groups to no less than 60 percent of China's current production by 2025, as well as increasing the steel industry's capacity utilization rate to 80 percent by 2017.¹⁸⁶

To reach the goals set in the “Steel Industry Adjustment Policy,” China has announced a series of targets for cutting production of building materials, including plans to cut coal and steel production by 10 percent over the next two years.¹⁸⁷ In February 2016, the State Council announced China will reduce annual crude steel capacity by between 100 million and 150 million metric tons by 2020—as much as 13 percent of existing capacity—and eliminate 400,000 jobs from the sector.¹⁸⁸ Four months later, the State Council laid out more specifics on capacity reduction, announcing goals for cutting annual crude steel capacity by 45 million metric tons and reducing coal capacity by more than 250 million metric tons in 2016.¹⁸⁹ Li Xinchuang, head of the China Metallurgical Industry Planning and Research Institute, also declared plans to close “zombie” companies, which account for around 7.5 percent of China's in-

dustrial businesses and 51 percent of listed steel firms, according to a July 2016 study by China's Renmin University.¹⁹⁰ Most recently, the Ministry of Industry and Information Technology released a draft policy document in August 2016 detailing plans to enhance enforcement of environmental standards in overcapacity sectors, threatening to cut off power and water supplies and demolish production equipment if firms fail to meet environmental and safety standards.¹⁹¹

Nevertheless, some experts worry that China's steel capacity reduction plans are inadequate. According to Louis Kuijs, head of Asia for Oxford Economics in Hong Kong, "The [Chinese] government's plans to cut overcapacity seem modest compared to the scale of the problems."¹⁹² Helen Lau, analyst at Argonaut Securities Pty Ltd., said of Beijing's current plans to address steel overcapacity, "Even if this cut was over three years it wouldn't be enough, let alone five years."¹⁹³ To meet its goal of 80 percent steel capacity utilization by 2017, China would need to reduce excess capacity by approximately 225 million metric tons, or 112.5 million metric tons per year, assuming production remains unchanged.¹⁹⁴

Thus far, Beijing has not met its own production cut targets for steel, aluminum, or coal. August 2016 data from the NDRC indicates that China reduced its steel production capacity by only 21 million metric tons, or 47 percent of its 2016 target, in the first seven months of the year.¹⁹⁵ Other estimates show that China has actually increased its steel production in 2016 and will look to continue increasing production in 2017.¹⁹⁶ Similarly, coal plants cut production capacity by 95 million metric tons, only 38 percent of the annual target, in the first seven months of 2016.¹⁹⁷ Because many provincial governments fear mass unemployment as a result of reduced industrial production, they have been slow to implement the central government's reduction requirements. Yunnan Province, for instance, had met less than 10 percent of its annual target for reducing coal capacity by July 2016.¹⁹⁸ Asia-based financial services firm Nomura estimates that while Chinese producers have closed nearly 3 million metric tons of annual aluminum-producing capacity since 2010, they had added another 17 million metric tons as of November 2015.¹⁹⁹ In 2016, many of China's aluminum smelters, which had cut output to stem losses from falling prices at the end of 2015, are planning to increase production by 1.4 million metric tons from 2015 levels, including producing around 800,000 additional metric tons in the first half of 2016.²⁰⁰

In addition to saying it will cut domestic production, Beijing has pursued a host of recent policy directives geared toward boosting both internal and external demand to absorb excess industrial capacity. The "One Belt, One Road"* and "Megacities" initiatives, along with projects funded through the Asian Infrastructure Investment Bank (AIIB), will help buy up some excess capacity by increasing Chinese infrastructure projects both domestically and abroad. Meanwhile, "Made in China 2025" serves to repurpose and

* For more information on the "One Belt, One Road" initiative, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 1, "China and Central Asia," in *2015 Annual Report to Congress*, November 2015, 391–418; and U.S.-China Economic and Security Review Commission, Chapter 3, Section 2, "China and Southeast Asia," in *2015 Annual Report to Congress*, November 2015, 448–449.

modernize China's industrial sectors (for more on these initiatives, see Chapter 1, Section 3, "13th Five-Year Plan").²⁰¹

Evaluation of China's Nonmarket Economy Status

In its 2001 WTO accession agreement, China agreed to provisions allowing its trade partners to automatically treat China as a nonmarket economy (NME) for the purposes of AD enforcement for 15 years (for the full text of the relevant provision in China's WTO accession agreement, see Addendum I, "Section 15 of China's WTO Accession Agreement"). In other words, countries could use values from a third country in a similarly situated economic position—not Chinese prices or costs—for AD calculations, unless China could demonstrate market economy conditions prevailed in the relevant industry.²⁰² When Section 15(a)(ii) of its accession protocol expires on December 11, 2016, China argues it is entitled to automatic conferral of market economy status (MES).²⁰³ Some U.S. lawyers, particularly those who typically represent respondents in AD cases, argue the provision's expiration eliminates authorities' ability to use NME methodology against China, while others contend the WTO Anti-Dumping Agreement leaves open other possibilities to avoid using Chinese prices or costs in AD investigations.²⁰⁴ On the other hand, some lawyers who typically represent U.S. manufacturers argue the provision's expiration allows government authorities to use NME methodology, provided the petitioner can show market conditions do not prevail in a given Chinese industry.²⁰⁵

Granting China MES would reduce the margins of U.S. dumping duties imposed on Chinese exports.* In situations involving imports from an NME, the WTO allows for the "normal value"—or the appropriate price in the market of the exporting country—of the products to be determined using data from a surrogate country. Since Chinese domestic prices and costs are often artificially suppressed by government subsidies, trading partners use surrogate country data to demonstrate that China is engaged in dumping.²⁰⁶ The amount by which the normal value of a product exceeds the Chinese price is used to calculate the AD duties applied to Chinese exporters.²⁰⁷ If China is designated as a market economy, its trading partners will not be able to use surrogate data to determine the normal value of Chinese goods. Under this scenario, dumping margins would likely be lowered significantly, further injuring U.S. companies harmed by China's anticompetitive activities.²⁰⁸

According to a November 2015 report commissioned by a group of U.S., Canadian, and Mexican steel industry associations, granting China MES would significantly limit countries' ability to offset China's anticompetitive activities and negatively impact the U.S. economy.²⁰⁹ The report found that granting MES to China would bring dumping margins to zero or nearly zero, hindering the effectiveness of AD laws and significantly harming steel industries of North American Free Trade Agreement (NAFTA) members. As a

*Dumping is the act of introducing a product into another country's market at less than its "normal value." "Normal value" is "the comparable price, in the ordinary course of trade, for the like product when destined for consumption in the exporting country." Christian Tietje and Karsten Nowrot, "Myth or Reality? China's Market Economy Status under WTO Anti-Dumping Law after 2016", Policy Papers on Transnational Economic Law No. 34 (Transnational Economic Law Research Center, December 2011).

result, output of U.S. steel, one of many U.S. industries damaged by Chinese overcapacity, would decline even further—by approximately \$21.2 billion—and U.S. economic welfare* would decline by \$40.2 billion to \$46.5 billion.²¹⁰ In addition, U.S. labor demand would shrink by \$29.6 billion (the equivalent of 400,000 to 600,000 workers).²¹¹

U.S. Criteria for NME Status

Under the U.S. AD law in the Tariff Act of 1930 (19 U.S. Code § 1677[18]), the Department of Commerce is responsible for determining whether a country is a market economy for the purposes of AD investigations, and whether MES will apply to the whole country or on a sector-by-sector basis. According to the U.S. AD statute, a “nonmarket economy country” is any foreign country that does not operate on market principles of cost or pricing structures, leading to sales that do not reflect a product’s fair value.²¹² There are six factors to be considered in the U.S. determination of MES:

1. The extent to which the currency of the foreign country is convertible into the currency of other countries;
2. The extent to which wage rates in the foreign country are determined by free bargaining between labor and management;
3. The extent to which joint ventures or other investments by firms of other foreign countries are permitted in the foreign country;
4. The extent of government ownership or control of the means of production;
5. The extent of government control over the allocation of resources and over the price and output decisions of enterprises; and
6. Such other factors the administering authority considers appropriate.†²¹³

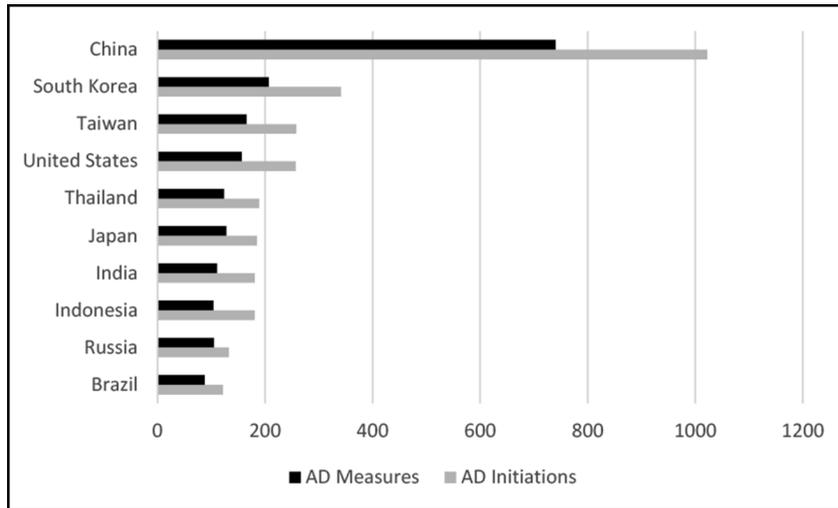
During the Commission’s February 2016 hearing, three out of four witnesses argued China does not meet the qualifications for MES.²¹⁴ In his testimony before the Commission, Alan Price, a partner at the U.S. law firm Wiley Rein, stated that joint ventures remain highly restricted in China’s strategic sectors; the government maintains—and is even strengthening—its control of the means of production through central and provincial SOEs, and the state exerts extensive control over resource allocation.²¹⁵ Furthermore, a review of China’s economic policy reveals that its currency is not fully convertible, with the 13th FYP outlining goals to increase the RMB’s convertibility by 2020.²¹⁶ In addition, the American Federation of Labor and Congress of Industrial Organizations (AFL–CIO) states that there is currently no system for collective bargaining between employers and employees in China.²¹⁷

* Economic welfare is defined as a measure of total national economic output, including consumption and investment items that contribute directly to economic wellbeing. UN Statistics Division, “Measure of Economic Welfare (MEW).”

† Other factors could include effective enforcement of intellectual property rights, compliance with WTO subsidy obligations contained in China’s protocol of accession, and discrimination against foreign goods and services. Terrence Stewart et al., “Any Change to China’s Non-Market Economy Status Must Be Based on the Criteria Specified under U.S. Antidumping Law,” *U.S.-China Economic and Security Review Commission*, August 18, 2005, 2.

Countries rely on AD and CVD cases against China to protect themselves from the influx of government-subsidized goods imported below market value. Globally, between 1995 and 2014, 1,052 AD cases were initiated against China—759 of which resulted in the imposition of AD duties—the most of any country and over 700 cases more than were initiated against South Korea, the second-highest AD recipient (see Figure 7).²¹⁸ During the same period, 90 CVD cases were initiated against China, also the most of any country.²¹⁹ AD and CVD cases against China are becoming increasingly frequent, with the United States launching a total of 48 AD and CVD investigations in the first nine months of 2016, 28 of which involved Chinese goods (for a complete list of U.S. AD and CVD cases filed against China in 2016, see Addendum II, “AD and CVD Investigations Initiated by the United States Against China, 2016”).²²⁰ Unsurprisingly, Chinese industries with excess capacity are the most common targets of trade remedy investigations, with 80 percent of the world’s AD and CVD cases against China concentrated in base metals, chemicals, machinery and equipment, textiles, rubber, plastics, stone, cement, and glass.²²¹ Although the Department of Commerce has the authority to self-initiate AD and CVD cases, it has done so only once since 1991.²²²

Figure 7: Top Ten Economies by AD Actions Received, 1995–2014



Source: Rui Fan, “China’s Excess Capacity: Drivers and Implications,” *Stewart and Stewart*, June 2015, 12.

Status of Deliberations

At a panel on China’s MES during the Commission’s February hearing on “China’s Economic Realities and Implications for the United States,” the majority of expert witnesses testified that granting China MES would limit countries’ ability to restore fair pricing in the market.²²³ The debate over China’s MES revolves around two questions: whether China is entitled to automatic con-

ferral of MES and, if not, whether it is a market economy and should be granted MES. The U.S. government has clarified its view on the first question, telling Chinese officials during a WTO meeting in July 2016 that the expiration of the accession protocol provision does not require member states to automatically grant China MES.²²⁴ In testimony before the Commission, a panel of expert witnesses agreed that the United States and EU are not required to automatically grant MES to China in December 2016 when the relevant accession protocol provision expires; however, the panel was divided on whether China is currently a market economy or even on the path to become one in the near future.²²⁵ Experts on both sides of the debate conceded China is likely to take action at the WTO to resolve this disagreement, which could take years given the critical importance of the case and the backlog of cases currently in the WTO dispute settlement system.²²⁶

The United States' Perspective

While the United States seems unlikely to grant China MES in December 2016, no official statement on the matter has been made by the Department of Commerce aside from disputing China's claim that it is automatically granted MES after December 2016.²²⁷ The United States appears to be coordinating on the China MES issue with EU officials, including a meeting between the USTR, the Department of Commerce, and European Commission officials in late January 2016, as well as conversations with Matthias Fekl, the French minister of state for foreign trade and other G7 members, in June 2016.²²⁸ However, United States Trade Representative Michael Froman maintains discussions are not used to advocate for the EU to take a particular stance on the issue.²²⁹

The Department of Commerce has not explicitly rejected or endorsed China's MES claims, but officials in other U.S. government agencies have repeatedly warned against removing China's NME status. In conversations with their EU counterparts in December 2015, for instance, unnamed U.S. officials from the USTR and the Department of Commerce warned that granting China MES would amount to "unilaterally disarming" Europe's trade defenses against China.²³⁰ Six months later, a bipartisan group of 18 U.S. senators sent a letter to EU Trade Commissioner Cecilia Malmström urging the EU to rule against granting China MES. The letter stated granting China MES would "thwart global efforts to secure China's compliance with its international trade obligations," and "could have a destabilizing impact in certain global sectors, including the steel industry."²³¹

The U.S. business community remains divided over whether to grant China MES. The US-China Business Council (USCBC), for instance, argues the United States should grant China MES as a way of building "confidence in the bilateral relationship" and solidifying the foundation for "mutually beneficial commercial relations."²³² USCBC President John Frisbie goes a step further, arguing the United States is obligated under WTO law to automatically grant MES to China.²³³ However, Jim Baske, the CEO of the North American division of ArcelorMittal, the world's largest steel producer, and Mr. Ferriola of Nucor have been vocal in their opposi-

tion to granting China MES, with Mr. Baske stating that China “fail[s] the [MES] test on all six criteria.”²³⁴

Among U.S. experts, there are also differing interpretations regarding the validity of China’s MES claims. In his testimony to the Commission, Mr. Price stated that although legal opinion may be divided, the Chinese economy cannot be considered a market economy because “the series of distortions are so great in China that the internal prices and the pricing mechanisms that exist essentially are not set by what we would call reasonable rules of the road.”²³⁵ Adam Hersh, a visiting fellow at Columbia University, agreed with Mr. Price, stating in his testimony that “China’s economy [falls] short of the market economy criteria . . . with a substantial role for government control unparalleled in other WTO member countries.”²³⁶ However, Gary Hufbauer, senior fellow at the Peterson Institute for International Economics, disagreed, advocating for a “mix-and-match” approach whereby the Department of Commerce would determine on a case-by-case basis whether Chinese prices or costs reflect market conditions.²³⁷ In Dr. Hufbauer’s view, while China still has work to do instilling market principles into its economy, it is “more open than almost any other emerging country and has more foreign direct investment by far than any other emerging country,” and thus is deserving of MES on a sector-by-sector basis.²³⁸

The EU’s Perspective

The EU’s ruling on China’s MES claims could have significant implications for the United States and global economic growth. A 2015 report by the Economic Policy Institute examined the risks associated with an EU decision to unilaterally grant MES to China. According to the report, granting MES to China would increase EU imports of manufactured commodities by between \$80 billion and \$160 billion or more, and eliminate 1.7 million to 3.5 million EU jobs, as well as additional jobs in both upstream and downstream supplier industries around the world. This import growth would also increase EU trade deficits and reduce EU GDP by 1 to 2 percent in the first three to five years after MES was granted.²³⁹ A unilateral decision by the EU to grant China MES could reduce U.S. exports to the EU amid an influx of Chinese trade into the EU.²⁴⁰ To date, no studies have examined the potential U.S. job losses or economic impact on the United States if the EU grants China MES.

After a debate on the issue of China’s status in January 2016, the European Commission decided to delay the conclusion of its deliberations until the second half of this year, pending more consultations.²⁴¹ In contrast with the United States, the EU’s termination of NME methodology for China would require a change in trade remedy law, which would be difficult to complete before the December 11 deadline.²⁴²

While the European Commission has not formally ruled on the issue, reports indicate it is broadly in favor of granting China the status, and in December 2015 the legal service of the European Commission—tasked with making the EU’s determination of China’s NME status—endorsed the interpretation that China automatically graduates to MES in December.²⁴³ Possibly in an effort

to blunt the potential detrimental economic impact of granting MES to China, the European Commission is also reportedly considering changes to its trade remedy law enforcement.²⁴⁴ These changes, which would treat China as a market economy only if Beijing met its goals for reducing steel overproduction, are said to include elimination of the EU's "lesser duty rule" (effectively removing a cap on AD duties), strengthening antisubsidy enforcement by devoting greater resources to investigating Chinese subsidy programs, and grandfathering in existing AD orders against Chinese imports.²⁴⁵ However, EU Trade Commissioner Malmström has indicated there is no link between the trade law reforms being considered and the debate over China's MES.²⁴⁶ EU leaders have also agreed to form a working group with China to address concerns about Beijing's steel overproduction.²⁴⁷

Although the European Commission continues to weigh the decision, EU legislators rejected China's market economy claims via a nonbinding resolution in May 2016. The resolution, which was supported by 546 lawmakers while only 28 voted against and 77 abstained, indicated the EU Parliament's overwhelming objection to China's MES claims and sent a strong signal to the European Commission.²⁴⁸ David Martin, an EU Parliament member who voted in favor, told reporters after the vote, "In the current circumstances, recognizing China as a market economy at the WTO would be to tighten the noose around the UK steel industry's neck. . . . We must act now or soon there won't be any EU industry left to defend."²⁴⁹ In his testimony to the Commission, Bernard O'Connor, a trade lawyer with NCTM in Brussels, also warned against removing China's NME status, stating that the EU's unilateral grant of MES to China would undermine the effectiveness of EU trade defense laws and allow massive dumping into the EU market.²⁵⁰ Mr. O'Connor advocated for the United States and EU to coordinate their approach to China's MES claims, arguing that "the United States and the EU must stand together so as to be able to stand up to the unfair trade practices which emanate automatically from a non-market economy."²⁵¹

Implications for the United States

Under President Xi, the Chinese government has tightened its control over the economy, enhancing its influence over state-owned and private firms alike and abandoning market-oriented economic reforms. As a result, direct government ownership of a company is no longer an accurate measure of Beijing's economic influence. Instead, the government has cemented its role as an economic decision maker in both the private and public sectors, exerting control through an array of financial, political, and extralegal tools on behalf of Beijing's national security or political interests. Because China's proposed SOE reforms seek to reaffirm and even strengthen state control while making limited attempts to incorporate market drivers, it is likely the problems inherent in China's state-run economy will continue to worsen.

Beijing primarily seeks to enhance its control in economically and politically strategic industries. Economically strategic sectors (such as industrial producers) enable the government to support

short-term economic growth, while politically sensitive sectors (such as telecommunications) are essential to the government's goals of advancing and controlling China's technology infrastructure, disseminating information, and protecting national security. Beijing's clear interest in maintaining control of strategic sectors suggests Chinese companies in these sectors are subjected to particularly high levels of government influence.

The government's support for economically and politically strategic industries provides China with a competitive advantage in key sectors and undermines the competitiveness of U.S. businesses and other global firms operating in accordance with market forces. One of the most pressing problems created by Beijing's state-led economic model is the global commodity glut, with rampant overcapacity in steel, aluminum, and other industrial products artificially lowering global prices below production costs. As a result, U.S. industries are struggling to compete, and many of the largest producers have been forced to shed capacity, cut employment, and reduce capital expenditures. In response to China's unfair trade practices, new tariffs have been applied on Chinese steel, and the private sector is aggressively pursuing trade enforcement action against China through AD and CVD cases. However, Chinese officials' continued reluctance to commit to detailed production cuts at international and bilateral fora, such as the G20 Summit and the Organisation for Economic Co-Operation and Development Summit, and bilateral dialogues like the S&ED have resulted in increased overcapacity and losses for many U.S. companies—including more than 13,500 jobs in the U.S. steel industry since January 2015 alone. The influx of unfairly priced steel and aluminum imports from China also poses a national security threat to the United States, hollowing out industries that are essential for maintaining the critically important defense industrial base.

Trade remedies provide important relief to companies injured by China's anticompetitive activities, but their utility will be diminished if China is granted MES. If China is deemed a market economy by the Department of Commerce, dumping margins for AD cases against China will be significantly reduced, removing U.S. businesses' best recourse for limiting price distortions from China. A U.S. Government Accountability Office study found China already accounts for 95 percent (or \$2.2 billion) of unpaid AD duties and CVDs imposed on U.S. goods imports in 2015.²⁵² To maintain a free and fair global competitive landscape, the United States has reportedly been coordinating with European Commission officials to ensure the EU does not grant unilateral MES to China, although U.S. government officials maintain that discussions are not used to advocate for a particular stance on the issue.

Conclusions

- Despite repeated pledges to let the market play a “decisive role” in resource allocation, Beijing continues to use state-owned enterprises (SOEs) as a tool to pursue social, industrial, and foreign policy objectives, offering direct and indirect subsidies and other incentives to influence business decisions and achieve state goals. While proposed SOE reforms have made little progress incorporating market drivers into SOE activities or addressing the

country's growing credit crisis, they have taken steps to strengthen state control—particularly in sectors involving the government's political or economic interests.

- For the foreseeable future, it is highly unlikely that the Chinese Communist Party (CCP) will subject SOEs to free market reforms. Such reform would diminish the CCP's control in strategic sectors, through which it directs the economy. In addition, real structural reforms would substantially increase unemployment in the short term and undermine entrenched interests within the CCP leadership.
- In China's state capitalist system, government ownership is not the sole measure of Beijing's economic influence. Beijing has fostered a unique ecosystem whereby the government is at the center of the economy, with state control extended through an array of measures, including financial support, political connections, and extralegal control to SOEs and private enterprises alike. As such, all Chinese companies' economic activity—not just the activity of state-owned firms—is conducted in support of the state's goals and policies. This is particularly true for Chinese firms operating in strategic sectors.
- The CCP continues to use SOEs as the primary economic tool for advancing and achieving its national security objectives. Consequently, there is an inherently high risk that whenever an SOE acquires or gains effective control of a U.S. company, it will use the technology, intelligence, and market power it gains in the service of the Chinese state to the detriment of U.S. national security.
- China's economic policies have fueled a commodity boom, which, coupled with the recent economic slowdown, has created a vast oversupply of industrial goods like steel, aluminum, and coal. Beijing has repeatedly stated its commitment to eliminating excess capacity, yet progress has been extremely slow—and in some cases nonexistent.
- Rather than closing industrial production facilities and laying off workers, Beijing is exporting its surplus production to the detriment of U.S. and other foreign competitors. As a result, U.S. industries are struggling, with steel and aluminum producers shedding capacity, cutting employment, and reducing capital expenditures.
- Amid an influx of unfairly priced steel imports from China, U.S. steel manufacturing jobs are being eliminated, dramatically reducing the United States' critically important defense industrial base. If the U.S. steel industry is hollowed out, U.S. manufacturers of military equipment and machinery will be forced to import components from China and elsewhere, raising the possibility that products of subpar or compromised quality could endanger U.S. military personnel and limit the country's ability to respond to a military threat.
- China argues it should be automatically granted market economy status (MES) after a provision in its World Trade Organization (WTO) accession protocol expires on December 11, 2016. A review

of the U.S. statutory test for determining whether an economy can be classified as a market economy—including the extent to which the currency is convertible, the extent to which wage rates are determined by free bargaining between labor and management, the extent to which joint ventures or other investments by foreign firms are permitted, the extent of government ownership or control of the means of production, and the extent of government control over the allocation of resources—reveals that China is not currently a market economy and is not on the path to become one in the near future.

- To address global economic imbalances created by China's state-led economic model, the United States has relied on trade remedies consistent with its WTO obligations. However, if China is granted MES in December 2016, dumping margins for anti-dumping cases will be significantly reduced, removing an important tool U.S. businesses rely on to limit losses taken from price distortions in China's economy.

Addendum I: Section 15 of China's WTO Accession Agreement

The MES debate is centered on paragraph 15(a)(ii) of Section 15—a vaguely worded provision of China's WTO Accession Protocol set to expire in December 2016—that allows an importing WTO member to use surrogate AD calculation methodologies against unfairly priced Chinese imports. The relevant subparagraphs of Section 15 are as follows:

15. Price Comparability in Determining Subsidies and Dumping

Article VI of the General Agreement on Tariffs and Trade (GATT) 1994, the Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 ("Anti-Dumping Agreement"), and the Subsidies and Countervailing Measures Agreement shall apply in proceedings involving imports of Chinese origin into a WTO Member consistent with the following:

(a) In determining price comparability under Article VI of the GATT 1994 and the Anti-Dumping Agreement, the importing WTO Member shall use either Chinese prices or costs for the industry under investigation or a methodology that is not based on a strict comparison with domestic prices or costs in China based on the following rules:

(a)(i) If the producers under investigation can clearly show that market economy conditions prevail in the industry producing the like product with regard to the manufacture, production, and sale of that product, the importing WTO Member shall use Chinese prices or costs for the industry under investigation in determining price comparability;

(a)(ii) The importing WTO Member may use a methodology that is not based on a strict comparison with domestic prices or costs in China if the producers under investigation cannot clearly show that market economy conditions prevail in the industry producing the like product with regard to manufacture, production, and sale of that product.

.....

(d) Once China has established, under the national law of the importing WTO Member, that it is a market economy, the provisions of subparagraph (a) shall be terminated provided that the importing Member's national law contains market economy criteria as of the date of accession. In any event, the provisions of subparagraph (a)(ii) shall expire 15 years after the date of accession. In addition, should China establish, pursuant to the national law of the importing WTO Member, that market economy conditions prevail in a particular industry or sector, the NME provisions of subparagraph (a) shall no longer apply to that industry or sector.²⁵³

**Addendum II: AD and CVD Investigations Initiated by the United States
against China, 2016**

Investigation Title	Start Date	Phase
Corrosion-Resistant Steel Products from China, India, Italy, Korea, and Taiwan	1/4/2016	Final
Certain New Pneumatic Off-the-Road-Tires from China, India, and Sri Lanka	1/8/2016	Preliminary
Certain Biaxial Integral Geogrid Products from China	1/13/2016	Preliminary
Certain Amorphous Silica Fabric from China	1/20/2016	Preliminary
Truck and Bus Tires from China	1/29/2016	Preliminary
Porcelain-on-Steel Cooking Ware from China	2/1/2016	Fourth Review (Expedited)
Hydrofluorocarbon Blends and Components from China	2/1/2016	Final
Magnesium from China	2/1/2016	Second Review (Expedited)
Stainless Steel Sheet and Strip from China	2/12/2016	Preliminary
Carbon Steel Butt-Weld Pipe Fittings from Brazil, China, Japan, Taiwan, and Thailand	3/1/2016	Fourth Review (Expedited)
Frozen Warmwater Shrimp from Brazil, China, India, Thailand, and Vietnam	3/1/2016	Second Review (Full)
1,1,1,2—Tetrafluoroethane from China	3/3/2016	Preliminary
Petroleum Wax Candles from China	3/7/2016	Fourth Review (Expedited)
1-hydroxyethylidene-1, 1-diphosphonic acid from China	3/31/2016	Preliminary
Aluminum Extrusions from China	4/1/2016	Adequacy
Carbon and Alloy Steel Cut-to-Length Plate from Austria, Belgium, Brazil, China, France, Germany, Italy, Japan, Korea, South Africa, Taiwan, and Turkey	4/8/2016	Preliminary
Ammonium Sulfate from China	5/25/2016	Preliminary
Paper Clips from China	6/1/2016	Fourth Review (Full)
Cased Pencils from China	6/1/2016	Fourth Review (Full)
Iron Mechanical Transfer Drive Components from Canada and China	6/8/2016	Final
Heavy Forged Hand Tools from China	7/1/2016	Adequacy
Large Residential Washers from China	7/26/2016	Final
Glycine from China	8/1/2016	Adequacy
Certain Biaxial Integral Geogrid Products from China	8/22/2016	Final

**Addendum II: AD and CVD Investigations Initiated by the United States
against China, 2016—Continued**

Investigation Title	Start Date	Phase
Amorphous Silica Fabric from China	9/1/2016	Final
Sulfanilic Acid from China and India	9/1/2016	Adequacy
Truck and Bus Tires from China	9/6/2016	Final
Carbon and Alloy Steel Cut-to-Length Plate from Austria, Belgium, Brazil, China, France, Germany, Italy, Japan, Korea, South Africa, Taiwan, and Turkey	9/16/2016	Final

Source: U.S. International Trade Commission, *Antidumping and Countervailing Duty Investigations*.

RECOMMENDATIONS

State-Owned Enterprises, Overcapacity, and China's Market Economy Status

The Commission recommends:

- Congress amend the statute authorizing the Committee on Foreign Investment in the United States to bar Chinese state-owned enterprises from acquiring or otherwise gaining effective control of U.S. companies.
- Congress direct the U.S. Government Accountability Office to prepare a report examining the extent to which large-scale outsourcing of manufacturing activities to China is leading to the hollowing out of the U.S. defense industrial base. This report should also detail the national security implications of a diminished domestic industrial base (including assessing any impact on U.S. military readiness), compromised U.S. military supply chains, and reduced capability to manufacture state-of-the-art military systems and equipment.
- Congress require that under antidumping and countervailing duty laws, Chinese state-owned and state-controlled enterprises are presumed to be operating on behalf of the state and, as a result, do not have standing under U.S. laws against unfair trade to block a case from proceeding.
- Congress create an office within the International Trade Administration whose sole purpose is to identify and initiate anti-dumping and countervailing duty cases to ensure a more effective and timely response to China's unfair trade practices.
- Congress enact legislation requiring its approval before China—either the country as a whole or individual sectors or entities—is granted status as a market economy by the United States.

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SECTION 3: CHINA'S 13TH FIVE-YEAR PLAN

Introduction

The 13th Five-Year Plan (FYP)* (2016–2020)—ratified by the National People's Congress in March 2016—established Chinese President and General Secretary of the Chinese Communist Party (CCP) Xi Jinping's vision for China's development over the next five years. This plan largely reiterates commitments from the 11th (2006–2010) and 12th (2011–2015)† FYPs to reorient the drivers of China's economy away from large-scale infrastructure investment and export-led growth toward greater domestic consumption. Addressing China's structural challenges and ensuring long-term prosperity are critical to preserving the CCP's legitimacy and hold on power. However, the Chinese government's ability to reach these objectives depends on its willingness to relinquish a substantial degree of state control, overcome entrenched interests, and endure the short-term and medium-term economic pain that structural reform creates.

The CCP and Chinese government view the state as a key part of the solution, not the problem.¹ Thus, for the Chinese government, reform means retaining or strengthening state control while attempting to increase the efficiency of state-owned enterprises (SOEs) and state-designated industries—a contradiction of fundamental free market principles. With slowing growth, the Chinese government faces even greater difficulty balancing its competing priorities: long-term, sustainable growth versus short-term economic growth. Whether the 13th FYP reforms will be implemented is not an economic question but a political one. The Chinese government risks instability if it implements reforms too quickly, but risks falling into the middle-income trap‡ if reforms are implemented too slowly or not at all.² The middle-income trap would ensnare the Chinese economy in a cycle of low growth because rising

* FYPs are overarching roadmaps that lay out the central government's top policy objectives and establish measurable targets for government performance to guide government ministries' and local governments' behavior. The broad FYP is then followed by a cascade of local government, ministerial, and industry plans that outline in greater detail how the Chinese government will achieve these objectives. For a detailed analysis of China's five-year planning system, see Sebastian Heilmann and Oliver Melton, "The Reinvention of Development Planning in China, 1993–2012," *Modern China* 39:6 (August 2013): 580–628; U.S.-China Economic and Security Review Commission, *Hearing on China Ahead of the 13th Five-Year Plan: Competitiveness and Market Reform*, written testimony of Oliver Melton, April 22, 2015.

† For analysis of the 12th FYP, see Joseph Casey and Katherine Koleski, "Background: China's 12th Five-Year Plan," *U.S.-China Economic and Security Review Commission*, June 24, 2011.

‡ The middle-income trap is an economic development situation where a rapidly developing, low-income economy reaches middle-income status (\$10,000–\$16,000 per capita), but then growth slows, preventing the country from reaching high-income status. According to analysis by the World Bank, only 13 of the 101 middle-income economies in 1960 reached high income by 2008. These economies are Equatorial Guinea, Greece, Hong Kong, Ireland, Israel, Japan, Mauritius, Portugal, Puerto Rico, South Korea, Singapore, Spain, and Taiwan. Greg Larson, Norman Loayza, and Michael Woolcock, "The Middle-Income Trap: Myth or Reality?" *World Bank Malaysia Hub*, March 2016. 1: 104230.

wages would make its manufacturing sector uncompetitive against low-cost countries, but high-value-added manufacturing is not yet fully developed. The Chinese government's reluctance to press ahead with necessary reforms doomed similar efforts under the 11th and 12th FYPs.³ Beyond political will, the costs to meet the 13th FYP's goals are high; based on Chinese government estimates, achieving the objectives for urbanization, healthcare, clean energy, emissions reduction, and environmental remediation is expected to cost around \$8.1 trillion (renminbi [RMB] 54 trillion) in public and private sector investment over the next five years.⁴ It remains unclear how these objectives will be funded, especially as local governments are overburdened by debt taken on during the 12th FYP and incentives for private sector investment remain limited.

Building on the Commission's decade-long examination of China's industrial policies, expert testimony received at the Commission's April 27 hearing, the Commission's June trip to China (Beijing and Kunming), and additional contracted* and staff research, this section examines the 13th FYP and assesses its impact on U.S. economic and security interests.

China's 13th FYP: Blueprint for 2016–2020

China's state-led economic model created nearly three decades of double-digit growth at the cost of severe environmental degradation and overinvestment in infrastructure and state-designated industries. Cheap labor is now drying up, forcing firms to seek higher profits by moving up the value-added chain or transferring production to lower-cost provinces in central and western China or abroad. Meanwhile, a slower global economy is not able to absorb ever more Chinese exports, necessitating the expansion of domestic consumption as a new engine of economic growth.⁵ President Xi laid out ambitious reforms first in the Third Plenary Session of the CCP's 18th Central Committee † (Third Plenum), followed by more concrete targets in the 13th FYP to address this unsustainable growth model (for a list of key targets in the 13th FYP, see Addendum I).‡

The 13th FYP seeks to address China's "unbalanced, uncoordinated, and unsustainable growth" and create a "moderately prosperous society in all respects" § through innovative, open, green, co-

* For a comprehensive analysis of China's state-directed plans, see Tai Ming Cheung et al., "Planning for Innovation: Understanding China's Plans for Technological, Energy, Industrial, and Defense Development," *University of California Institute on Global Conflict and Cooperation* (prepared for the U.S.-China Economic and Security Review Commission), July 28, 2016.

† For an in-depth analysis of the Third Plenum's proposed economic reforms, see Nargiza Salidjanova and Jacob Koch-Weser, "Third Plenum Economic Reform Proposals: A Scorecard," *U.S.-China Economic and Security Review Commission*, November 19, 2013.

‡ For an in-depth analysis of the targets in China's 13th FYP, see Katherine Koleski, "13th Five-Year Plan," *U.S.-China Economic and Security Review Commission*, forthcoming.

§ The term "moderately prosperous society" was first put forward as an objective in the 16th National Congress of the CCP in 2002 and reiterated at the 17th National Congress in 2007. At the 18th National Congress in 2012, President Xi expanded the definition to address economic, political, cultural, social, and ecological aspects, and this overarching goal forms the basis for the 13th FYP. Key aspects of this goal include: (1) achieve the two centenary goals of doubling China's 2010 gross domestic product (GDP) and average disposable income level by 2021, (2) expand Chinese citizens' participation and enhance law-based governance, (3) strengthen China's cultural soft power, (4) reduce poverty and income disparity and expand access to basic public services, and (5) improve the living environment for all Chinese citizens and shift toward more environmentally friendly development. Qiu Shi, "Building a Moderately Prosperous Society in All Respects: A Crucial Step for Realizing the Chinese Dream," *Qiu Shi Journal* 7:4 (December

ordinated, and inclusive growth.⁶ It restates the Chinese government's commitment to rebalance the economy to one based on higher-value-added manufacturing and domestic consumption. In a meeting with the Commission in Beijing, a Chinese official explained that the 13th FYP focuses on innovation, SOE reform, and development of human capital through prioritizing environment, health, education, and social welfare.⁷ But while the 13th FYP's reforms introduce market drivers into allocating capital and resources, the plan also reinforces the central roles of the CCP and Chinese government in China's economic and social development.⁸ The 13th FYP creates a blueprint for China's future development based around five key themes:

- *Innovation*: The 13th FYP emphasizes innovation as a cornerstone of China's development strategy. The Chinese government is redoubling its state-directed strategy started under the 12th FYP to increase investment in research and development (R&D), create technology clusters,* incentivize foreign direct investment in select industries, and boost market demand for Chinese products and firms through government procurement and customer incentives.⁹ "Indigenous innovation," an initiative strongly condemned by U.S. and other foreign governments and firms upon its inclusion in the 12th FYP,† is included in the 13th FYP.¹⁰ U.S. and other foreign governments and firms believe this initiative inherently discriminates against U.S. and other foreign firms by seeking to replace foreign technology with products and services from Chinese firms, and signals the Chinese government's push toward technological self-sufficiency.¹¹
- *Open trade*: The 13th FYP hopes to expand exports, increase outbound and inbound investment, promote the international use of the RMB, and enhance China's role in global economic governance. The creation of the Beijing-Tianjin-Hebei megaregion,‡ the Yangtze Economic Belt, and the "One Belt, One Road"§ initiative are all important contributors to this goal. The 13th FYP attempts to boost exports with faster processing of export tax rebates, expansion of cross-border e-commerce, expansion of free trade zones, and support of trade in

15, 2015): 25; John Ross, "Moderately Prosperous Society' Is Key Goal for China," *China Internet Information Center*, November 14, 2012.

*The Chinese government incentivizes the geographic concentration of related organizations, institutions, and domestic and foreign companies of a particular industry through tax rebates, customs duties and value-added tax exemptions, or refunds for R&D purchases in order to facilitate the transfer of technology, create synergies with domestic firms, and expand foreign high-technology R&D operations. McKinsey Global Institute, "The China Effect on Global Innovation," *McKinsey and Company*, October 2015, 106, 116–117.

†For an overview of foreign firms' concerns regarding indigenous innovation, see James McGregor, "China's Drive for 'Indigenous Innovation': A Web of Industrial Policies," *American Chamber of Commerce*, 2010.

‡A megaregion is a clustered network of metropolitan areas and their suburbs that share transportation, economic growth patterns, history, and natural resources. U.S. Department of Transportation, Federal Highway Administration, "Role of Regional Planning Organizations in Transportation Planning across Boundaries," October 20, 2015.

§For more information on the Silk Road Economic Belt, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 1, "China and Central Asia," in *2015 Annual Report to Congress*, November 2015, 391–418; for more on the 21st Century Maritime Silk Road, see U.S.-China Economic and Security Review Commission, Chapter 3, Section 2, "China and Southeast Asia," in *2015 Annual Report to Congress*, November 2015, 448–449.

services. The 13th FYP pledges to loosen foreign investment restrictions in select sectors such as elder care, banking, and finance, and encourage imports of advanced technology and equipment and high-quality consumer products, reflecting China's industrial and economic goals. The 13th FYP also outlines a greater role for China in driving the international economic agenda through the pursuit of bilateral and multilateral free trade agreements and formulation of international standards for the Internet, deep-sea exploration, the Arctic and Antarctica, and space.¹²

- *Green growth:* The Chinese government strengthens the 12th FYP's efforts to address China's severe environmental degradation and build its clean energy, green manufacturing, and environmental services sectors. Ten out of the 25 priority targets in the 13th FYP are related to the environment, and all ten are included as part of the 13th FYP's 13 binding* targets that must be achieved by 2020. These targets establish caps for energy use and ambitious goals for city air quality, carbon dioxide intensity, and reduction of soil and water contamination.¹³
- *Coordinated development:* Coordinated regional development aims to address the widening disparities in regional economic development, redundant construction, duplication of industrial structures, and lack of public services through urbanization, reform of the household registration system, or *hukou*,[†] and the creation of the Beijing-Tianjin-Hebei megaregion and the Yangtze Economic Belt.¹⁴ The Chinese government is hoping that greater intergovernmental coordination of policies, resources, and urban planning in these megaregions will unleash new sources of economic growth and alleviate existing urban problems such as overpopulation, pollution, traffic, and high real estate costs.¹⁵
- *Inclusive growth:* The 13th FYP expands upon the 12th FYP's concept of a "harmonious society" to pursue "inclusive growth" for all Chinese citizens by alleviating poverty, raising standards of living, improving accessibility to and affordability of education and healthcare services, and creating urban jobs for a broad cross-section of rural citizens.¹⁶ Greater urbanization, higher-value-added manufacturing, hukou reform, and environmental reforms are selected by the 13th FYP as important contributors to these objectives.

* FYPs classify their key targets into binding or expected. Binding targets are incorporated into the CCP's evaluation criteria at every level, while expected targets (such as GDP growth) are either given less weight or not included in the CCP evaluation criteria. U.S.-China Economic and Security Review Commission, *Hearing on China Ahead of the 13th Five-Year Plan: Competitiveness and Market Reform*, written testimony of Oliver Melton, April 22, 2015, 5.

† The hukou establishes eligibility for education and access to government services for all Chinese citizens based on the status of one's parents and place of birth. The holder of a given hukou can only receive government services and benefits where they are registered, particularly disadvantaging the 260 million rural residents who have migrated to cities.

Urbanization

The 13th FYP continues the government's efforts to reduce the economic disparity between urban and rural residents and spur consumption and economic growth by creating a new consumer base and expanding the middle class.¹⁷ Under the 12th FYP, sustained urbanization efforts increased the share of the population living in urban areas from 47.5 percent in 2010 to 56.1 percent in 2015, and produced more than 64 million urban jobs in five years.¹⁸ Under the 13th FYP, the goal is to raise urbanization levels to 60 percent and create more than 50 million urban jobs by 2020.¹⁹

In his testimony before the Commission, Damien Ma, fellow at the Paulson Institute, noted that the Chinese government is seeking to make urbanization more "people centered" through revitalization of urban slums, construction of urban housing, and expansion of urban hukou in second- and third-tier cities.²⁰ Government subsidies were used to build over 40 million affordable urban housing units in 2011–2015.²¹ The *National Plan on New Urbanization* (2014–2020) incentivizes rural migration to third- and fourth-tier cities by making it easier to obtain hukou there for 100 million migrants and providing affordable housing for 100 million current residents through the renovation of "rundown urban areas."²² The 13th FYP restates the Chinese government's commitments to hukou reform and pledges to renovate 20 million residential units in rundown urban areas by 2020.²³ In addition, the 13th FYP intends to more effectively coordinate regional government policies within existing megaregions around Beijing and Shanghai; integrate intercity regional air, car, rail, and sea transportation networks; and reconfigure regional industry layouts.²⁴

But simply urbanizing will not create higher wages and boost consumption. The Chinese government will need to create millions of higher-paying jobs and expand access to public services in order to raise prosperity, boost domestic consumption, and accelerate economic growth. Approximately 6.5 million Chinese students graduate from college each year, but many are unable to find a job that matches their credentials or salary demands.²⁵ As Gordon Orr, senior advisor to the management consulting firm McKinsey & Company, explained, recent Chinese graduates face limited job prospects, low job security, and low-income jobs.²⁶

Municipal governments require new sources of financing to afford the expected surge in demand for urban infrastructure and public services. The Ministry of Finance estimates urbanization will require \$6.3 trillion (RMB 42 trillion) of financial support from 2014 to 2020, and the Ministry of Transportation and the National Development and Reform Commission announced they will spend \$701.5 billion (RMB 4.7 trillion) on 303 infrastructure projects in 2016–2018.²⁷ Weiping Wu, professor and chair of the Department of Urban and Environmental Policy and Planning at Tufts University, testified to the Commission that municipal governments are exploring public-private partnerships (PPPs), municipal bonds, and private investment to bridge the gap.²⁸ Dr. Wu highlighted water and wastewater treatment facilities, renewable energy projects, airports, and toll roads as potential areas for PPPs.²⁹ In April 2014,

the State Council pledged to open 80 major public infrastructure projects to private and foreign investment.³⁰ Nevertheless, Dr. Wu cautioned that while the Chinese government at all levels is heavily promoting PPPs, implementation is difficult. For example, she noted that demand for water, wastewater, and heating trunklines remains strong, but the irregular and relatively low cash flows from such projects, fragmented central-local legal and administrative decision making, and lack of enforceable dispute resolution systems in PPPs are not attractive to private domestic and global partners.³¹ According to the Ministry of Finance, only 39 percent of the more than 600 PPP projects implemented in the first half of 2016 have private business partners,³² signaling that greater incentives are needed to make PPPs viable.³³

Hukou Reform

The 13th FYP reaffirms plans—originally laid out in the Third Plenum and detailed in the Fifth Plenum—to reform the hukou system.* Around 260 million rural residents have migrated to urban areas over the last three decades in pursuit of higher-paying jobs, but have been largely left out of the urban social insurance system, which includes pension and unemployment insurance, due to the hukou regime.³⁴ This has created “two different types of citizenship,” according to Dr. Wu, where urban hukou holders enjoy privileged access to the most stable employment, high-quality education, and public services, while many rural hukou holders do not.³⁵ Based on the 2005 One Percent Population Survey (latest available),† Dr. Wu found only 12.7 percent of rural migrants in Beijing and Shanghai obtained pension benefits compared with 85.5 percent of local urban residents.³⁶ In addition, the hukou restricts rural migrants’ access to urban public housing, public services, and better-quality schools; one consequence of hukou has been that over 60 million children in rural areas have been left behind with grandparents or on their own as their parents moved to urban areas for work.³⁷ Education is a key factor in determining job prospects and social mobility. Rural students graduating from overcrowded, academically weaker, and poorer rural schools are at a disadvantage when competing for seats in universities against better-prepared urban students, who are able to afford high school education and the additional tutors they need to do well on their university entrance exams.³⁸

The 13th FYP seeks to address these disparities in education and earnings while enhancing labor productivity and domestic consumption by increasing the share of the population registered as permanent urban residents from 39.9 percent in 2015 to 45 percent in 2020.³⁹ Yet, municipal governments remain unwilling to take on the significant financial burden of adding millions of migrants to their public services and education systems.⁴⁰ According to a 2010 survey by the State Council’s Research Development Center, the

* For more information on China’s social and housing reforms, including discussion of China’s unregistered population, see U.S.-China Economic and Security Review Commission, *Monthly Analysis of U.S.-China Trade Data*, January 6, 2015, 5–7.

† More recent data are not available. The 2010 census did not include questions related to social welfare, and results from the 2015 One Percent Population Survey have not yet been released. Weiping Wu, interview with Commission staff, August 15, 2016.

lifetime cost of bringing the estimated 260 million migrant workers and their families to the urban social service system would be around \$3.1 trillion (RMB 20.8 trillion).⁴¹ In August 2016, the State Council announced it would create a national basic public service market to include services such as pension, healthcare, and compulsory education,⁴² which would address some of these disparities and allow for greater portability of benefits, but it remains to be seen how this policy will be implemented.

Meanwhile, restrictions on migration to China's megacities and richer eastern provinces remain in place.⁴³ For example, Shanghai's 2016–2040 plan aims to keep the city's population at 25 million by 2040; in 2014, the number of residents totaled 24.3 million.⁴⁴ To control migration, Beijing,* Shanghai, Guangzhou, and Tianjin—megacities with more than five million residents each—maintain a points system based on factors such as employment, housing, educational background, and skill level for migrants to earn those cities' hukou.⁴⁵ This system is, in effect, rigged against migrants, who are usually unable to meet the necessary qualifications.⁴⁶

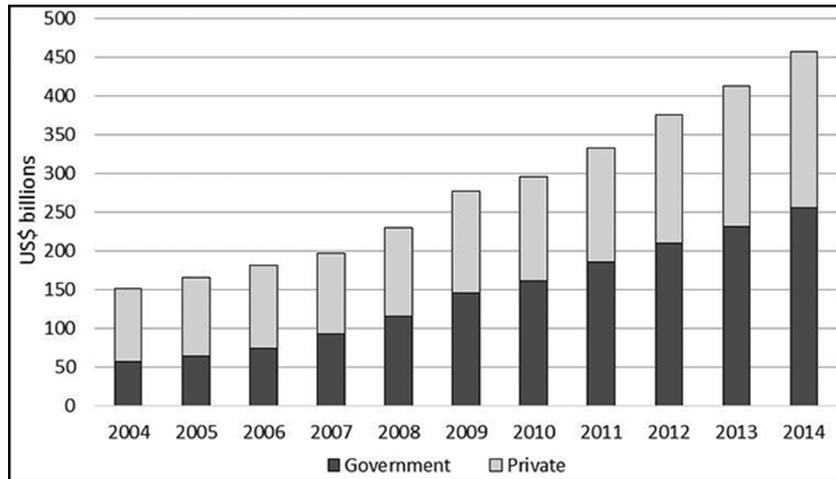
Healthcare

The Chinese government is continuing efforts begun under the 12th FYP to create a high-quality, affordable, and accessible healthcare system.† From 2011 to 2015, the Chinese government successfully expanded its basic health insurance to provide near-universal coverage, but Dr. Wu cautioned this insurance covers only a limited number of services.⁴⁷ The Chinese government also spent \$1.3 trillion between 2008 and 2014 to bring down the share of Chinese citizens' out-of-pocket healthcare spending from 40 percent in 2008 to 32 percent in 2014.⁴⁸ However, soaring medical costs, overcrowding at large hospitals, and substandard care‡ remain key challenges.⁴⁹ Actual healthcare costs increased three-fold from \$150.3 billion in 2004 to \$456.9 billion in 2014, and are expected to continue to grow as the population ages (see Figure 1).⁵⁰ Based on a joint estimate from the World Bank, World Health Organization, and three Chinese government agencies, without reform, real healthcare expenditures will increase an average of 8.4 percent annually from \$526.7 billion (RMB 3.5 trillion) in 2015 to \$2.4 trillion (RMB 15.8 trillion) in 2035.⁵¹

*In September 2016, Beijing Municipality stopped classifying residents within its municipality as urban or rural. This change affects 2.9 million residents, formerly classified as "rural," who live in surrounding towns and villages that have been subsumed by Beijing. Wang Su and Li Rongde, "Beijing Scraps Urban-Rural Hukou Distinction," *Caixin*, September 20, 2016.

†For more information on China's healthcare industry, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, "China's Healthcare Industry, Drug Safety, and Market Access for U.S. Medical Goods and Services," in *2014 Annual Report to Congress*, November 2014, 127–171.

‡Interest in high-quality medical treatment has led a growing number of Chinese citizens to travel to the United States. For more information, see Matt Snyder and Nicole Stroner, "Chinese Tourism and Hospitality Investment in the United States," *U.S.-China Economic and Security Review Commission*, July 25, 2016. 10–12.

Figure 1: China's Healthcare Expenditures, 2004–2014

Source: World Health Organization, "Global Health Expenditure Database."

China has a high rate of tobacco use, with negative consequences for its public health: In 2011, 53.4 percent of Chinese men used tobacco, contributing to 30.1 percent of cardiovascular-related deaths in China.* In addition, the increasing prosperity of Chinese citizens has contributed to a rise in so-called "diseases of affluence," such as high blood pressure and diabetes, whose treatment is not necessarily covered by basic health insurance.⁵² As of 2015, 10.6 percent of all Chinese citizens lived with diabetes, and the costs of managing the disease totaled approximately \$51.1 billion.⁵³ These numbers could skyrocket if even a fraction of China's nearly 500 million people with prediabetes develop Type 2 diabetes.⁵⁴ Financing these expenditures has already put a strain on local governments, and the recent increases in central government transfers to local governments will not be enough to offset the mounting expenses.⁵⁵

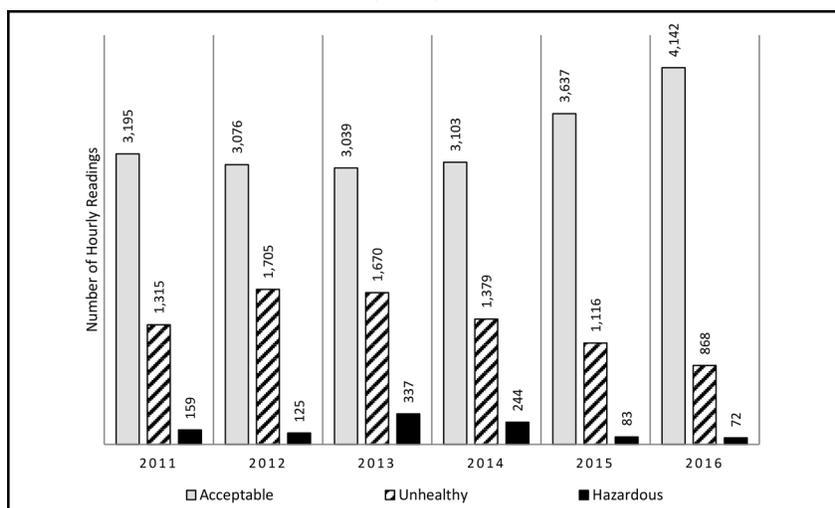
China's Energy Sector and Environmental Reforms

The Chinese government is attempting to clean up the severe environmental degradation left by its "growth at any cost" strategy and shift toward a more sustainable economic model. Official reports found that approximately 20 percent of China's arable land, 10 percent of woodlands, 10.4 percent of grasslands, and 33 percent of surface water are polluted, and more than 80 percent of underground well water used by farms, factories, and households is too polluted to safely drink or bathe in.⁵⁶ Based on official Chinese data and independent research, the Chinese government largely met its 12th FYP targets for energy consumption and carbon and pollutant emissions reduction (see Addendum I for 12th FYP tar-

*This study is based on data collected from 1991 to 2011 covering 26,000 people in nine provinces. Yanping Li, et al., "Potential Impact of Time Trend of Life-Style Factors on Cardiovascular Disease Burden in China," *Journal of the American College of Cardiology* 68:8 (2016): 818–833.

gets achieved).⁵⁷ Using satellite data from the National Aeronautics and Space Administration (NASA), 18 researchers from NASA, academia, and U.S., Canadian, and Dutch government and independent research institutes found that in eastern China, where most of China’s pollution is concentrated, sulfur dioxide levels fell around 60 percent between 2012 and 2015.⁵⁸ The researchers attributed this reduction to government efforts to meet 12th FYP emission targets, greater use of scrubbers in coal-fired power plants and industries, and the slowdown of China’s economy.⁵⁹ A comparison of hourly PM2.5* data from the U.S. Embassy in Beijing for the first seven months of 2016 with the same period for the last five years shows the number of “acceptable” hours increased from 3,195 readings in 2011 to 4,142 readings in 2016, but hazardous air quality levels still occur (see Figure 2).⁶⁰

Figure 2: U.S. Embassy Hourly PM2.5 Readings in Beijing, January–July 2011–2016



Note: The data are hourly readings of the micrograms of PM2.5 per cubic meter of air and cover January 1–July 31 of each year. The classification of these data is based on the U.S. Environmental Protection Agency’s *Guideline for Reporting Daily Air Quality—Air Quality Index*. In the figure, the “acceptable” category (0–100) includes readings designated “good” (0–50) and “moderate” (51–100) by the U.S. Environmental Protection Agency. The “unhealthy” category (101–300) includes “unhealthy for sensitive groups” (101–150), “unhealthy” (151–200) and “very unhealthy” (201–300) readings. The “hazardous” category, which describes any conditions likely to cause serious health effects, includes any readings beyond 301. In the first seven months of 2016, PM2.5 levels in Beijing reached a high of 782.

Source: U.S. Department of State, U.S. Embassy in Beijing, *Historical Data*. <http://www.stateair.net/web/historical/1/1.html>.

The 13th FYP expands these efforts to include water and soil decontamination due in part to rising public concerns over food and water safety.⁶¹ Ten out of the 25 priority targets in the 13th FYP are related to the environment, and all ten are included as part of

*PM2.5 is made up of metal, organic chemical, acid, soil or dust, and allergen particulates measuring 2.5 micrometers or smaller in diameter. Excessive exposure to PM2.5 aggravates existing heart and lung disease and is linked to higher incidences of heart attacks, asthma attacks, and bronchitis. U.S. Environmental Protection Agency, Basic Information.

the 13 binding targets that must be achieved by 2020.⁶² Kevin Mo, managing director for climate and sustainable urbanization at the Paulson Institute, noted that “what’s exciting is that the government is taking an integrated approach, tackling air quality, climate change, and the development of a new model of growth together instead of treating them as separate issues.”⁶³ Meeting these targets will be critical to attaining China’s broad goal of a “moderately prosperous society in all respects,” noted a Chinese official to the Commission in Beijing.⁶⁴

Although the Chinese government has dedicated significant funds and high-level attention to environmental degradation over the last several years, lax enforcement, competing policy objectives, and the high costs and technical difficulty of implementing soil and water decontamination remain key challenges.⁶⁵ Competition between economic growth and environmental protection objectives continues to undermine the Chinese government’s efforts to prevent and mitigate pollution.⁶⁶ Despite government emissions targets, emphasis on renewable energy, and existing overcapacity, central and western provinces are proceeding with the construction of new coal-fired power plants, one of the largest contributors to carbon emissions, with 210 new plants approved in 2015 and at least 55 more awaiting approval this year.⁶⁷

Enforcement

In 2016, Premier Li Keqiang stressed strict enforcement of environmental standards—a key weakness of environmental efforts under the 12th FYP*—stating that violators would be “severely punished.”⁶⁸ The Ministry of Environmental Protection has stepped up enforcement by creating “green teams” of environmental experts to randomly inspect provincial and municipal governments’ enforcement of environmental regulations and implementation of national environmental policies. Previously, only the Central Discipline Inspection Commission, China’s anticorruption agency, had the right to conduct such inspections.⁶⁹ These inspections are intended to hold local leaders accountable and ensure policy consistency across provinces.⁷⁰ Complementing these efforts, the Chinese government is expanding its continuous emissions monitoring systems for power plants and large firms.⁷¹ In July 2016, the Ministry of Environmental Protection announced it will set up river and lake water quality monitoring stations in 338 prefecture-level cities† in 31 provinces; the stations will use 21 metrics to determine water quality.⁷² Although there has been progress, Ma Jun, director of the China-based environmental non-profit Institute of Public and Environmental Affairs, cautioned “it is still not enough” because the fines are “still cheaper than the

* For more information on energy conservation and environmental protection actions undertaken during the 12th FYP, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, “China’s State-Led Market Reform and Competitiveness Agenda,” in *2015 Annual Report to Congress*, November 2015, 169–174; for more information on environment-related unrest, see U.S.-China Economic and Security Review Commission, Chapter 2, Section 3, “China’s Domestic Stability,” in *2014 Annual Report to Congress*, November 2014, 357–358.

† Prefecture-level cities are a government administrative classification that ranks below a province but above a county.

cost of compliance,” and polluting firms continue to enjoy significant local government support.⁷³

Funding

The scale of investment required to meet the Chinese government’s environmental priorities exceeds its available budget, and the government is exploring new avenues to attract private investors. An April 2015 report by more than 40 leading Chinese financial policy and regulation experts and government officials estimated that the Chinese government will only be able to fund between 10 to 15 percent of the estimated \$1.5 trillion (RMB 10 trillion) investment required over the next five years, including \$597 billion (RMB 4 trillion) in environmental protection, \$373.1 billion (RMB 2.5 trillion) for clean transportation, \$373.1 billion (RMB 2.5 trillion) for clean energy, and \$149.3 billion (RMB 1 trillion) for energy efficiency.* And, costs could be much higher. Estimates by the Green Finance Committee of the China Society for Banking and Finance under the People’s Bank of China (PBOC) and Bloomberg Philanthropies in June 2016 found that Chinese cities will require \$985 billion (RMB 6.6 trillion) by 2020 just for energy-efficient buildings, clean transportation, and clean energy.⁷⁴

Given the significant shortfall in funding by the central government, plans for fixing existing environmental damage are in essence an unfunded mandate imposed on provincial and local governments. For example, in 2016, the central government only allocated \$1.3 billion (RMB 9 billion) for soil remediation, a small fraction of the costs local governments are expected to bear.⁷⁵ Nanjing-based integrated securities firm Huaitai Securities estimated in April 2016 that soil remediation projects for the next five years will cost up to \$89.4 billion (RMB 590 billion); full remediation, where crops can be grown and livestock safely raised on formerly contaminated land, will cost an estimated \$1.1 trillion (RMB 7.4 trillion).⁷⁶

To close the funding gap, the Chinese government hopes to entice domestic and international investment in green industries, pollution and climate change mitigation efforts, and environmentally friendly projects through PPPs and green financing.† Based on estimates from the State Council’s Financial Research Institute, green bonds‡ could finance approximately \$44.8 billion (RMB 300 billion) of China’s needed clean energy investment annually by 2020.⁷⁷ In the first half of 2016, China issued \$8.3 billion in RMB-denominated green bonds, accounting for roughly a quarter of the \$34.6

*This estimate is based on the 12th FYP Environmental Protection Plan and the Ministry of Environmental Protection (final investment expected to exceed RMB 5 trillion under the 12th FYP), 2014 Plan on Water Pollution Prevention (RMB 2 trillion expected), 2014 Plan on Air Pollution Prevention and Control (RMB 1.7 trillion expected), China Railway Annual Report (RMB 800 billion allocated in 2014), Renewable Energy Policy Network (RMB 350 billion invested in 2013), and Bloomberg’s estimate of renewable energy investment (RMB 420 billion invested in 2012). People’s Bank of China and U.N. Environment Program, *Establishing China’s Green Financial System: Report of the Green Finance Task Force*, April 2015, 5.

†Green financing is a relatively new concept with no established definition. It can be broadly defined as financial investment in sustainable development projects, industrial pollution control, water sanitation, biodiversity protection, environmental products, etc. Nanette Lindenberg, “Definition of Green Finance,” *German Development Institute*, April 2014.

‡Green bonds are tradable debt securities issued by firms, governments, and international investors to finance climate-related or environmental projects. They were first issued by the World Bank in 2008. World Bank and Public-Private Infrastructure Advisory Facility, “What Are Green Bonds?” 2015, 23.

billion of global green bonds issued in that period.⁷⁸ It remains unclear, however, who buys these bonds.

Attracting additional funding requires greater transparency and clarity on the legal and regulatory frameworks governing PPPs and green financing, and further opening of the financial sector to global investors.⁷⁹ Green bonds are largely self-labeled by the issuer.⁸⁰ For example, the China Green Bond Index permits fossil fuel investments such as clean coal, while the voluntary 2016 Green Bond Principles, supported by 117 institutions (including one Chinese institution, the Agricultural Bank of China), do not.⁸¹ In light of these differing definitions and practices, global investors are pushing for a standardization of definitions, reporting, and impact assessments to ensure investments are used for their intended purpose.⁸² As the 2016 chair of the G20,* China pushed for the global expansion of green financing through the establishment of international standards and guidelines, capacity-building for governments to set up green financing mechanisms and create local green bond markets, knowledge sharing for banks and institutional investors on environmental and financial risks, facilitation of investors and green finance across different countries' markets, and improvement in measuring green finance activities and their impact.⁸³ The 2016 G20 Summit highlighted the importance of green financing but provided few concrete steps forward,⁸⁴ signaling a lack of global consensus.

China's Industrial Policies

Under the 13th FYP, the Chinese government seeks to accelerate China's transition to higher-value-added, intelligent manufacturing† by focusing on indigenous innovation and upgrading key emerging industries such as integrated circuits (ICs), biomedicines, cloud computing, and e-commerce.⁸⁵ In a 2016 report prepared for the Commission, University of California Institute on Global Conflict and Cooperation found that the Chinese government has “vigorously implemented” a variety of policy instruments to support its technonationalism and indigenous innovation push in these sectors to include:

*(1) sectoral protectionism; (2) the cultivation of local and national champions; (3) pushing hard for technology transfers; (4) the use of state catalogues to regulate investment and technology imports; (5) the promotion of Chinese technology standards domestically and internationally; and (6) an increasingly vigorous 'going out' strategy to open up foreign markets for Chinese products as well as to secure energy and other critical supplies for the country.*⁸⁶

*The Group of Twenty (G20) is an international forum for government and central banks from 20 major countries to meet and discuss international financial stability issues. Members include Argentina, Australia, Brazil, Canada, China, the EU, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, and the United States. International organizations such as the Financial Stability Board, International Labor Organization, International Monetary Fund, Organisation for Economic Co-Operation and Development, World Bank, World Trade Organization, and the UN also participate. G20 2016 China, “About G20,” November 27, 2015.

†Intelligent manufacturing seeks to integrate information technology into the manufacturing process for more precise, easily scalable, efficient production.

The Chinese government is also attempting to improve SOEs' productivity and global competitiveness through mixed ownership and consolidation, but announced reforms strengthen government control rather than allow a "decisive role" for the market.⁸⁷ (For more information on SOE reforms, see Chapter 1, Section 2, "State-Owned Enterprises, Overcapacity, and China's Market Economy Status.") The continuation of these industrial policies puts U.S. and other foreign firms at a disadvantage competing in China's market and abroad. For instance, Samm Sacks, China technology policy analyst at the political risk consulting firm Eurasia Group, noted that U.S. and other foreign technology firms will face greater market access costs due to stricter security reviews, added compliance costs and risks to core intellectual property, and fierce competition from state-supported firms.⁸⁸ Without meaningful reform, the 13th FYP's policies risk expanding the overproduction and distorted market conditions that occurred as a result of the 12th FYP's promotion of strategic emerging industries.⁸⁹

Indigenous Innovation

The Chinese government aims to utilize innovation to move Chinese manufacturing up the value-added chain, establish China as a global center of innovation and technology, and ensure long-term productivity. Largely reiterating the 12th FYP's state-directed strategy,* the 13th FYP increases R&D spending, the number of technology clusters and patents filed, incentives for foreign direct investment, and government procurement and customer enticements to spark market demand.⁹⁰ By 2020, the Chinese government aims to increase its global innovation ranking from 18 to 15,† the share of R&D spending as a percent of gross domestic product (GDP) from 2.1 to 2.5, and the number of patents filed per 10,000 people from 6.3 to 12.⁹¹

But engineering innovation by fiat is difficult. Innovation efforts under the 12th FYP were plagued by inefficient allocation of funding, weak quality management, and plagiarism, according to Jost Wubbeke, research associate at the German think tank the Mercator Institute for China Studies (MERICS).⁹² Furthermore, strong state control hinders academic freedom, market competition, and the free flow of ideas—the basis for innovation.⁹³ Overall, President Xi's emphasis on indigenous innovation discriminates against U.S. and other foreign firms by replacing foreign technology with products and services from and by Chinese firms.⁹⁴

* For additional analysis on innovation under the 12th FYP, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, "China's State-Led Market Reform and Competitiveness Agenda," in *2015 Annual Report to Congress*, November 2015, 163–167.

† This ranking is based on the Country Innovation Index, compiled by the Chinese Academy of Science and Technology for Development under the Ministry of Science and Technology. In 2015, the Country Innovation Index ranked China as the 18th most innovative country; the United States was ranked first followed by Japan, Switzerland, South Korea, and Israel. By comparison, the 2016 Global Innovation Index published by Cornell University, French business school INSEAD, and the World Intellectual Property Organization ranked Switzerland first followed by Sweden, the United Kingdom, and the United States at fourth. The report placed China 25th out of 128 countries. Ministry of Science and Technology of the People's Republic of China, "Country Innovation Index Report 2015 Released," July 25, 2016. Staff translation; Soumitra Dutta, Bruno Lanvin, and Sacha Wunsch-Vincent, eds., *The Global Innovation Index 2016*, 2016.

Made in China 2025 and Internet Plus

The 13th FYP emphasizes the “Made in China 2025” and “Internet Plus” initiatives,* which aim to grow domestic capability in emerging industries such as high-end equipment, ICs, biomedicines, cloud computing, mobile Internet, and e-commerce,⁹⁵ supplanting established U.S. and other foreign technological leaders. The Made in China 2025 action plan outlines a ten-year strategy to build intelligent manufacturing capabilities, enhance innovation, and upgrade ten key sectors.⁹⁶ These sectors, many of which were previously designated as heavyweight, strategic, or strategic emerging industries, are:⁹⁷

- (1) energy-saving and new energy vehicles
- (2) next-generation information technology
- (3) biotechnology
- (4) new materials
- (5) aerospace
- (6) ocean engineering and high-tech ships
- (7) railway
- (8) robotics
- (9) power equipment
- (10) agricultural machinery

The Internet Plus initiative hopes to capitalize on China’s huge online consumer market by building up the country’s domestic mobile Internet, cloud computing, big data, and the “Internet of Things” † sectors, and create global competitors by assisting domestic firms’ expansion abroad.⁹⁸ To support these objectives, the 13th FYP aims to increase the fixed broadband household penetration ratio from 40 percent in 2015 to 70 percent in 2020, and raise the mobile broadband subscriber penetration ratio from 57 percent in 2015 to 85 percent by 2020.⁹⁹

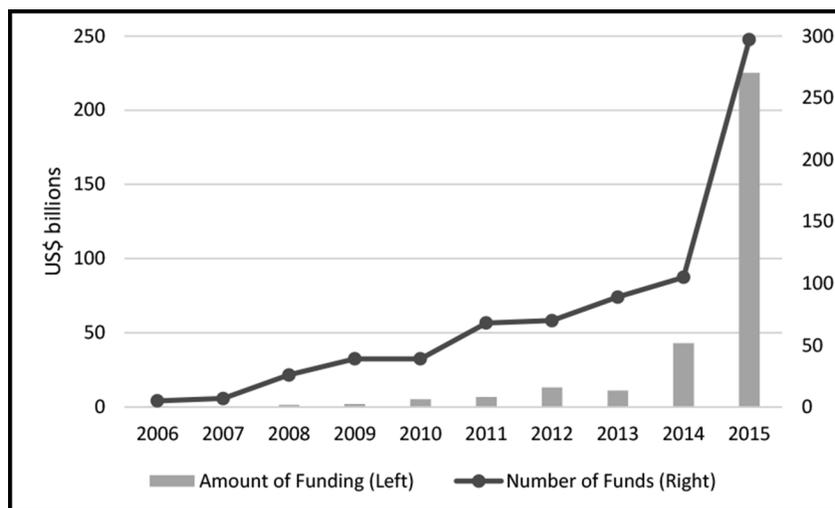
The Chinese government is also directing significant financial resources to develop technologies and firms in these industries through government-controlled venture capital funds.¹⁰⁰ China had 780 government-connected investment funds with a total of nearly \$326 billion (RMB 2.18 trillion) under management by the end of 2015 (see Figure 3).¹⁰¹ This amount is five-times larger than any other startup funds raised in the world.¹⁰² In 2015 alone, the Chinese government created 297 such funds with \$225.2 billion of investment.¹⁰³ In August 2016, the State Council approved a nearly \$30 billion (RMB 200 billion) government-controlled venture capital fund to invest in innovative technology and industrial upgrades to

*For comprehensive backgrounds on the Made in China 2025 and the Internet Plus initiatives, see Tai Ming Cheung et al., “Planning for Innovation: Understanding China’s Plans for Technological, Energy, Industrial, and Defense Development,” *University of California Institute on Global Conflict and Cooperation* (prepared for the U.S.-China Economic and Security Review Commission), July 28, 2016, 43–56.

†The Internet of Things is the interconnectivity between physical objects such as a smartphone or electronic appliance via the Internet that allows these objects to share data. For more information, see Harald Bauer, Mark Patel, and Jan Veira, “The Internet of Things: Sizing up the Opportunity,” *McKinsey & Company*, December 2014.

boost the efficiency of China's central SOEs.¹⁰⁴ Government-holding companies (China Reform Holdings Corp. Ltd. and Shenzhen Investment Holdings) and state-owned banks (China Postal Savings Bank and China Construction Bank Corporation) will finance the fund.¹⁰⁵ Although this fund is domestically focused, it remains unclear whether any of this money will be used to acquire foreign technology and products.

Figure 3: Chinese Government-Connected Investment Funds, 2006–2015



Source: Jessie Gui, "China Government Guidance Fund Development Research Report 2016 Released; Interim Measures Supports Four Major Areas and Specifies Negative List," *PE Daily*, March 11, 2016.

The High-Tech Sectors: Automobiles, Aerospace, and Semiconductors

The 13th FYP continues the Chinese government's efforts to develop domestic globally competitive aerospace, automotive, and semiconductor firms. Existing policies require U.S. and other foreign firms to transfer technology, move manufacturing and assembly facilities to China, and collaborate with their future competitors, impacting U.S. firms' profitability, operations, and future competitiveness. These three industries are important to the U.S. economy, sustaining and creating millions of high-paying jobs and high-value-added exports. Together, the aerospace, automotive, and semiconductor industries accounted for 3 million—or about a quarter of—U.S. manufacturing jobs in 2014.¹⁰⁶ Aerospace employed 1.28 million workers as of 2012; in 2014, the automobile industry employed 1.55 million, and the semiconductor industry employed 244,800.¹⁰⁷ In addition, civilian aircraft and components, automobiles, and semiconductors are the three largest U.S. manufacturing exports to the world, accounting for 18.2 percent of total U.S. exports to the world in 2015.¹⁰⁸ The Chinese government's efforts to supplant U.S. leaders in these sectors have successfully cre-

ated lower-end producers and suppliers, but Chinese firms continue to lag behind U.S. competitors in terms of quality, reliability, and technological edge.¹⁰⁹

Commercial Aviation

The Chinese government provided over \$7 billion in initial financing to develop its own commercial aviation industry, which it views as a foundation for technological innovation and national defense.* The Chinese government has created a national champion, Commercial Aircraft Corporation of China, Ltd. (COMAC), provided significant subsidies, required joint ventures, incentivized foreign manufacturers to shift sourcing and assembly operations to China by promising them business from state-owned airlines, and encouraged the purchase of domestically produced aircraft by domestic airlines and foreign countries.¹¹⁰ These policies have been relatively successful at increasing production: Chinese aviation output rose from \$6.8 billion in 2005 to \$16 billion in 2010—a 134.3 percent increase—and Chinese aviation exports grew 111.8 percent from \$995 million in 2005 to \$2.1 billion in 2010.¹¹¹ But Chad J.R. Ohlandt, aerospace engineer at RAND Corporation, noted in his testimony before the Commission that “the effort has not yet resulted in globally competitive products or major companies.”¹¹² COMAC’s two aircraft, the ARJ21 regional jet and C919 passenger jet, have been built primarily with foreign components and have yet to establish a record of safety and operational cost efficiency; as of June 2016, only the ARJ21 has begun deliveries.¹¹³

Concerned over its continued reliance on high-value-added foreign technologies and parts (particularly engines and avionics), COMAC and the aerospace and defense SOE Aviation Industry Corporation of China (AVIC) have redoubled their efforts to build their own avionics and engine capabilities.¹¹⁴ In 2011, General Electric entered into a joint venture with AVIC to “develop and market integrated, open architecture avionics systems to the global commercial aerospace industry for new aircraft platforms,” particularly the C919.¹¹⁵ This joint venture eventually aims to become a global commercial avionics supplier and provide avionics directly to Boeing, Airbus, and Embraer.¹¹⁶ In July 2016, the State-Owned Assets Supervision and Administration Commission of the State Council established a new aviation SOE specializing in aircraft engine development, Aero Engine Corporation of China.¹¹⁷ Through this new SOE, the Chinese government is hoping to develop its own commercial aerospace engine, enhance its technological capabilities, and strengthen its defense manufacturing.¹¹⁸ This new SOE has \$7.5 billion (RMB 50 billion) in registered capital, counting COMAC, AVIC, the State Council, and the Beijing municipal government as its investors.¹¹⁹ The General Electric-AVIC joint venture and the creation of this new SOE may enable China to accelerate the indigenous development of its aircraft industry.

* For in-depth analysis of China’s commercial aerospace industry, see Keith Crane et al., “The Effectiveness of China’s Industrial Policies in Commercial Aviation Manufacturing,” *RAND Corporation*, April 2014; and Roger Cliff, Chad J.R. Ohlandt, and David Yang, “Ready for Takeoff: China’s Advancing Aerospace Industry,” *RAND Corporation*, (prepared for the U.S.-China Economic and Security Review Commission), March 1, 2011.

Lured by the second-largest aircraft market, U.S. aerospace manufacturers such as Boeing, General Electric, and Pratt & Whitney have formed joint ventures with COMAC and moved some of their manufacturing and assembly operations to China to gain market access.¹²⁰ U.S. firms believe they have safeguarded their intellectual property and technologies by maintaining key component manufacturing outside of China, but they are increasingly integrating Chinese-made parts into the supply chain.¹²¹ From 2009 to 2013, U.S. imports of aerospace equipment from China roughly doubled to \$900 million. A large share of these imports reflects transfers between a U.S.-China joint venture and the U.S. firm.¹²² While such imports may be cost effective and ensure sales, they represent a loss of U.S. aviation manufacturing production and jobs.

Automobiles

Over the last three decades, China's economic growth and automobile industrial policy has transformed the country into the world's largest automobile market and automobile producer, creating a modern supply network and millions of local jobs.¹²³ The Chinese government has sought to develop its own domestic automobile industry by disadvantaging U.S. and other foreign automakers competing in China's market through "discrimination based on the country of origin of intellectual property, forced technology transfer, research and development requirements, investment restrictions and discriminatory treatment of foreign brands and imported vehicles," according to the Office of the U.S. Trade Representative (USTR).¹²⁴ Between 2009 and 2011, the Chinese government provided at least \$1 billion in subsidies to its automobile and automobile parts manufacturers.¹²⁵ This strong support has successfully created competitive, low-cost domestic automobile parts firms. U.S. imports of automobile parts from China grew from \$3.2 billion in 2005 to \$18 billion in 2015,¹²⁶ displacing U.S. production and contributing to the decline in U.S. employment. U.S. exports of complete motor vehicles to China have grown from \$444.7 million in 2005 to a high of \$10.1 billion in 2014 before falling to \$8.5 billion in 2015 due in part to China's economic slowdown.¹²⁷ By comparison, U.S. motor vehicle imports from China increased from \$126.7 million in 2005 to \$226.1 million in 2015.¹²⁸ Although still small, U.S. motor vehicle imports from China are expected to grow. In December 2015, General Motors announced it would import to the United States 30,000–40,000 Buick Envision crossover vehicles from its production facilities in China.¹²⁹ Foreign-made automobiles imported into the United States face a 2.5 percent duty, while U.S.-made automobiles face a 25 percent duty in China.¹³⁰

Crystal Chang, lecturer in political science at University of California, Berkeley, believes Chinese government's policies have "failed to create technologically independent and globally competitive automakers."¹³¹ Rather, nearly three decades of required joint ventures have created an interdependent production model, where foreign firms maintain technological and marketing expertise and Chinese SOEs excel in production, according to Dr. Chang.¹³² U.S. firms such as General Motors and Ford have successfully leveraged these partnerships to gain market share in China; China now ac-

counts for about a third of General Motors' sales worldwide.¹³³ Cars produced by General Motors' SOE joint venture partner, SAIC General Motors, account for most of General Motors' sales in China.¹³⁴

Over the next five years, the global automobile industry is expected to undergo a transformation toward electric vehicles and autonomous driving systems,¹³⁵ and the Chinese government plans to leverage this transformation to replace U.S. and foreign producers with domestic firms and improve China's urban air quality. The Chinese government heavily promoted electric vehicles under the 12th FYP and continues to do so under the 13th FYP.¹³⁶ According to the China-based strategic consulting firm Gao Feng Advisory Co., new energy vehicles, which include hybrid electric, battery electric, and fuel cell vehicles, received \$5.5 billion (RMB 37 billion) of investment under the 12th FYP and are expected to receive an additional \$9.4 billion (RMB 63 billion) in government support under the 13th FYP.¹³⁷ By 2020, the Chinese government hopes to have five million new energy vehicles in use; reported sales in 2015 totaled nearly 332,000.¹³⁸ In response to strong government support, more than 200 new energy vehicle manufacturers have sprung up in China. However, according to Wang Cheng, an official at the China Automotive Technology and Research Center,* these manufacturers lag behind foreign competitors in terms of quality, reliability, and technological edge.¹³⁹

Recognizing this gap, the Chinese government in July 2016 lifted its 50 percent cap on foreign ownership of automobile electronic systems and batteries production for new energy vehicles—in place since 1994—in the free trade zones of Fujian, Guangdong, Shanghai, and Tianjin. This loosening of restrictions allows full ownership and opens the door for foreign technological leaders such as the U.S. firm Tesla, which can only viably build a production facility in China if batteries can be locally sourced.¹⁴⁰ The lifting of foreign ownership restrictions on automobile electronic systems and batteries production for new energy vehicles is limited to the free trade zones.¹⁴¹ National restrictions on foreign ownership of automobile production remain.†

In addition, the Ministry of Industry and Information Technology is promoting self-driving cars, or the “Internet of vehicles,” as part of the Made in China 2025 and Internet Plus initiatives. Internet firms such as Alibaba, Tencent, and Baidu; smartphone manufacturers Huawei, ZTE, and Xiaomi; and state-owned military firms are expanding into this market and seeking to set domestic technology standards.¹⁴² U.S. automakers Ford and General Motors are attempting to maintain their competitive edge in the Chinese market by pursuing electric vehicles, digitization, and autonomous driving. General Motors plans to launch more than ten new green-powered vehicle models in China by 2021.¹⁴³ In October 2015, Ford announced it will be investing \$1.8 billion in China over the next five years to develop digital connectivity, autonomous driving, and

*The China Automotive Technology and Research Center is a technical organization for the State Council's State-Owned Assets Supervision and Administration Commission. China Automotive Technology and Research Center, “Profile.”

†For more analysis of China's market access barriers in China's automotive industry, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, “Foreign Investment Climate in China,” in *2015 Annual Report to Congress*, November 2015, 84–86.

smart car features for its Chinese products, and in August 2016, Ford and Baidu announced they will invest \$75 million each in the U.S. sensor technology firm Velodyne Lidar to enhance their self-driving car sensory technology.¹⁴⁴

Semiconductors

China, the world's largest assembler and manufacturer of information and communications technology and other electronic equipment, wants to move from an assembler of imported semiconductor components to designer and producer to meet growing domestic demand.¹⁴⁵ Based on data from U.S. technology research firms Gartner and IDC, China accounts for 20 percent of global personal computer consumption, 29 percent of global smartphone consumption, 17 percent of global tablet consumption, 27 percent of global automobile consumption, and 23 percent of global telecommunication equipment capital expenditures.¹⁴⁶ U.S. multinational firms accounted for 11 of the top 20 global semiconductor suppliers in 2015 and made up 50 percent of the \$335.2 billion global semiconductor market in 2015, with firms such as Intel and Qualcomm the leading global manufacturer and designer, respectively, according to World Semiconductor Trade Statistics.¹⁴⁷ Semiconductor components were the third-largest U.S. manufacturing exports over the last five years, totaling \$41.8 billion in 2015.¹⁴⁸ In 2015, U.S. firms supplied 56 percent of China's \$98.6 billion semiconductor imports.¹⁴⁹ Beyond chips, U.S. firms produce the most semiconductor manufacturing equipment, with 47 percent of global market share in 2015, followed by Japanese firms with 30 percent.¹⁵⁰

U.S. dominance in this sector has been "central to U.S. military and economic strength," according to John Adams, former brigadier general for the U.S. Army and president of Guardian Six Consulting.¹⁵¹ Semiconductors are a vital component in commercial high-tech electronics and many U.S. military platforms and weapons systems, including the F-35 Joint Strike Fighter and the Humvee. Beyond creating high-paying jobs and high-value-added exports, semiconductors are an important factor in driving the U.S. military's technological advantages in surveillance, communications, and propulsion, and the loss of domestic production erodes U.S. institutional and technological know-how and the ability to design and commercialize emerging defense technologies.¹⁵²

The Chinese government is seeking to break China's dependence on imports from foreign producers for two reasons: First, it wants to build globally competitive domestic semiconductor firms, which will capture the revenue currently accruing to foreign companies.¹⁵³ Second, it wants to safeguard China's national security by breaking "the technological dominance of the West and [strengthening] the country's position in the cybersecurity war," according to Dieter Ernst, senior fellow at the East-West Center.¹⁵⁴

China's state-directed efforts to become a semiconductor leader over the last two decades have largely failed.¹⁵⁵ China continues to have systemic weaknesses, including a lack of core technology and innovative capacity, low levels of investment, a shortage of local talent, and a failure to take into account the needs of the market.¹⁵⁶ In June 2014, the *Guidelines to Promote National Integrated*

Circuit Industry Development sought to address these weaknesses and set targets, including achieving greater than \$52 billion (RMB 350 billion) in annual IC revenue by 2015, maintaining a more than 20 percent compound annual industry-wide revenue growth rate through 2020,* and becoming a global leader in the primary semiconductor IC supply chain by 2030.¹⁵⁷ The guidelines also established nearly \$107 billion (RMB 720 billion) of national and regional IC investment funds† to provide high-level support and funding between 2014 and 2017, with the goal of creating national champions, expanding domestic semiconductor fabrication capacity, and facilitating consolidation and global competitiveness of its national champions.¹⁵⁸ The creation of these funds represents a hybrid between the state-directed lending under previous FYPs and market forces by letting investors decide where funding should go.¹⁵⁹

While the 11th and 12th FYPs similarly attempted to create globally competitive Chinese semiconductor firms, the size of the funding under the 13th FYP is a key differentiator. Most countries provide subsidies to the semiconductor industry, but the scale of China’s support is unprecedented.¹⁶⁰ According to testimony from Jimmy Goodrich, vice president of global policy at the Semiconductor Industry Association, China’s semiconductor plan “is far more comprehensive, organized, and well-funded than many other plans they have put together to date.”¹⁶¹ The National IC Industry Investment Fund has been instrumental in providing financing for the rapid increase in domestic capacity and acquisitions abroad.¹⁶² Since 2014, China-headquartered firms have proposed or finalized more than 30 mergers and acquisition deals in the semiconductor industry, totaling nearly \$20 billion.¹⁶³ Chinese buyers have been particularly active in the United States, with at least six completed acquisitions in 2015 and four completed acquisitions and three minority investments in 2016 (see Table 1). A majority of these investments went to small semiconductor firms; the proposed acquisition of Micron Technology, the fifth-largest semiconductor supplier by revenue in 2015, and the minority investment in Marvell Technology Group, the 24th-largest, were the two exceptions.¹⁶⁴

Table 1: Chinese Attempted and Completed Acquisitions and Investments in U.S. Semiconductor Companies, 2015–2016

U.S. Target	Specialty	Chinese Investor	Value (US\$ millions)	Status
FlipChip International	Designer of wafer chip assembly and packaging	Tianshui Huatian Technology	\$40.2	Acquisition completed, April 2015

*In 2014, total IC sales reached \$77.3 billion. China’s semiconductor industry increased at a 20.5 percent compound annual growth rate from 2004 to 2014. PricewaterhouseCoopers, “China’s Impact on the Semiconductor Industry: 2015 Update,” March 2016.

†The National IC Industry Investment Fund will include \$17.9 billion (RMB 120 billion); local governments and private equity investment funds are expected to provide \$97.5 billion (RMB 600 billion) of this funding by 2020. PricewaterhouseCoopers, “A Decade of Unprecedented Growth: China’s Impact on the Semiconductor Industry 2014 Update,” January 2015, 74.

Table 1: Chinese Attempted and Completed Acquisitions and Investments in U.S. Semiconductor Companies, 2015-2016—Continued

U.S. Target	Specialty	Chinese Investor	Value (US\$ millions)	Status
WiSpry	Designer of chips for wireless communication products	AAC Technologies Holdings	\$16.6	Acquisition completed, May 2015
OmniVision Technologies	Designer of chips for advanced digital imaging solutions for consumer and commercial applications	CITIC Capital Holdings, Goldstone Investment, Hua Capital Management	\$1,900	Merger completed, July 2015
Bridgelux	Designer of chips for light-emitting diode (LED) commercial and industrial lighting	China Electronics Corporation, Chongqing Linkong Development Investment	\$130	Acquisition completed, July 2015
Atmel	Designer and manufacturer of microcontrollers and touch technology for the automotive, industrial, and consumer markets	China Electronics Corporation	\$3,400	Withdrawn after higher bid from competitor, U.S. firm Dialog Semiconductor, who was later outbid by U.S. firm Micron Technologies, September 2015
Pericom Semiconductor Corp.	Designer of integrated connectivity, advanced timing, and signal integrity for the computing, communications, and consumer markets	Montage Technology Group (subsidiary of China Electronics Corporation)	\$400	Pericom rejected bid, citing a lack of committed financing and potential regulatory hurdles in China, Taiwan, and the United States, November 2015; U.S. firm Diodes acquired Pericom for \$413 million that same month
Xcerra Corporation (<i>semiconductor test interface board business</i>)	Designer of semiconductor and electronics manufacturing testing equipment	Fastprint Hong Kong Co. (subsidiary of Shenzhen Fastprint Circuit Tech Co.)	\$2.3	Acquisition of its semiconductor test interface business completed, December 2015

Table 1: Chinese Attempted and Completed Acquisitions and Investments in U.S. Semiconductor Companies, 2015-2016—Continued

U.S. Target	Specialty	Chinese Investor	Value (US\$ millions)	Status
Integrated Silicon Solutions (ISSI)	Designer of chips for automotive and other industries	Uphill Investment (consortium including Hua Capital Management, SummitView Capital, E-Town Memtek)	\$640	Acquisition completed, December 2015
Initio	Designer of chips for storage devices	Sage Microelectronics	Not disclosed	Acquisition completed, January 2016
Vivante	Designer of chips for mobile, consumer, and automobile products	VeriSilicon Holdings	Not disclosed	Acquisition completed, January 2016
Integrated Memory Logic Limited (<i>subsidiary of Exar Corporation</i>)	Designer of chips for power management and color calibration for flat-panel display and LED lighting	Beijing E-town Chipone Technology Co. (consortium including Chipone Technology Co. and Beijing E-Town International Investment and Development Co.)	\$136	Acquisition announced, June 2016
Fairchild Semiconductor	Designer and manufacturer of chips for power management and mobile applications	China Resources, Hua Capital Management	\$2,600	Fairchild rejected bid, citing concerns over Committee on Foreign Investment in the United States (CFIUS)* approval, February 2016; U.S. firm ON Semiconductors received approval from the U.S. Federal Trade Commission to acquire Fairchild for \$2.4 billion in August 2016

*CFIUS is an interagency committee that reviews transactions that shift control of a U.S. business to a foreign person or business and the potential national security implications for the United States. U.S. Department of the Treasury, "The Committee on Foreign Investment in the United States," December 20, 2012.

Table 1: Chinese Attempted and Completed Acquisitions and Investments in U.S. Semiconductor Companies, 2015-2016—Continued

U.S. Target	Specialty	Chinese Investor	Value (US\$ millions)	Status
Micron Technology	Designer and manufacturer of memory chips; only U.S.-based dynamic random access memory (DRAM) manufacturer	Tsinghua Holdings	\$23,000	Micron rejected bid, citing concerns over CFIUS approval, February 2016
Multi-Fineline Electronix	Manufacturer of flexible circuits and assemblies	Suzhou Dongshan Precision Manufacturing	\$610	Acquisition completed, February 2016
Western Digital (15% stake)	Designer and manufacturer of computer hard drives	Tsinghua Unisplendour	\$3,780	Withdrawn due to CFIUS concerns, March 2016
GigOptix (3.8% stake)	Designer of chips for cloud connectivity, data centers, and high-speed optical and wireless networks	Shanghai Pudong Science and Technology Investment	\$5	Purchase of minority stake completed, March 2016
Lattice Semiconductor Corporation (8.65% stake)	Designer of low-power, programmable chips for high-tech data centers and telecommunication networks with dual-use applications	Tsinghua Unigroup	\$41.5	Purchase of 6% share completed, April 2016; share increased to 8.65% in May 2016
Mattson Technology	Manufacturer and supplier of semiconductor manufacturing equipment	Beijing E-Town Dragon Semiconductor Industry Investment Center	\$300	Acquisition completed, May 2016
Marvell Technology (~2% stake)	Designer of storage, cloud infrastructure, Internet of Things, connectivity and multimedia semiconductor chips	Tsinghua Holdings	\$78.2	Purchase of minority stake completed, May 2016
Global Communications Semiconductors	Designer and manufacturer of radio frequency, wireless, power electronic, and optoelectronic chips	SAIC Acquisition (subsidiary of Xiamen Sanan Integrated Circuits)	\$226	Withdrawn after CFIUS rejected the merger, August 2016

Table 1: Chinese Attempted and Completed Acquisitions and Investments in U.S. Semiconductor Companies, 2015–2016—Continued

U.S. Target	Specialty	Chinese Investor	Value (US\$ millions)	Status
Analogix Semiconductor	Designer of high-speed, mixed-signal chips for use in high-performance displays such as mobile devices, virtual and augmented reality, and other products	Beijing Shanhai Capital Management, National IC Industry Investment Fund	\$500	Announced merger, September 2016

Sources: Various.¹⁶⁵

Beyond significant investment, Mr. Goodrich outlined additional policies impacting U.S. semiconductor firms' operations in China: government-funded R&D grants, state-guided procurement orders, technology transfer requirements, China-specific standards, cybersecurity trade barriers,* encryption limitations, and security testing and licensing.¹⁶⁶ These policies support domestic firms while limiting U.S. semiconductor firms' market access to their largest customer. In order to gain and maintain market access, U.S. and other foreign firms appear to be acceding to Chinese demands to transfer technology and form joint ventures with its firms. Recent examples of China leveraging market access in exchange for technology include:

Qualcomm: In February 2015, the National Development and Reform Commission, China's chief industrial policymaking agency and regulatory body, fined Qualcomm—the world's largest producer of smartphone chips—\$975 million for allegedly using its dominant market share to overcharge Chinese telecommunications firms for its patent royalties.† This fine was the largest penalty ever imposed on a company by the Chinese government.¹⁶⁷ In addition to paying the fine, Qualcomm agreed to offer 3G and 4G licenses at a lower price in China than Qualcomm's normal wholesale figure. Moreover, Qualcomm would provide these licenses separately from its other patents and permit existing licensees to take advantage of the new sales terms in January 2015. Qualcomm also agreed to no longer require chip customers to sign a licensing agreement with “unreasonable conditions,” as determined by the National Development and Reform Commission, prior to the sale of baseband chips.¹⁶⁸

Qualcomm, reliant on the Chinese market for nearly half its revenue,¹⁶⁹ launched a “globalization” unit in May 2015 to assist Chinese smartphone makers—such as Huawei and Xiaomi—in expand-

* For more information on the impact of China's cybersecurity barriers on U.S. firms, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 4, “Commercial Cyber Espionage and Barriers to Digital Trade in China,” in *2015 Annual Report to Congress*, November 2015, 210–217.

† For more information on the antimonopoly case, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 2, “Foreign Investment Climate in China,” in *2015 Annual Report to Congress*, November 2015, 96–97.

ing abroad, and allocated \$150 million for investments in Chinese startups to regain access to its most important market.¹⁷⁰ In June 2015, a subsidiary of Qualcomm partnered with Huawei, IMEC research institute, and Semiconductor Manufacturing International Corporation, China's leading foundry and world's fifth largest foundry, to create an equity joint venture to develop 14 nanometer chips.¹⁷¹ According to Qualcomm, this joint venture "reinforces Qualcomm's commitment to the continued growth of the vibrant semiconductor ecosystem in China."¹⁷² Semiconductor Manufacturing International Corporation noted that this collaboration will "open up R&D and manufacturing resources in this industry's ecosystem, and develop our advanced technology and R&D capabilities."¹⁷³ In January 2016, Qualcomm formed a joint venture with the Guizhou provincial government to make advanced server chips customized for Chinese customers, which Qualcomm noted will strengthen its "commitment as a strategic partner" and "yield mutual benefits for both sides as we together pursue a very large data center opportunity in China."¹⁷⁴

Intel: In September 2014, Intel, which generates one-fifth of its annual revenues from China, signed a \$1.5 billion joint-venture deal to get a 20 percent stake in Chinese state-owned subsidiary Spreadtrum.¹⁷⁵ Intel said this partnership will "expand the product offerings and adoption for Intel-based mobile devices in China and worldwide."¹⁷⁶ However, some analysts have suggested this deal is in part an effort to avoid the regulatory hurdles its competitors such as Qualcomm are facing.¹⁷⁷ In October 2014, Intel's venture capital firm invested \$28 million in five Chinese mobile device companies, and in April 2015, Intel announced a \$17.9 million (RMB 120 million) investment to support Chinese high-tech startups. These partnerships offer Chinese firms financial, product design, manufacturing, and sales and marketing support.¹⁷⁸ In January 2016, Intel further expanded its Chinese partnerships with a "strategic collaboration" with Tsinghua University and Montage Technology Global Holdings Ltd., a subsidiary of the state-owned information technology firm China Electronics Corporation, to develop custom computer processors in order to meet Chinese security requirements.¹⁷⁹ Intel noted that this collaboration will "create new and compelling indigenous products while preserving the respective intellectual property ownership of all parties."¹⁸⁰

China's Fiscal and Financial Reforms

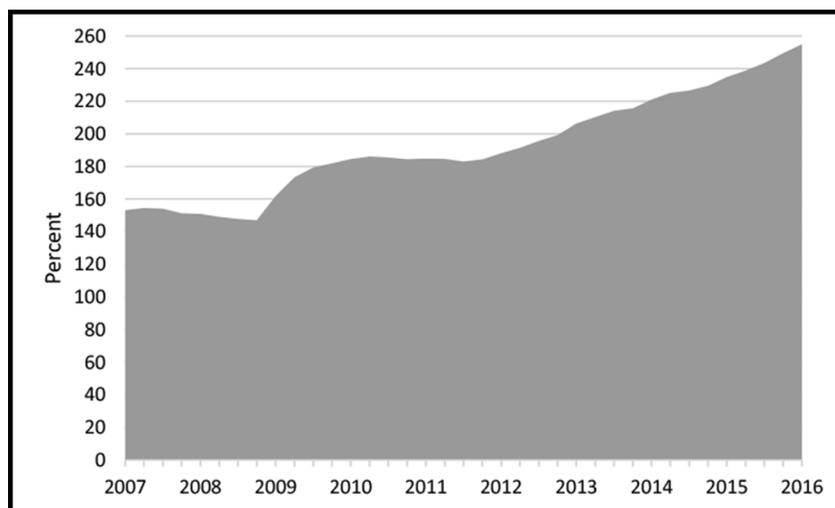
Fiscal and financial reforms are critical to improving capital allocation efficiency in China's economy. The current system has created indebted local governments with unfunded mandates and bloated SOEs. According to Eswar Prasad, senior professor of trade policy at Cornell University, the Chinese government is simultaneously attempting to achieve two contradictory approaches: "letting the market work," while maintaining the "paternalistic oversight of the state."¹⁸¹ Dr. Prasad noted in his testimony to the Commission that most reform efforts have focused on financial or capital markets, while reform of China's tax revenues and government spending has been very limited and slow.¹⁸² He attributed

the Chinese government's success in pushing through financial sector reform last year and overcoming opposition to two factors: a strong political advocate (the PBOC) and clear objectives (getting the RMB into the Special Drawing Rights* basket).¹⁸³ However, without a new clear objective, the impetus for additional reforms has weakened. (For more information on the inclusion of the RMB into the Special Drawing Rights basket, see Chapter 1, Section 1, "Year in Review: Economics and Trade.")

Fiscal and Financial Challenges

The Chinese government is overhauling its fiscal and financial systems to attempt to address the funding needs of its reform agenda. China's debt challenges harken back to the 2008–2009 \$587 billion (RMB 4 trillion) stimulus package, which flooded local governments and companies in designated sectors with cheap credit, leading to unsustainable debt burdens and overcapacity.¹⁸⁴ China's total debt to GDP has grown from 151.3 percent in 2007 to 254.6 percent in the first quarter of 2016, reaching \$27.2 trillion (see Figure 4).¹⁸⁵ In a discussion with the Commission in Beijing, Michael Pettis, professor of finance at Beijing University, noted that although a banking crisis in the next two years is unlikely, the enormous growth of debt is unsustainable.¹⁸⁶ According to Andrew Polk, China director at the financial consultancy Medley Global Advisors, the ability of the PBOC to inject liquidity through the interbank system, the stability of large Chinese banks' capital supported by China's high savings rate, and limited national exposure to city-level banks would enable the government to manage existing debt obligations and prevent a nationwide financial crisis. But Mr. Polk noted that the rising number of nonperforming loans (NPLs) could create localized financial crises in heavy industry and SOE-dependent provinces in the northeast.¹⁸⁷ These rising debt obligations raise concerns about China's ability to finance reforms laid out in the 13th FYP.¹⁸⁸ (For more information on China's rising debt levels, see Chapter 1, Section 1, "Year in Review: Economics and Trade"; for more on the challenges associated with SOE debt, see Chapter 1, Section 2, "State-Owned Enterprises, Overcapacity, and China's Market Economy Status.")

* Special drawing rights (SDR) are the International Monetary Fund's (IMF) international reserve asset made up of five major reserve currencies. In November 2015, the IMF determined that the RMB had met its "freely usable" criterion and voted to include the RMB as part of the SDR, validating the PBOC's reform efforts over the last year. For more information, see Eswar S. Prasad, "China's Efforts to Expand the International Use of the Renminbi," (prepared for the U.S.-China Economic and Security Review Commission), February 4, 2016, 82–89.

Figure 4: China's Total Debt-to-GDP Ratio, 2007–Q1 2016

Source: Bank of International Settlements, "Long Series on Total Credit to the Non-financial Sectors," September 8, 2016.

Mounting Debt Challenges for Local Governments

China's central-local government fiscal system allocates 53 percent of tax revenue to local governments, but requires local governments to fund 85 percent of centrally mandated programs.¹⁸⁹ To bridge the revenue gap, local governments have relied on off-balance-sheet local government financing vehicles (LGFVs)* and sales of land-use rights, commonly seized from local farmers at below-market prices.¹⁹⁰ The total size of local government debt, including LGFVs, is not known. China's National Audit Office reported that LGFV debt reached \$3.4 trillion (RMB 23 trillion) in 2015, but this number only measures direct LGFV debt for local infrastructure projects and does not incorporate all the commercial projects that LGFVs are now involved in.[†] A September 2016 paper from the Brookings Institution estimated that LGFVs financed around three-quarters of China's fiscal stimulus in 2009 and 2010, and that after the stimulus, local governments used LGFVs to obtain financing for local champions and infrastructure projects, creating around \$7.2 trillion (RMB 48 trillion) in LGFV debt by 2015.¹⁹¹

In 2014, the State Council's amendments to the *National Budget Law* outlined its fiscal restructuring plan to bring off-balance sheet borrowing onto the budget, reduce the risk of local government default, and create more affordable revenue sources.¹⁹² Reforms since 2014 were aimed at reducing the debt burden and bringing all off-balance-sheet borrowing into the official budget. According to a

* LGFVs use land and other government assets as collateral to raise funds for major infrastructure and real estate projects.

† The China-based financial database WIND, which measures only LGFVs that issue bonds, found that LGFV debt totaled \$5.5–5.6 trillion (RMB 37–38 trillion) in 2015. Chong-En Bai, Chang-Tai Hsieh, and Zheng (Michael) Song, "The Long Shadow of a Fiscal Expansion," *Brookings Papers on Economic Activity*, Conference Draft, September 15–16, 2016, 12–13.

2016 International Monetary Fund (IMF) report, following these reforms, China's general government debt jumped from 15.2 percent of GDP in 2013 to 38.5 percent of GDP in 2014.¹⁹³ Although off-balance-sheet borrowing is officially prohibited, Chinese officials have acknowledged that some local governments continue to use LGFVs, highlighting the difficulty of implementation.¹⁹⁴ Recent economic weakness has slowed growth in tax revenue, so it is more difficult for local governments, particularly in poorer provinces, to service their debt.¹⁹⁵

Local government expenditures are also growing, further stretching already tight budgets. The Chinese government estimates that achieving three of the 13th FYP's objectives will require \$8.1 trillion (RMB 54 trillion) of public and private investment by 2020 (see Table 2 for the costs of select 13th FYP initiatives). In addition, the Chinese Academy of Social Sciences, a government think tank, estimated that pension funds, currently underfunded with low returns, could reach a cumulative shortfall of \$119.7 trillion (RMB 802 trillion) from 2014 to 2050.¹⁹⁶ Chinese provinces are already beginning to experience such shortfalls: in 2015, pension payouts exceeded contributions in six provinces (Heilongjiang, Liaoning, Jilin, Hebei, Shaanxi, and Qinghai).¹⁹⁷ In March 2016, Premier Li announced that to partially offset local governments' rising expenditures, there will be a 12.2 percent increase in central to local transfer payments and the central government's fiscal deficit will increase from \$238.8 billion (RMB 1.6 trillion) in 2015 to \$328.4 billion (RMB 2.2 trillion) in 2016, the highest deficit in six years.¹⁹⁸ Although the central government's efforts to raise funds are important, they are not enough; China's current fiscal system simply cannot fully finance the reform agenda.¹⁹⁹

Table 2: Expected Total Costs of Select Initiatives under the 13th FYP

Initiatives	Estimated Public and Private Sector Costs (2020)
Urbanization	\$6.3 trillion (RMB 42 trillion)
Healthcare	\$298.9 billion (RMB 2 trillion)
Clean Energy and Environmental Priorities	\$1.5 trillion (RMB 10 trillion)
TOTAL	\$8.1 trillion (RMB 54 trillion)

Note: Urbanization cost estimates are from 2014 to 2020. Healthcare expenditures are based on a study by the World Bank, Chinese government agencies, and Chinese researchers that calculated a 9.4 percent annual increase in real healthcare costs from 2015 to 2020 under a business-as-usual scenario.

Source: Amy He, "The World's Biggest Uprooting," *China Daily*, April 11, 2014; World Bank Group et al., "Deepening Health Reform in China: Building High-Quality and Value-Based Service Delivery," July 22, 2016, 14–15; and People's Bank of China and U.N. Environment Program, *Establishing China's Green Financial System: Report of the Green Finance Task Force*, April 2015, 5.

Fiscal Reform

The Chinese government is reforming its fiscal system to match responsibilities with revenue sources and to adjust tax distribution in order to create more reliable, stable sources of revenue for local governments, according to Yilin Hou, professor of public adminis-

tration and international affairs at Syracuse University.²⁰⁰ The 13th FYP reiterates the reform commitments outlined in the 2014 National Budget Law and the Third, Fourth, and Fifth Plenums.²⁰¹ But while current fiscal reforms have focused on restructuring existing debt obligations and clarifying central-local responsibilities, announced reforms are not creating new, sustainable sources of funding required for China's broader reform agenda.²⁰² Key developments in fiscal reform over the last year include:

- *Delineation of central-local tax collection and expenditure responsibilities:* In August 2016, the State Council released the *Guiding Opinions on Promoting Central-Local Fiscal Power and Expenditure Responsibilities Reform*, which seeks to delineate the tax collection and expenditure responsibilities of central and local governments. It set aside for central government financing: national defense, foreign policy, national security, immigration, highways for national defense, oversight over boundary waterways, national infectious disease response, national communications channels, usage of strategic natural resources, and safeguarding basic public services. Local governments will be responsible for providing public security, municipal transportation, rural roads, urban and rural community affairs and other functions with strong regional benefits, and information related to basic public services for local residents. Local and central governments will share expenditures for overlapping responsibilities such as environmental protection and public services (including basic pension, basic public healthcare, and compulsory education). Local governments will be able to issue government bonds and receive central government transfer payments to make up for any gaps in funding these areas of responsibility. In addition, provincial governments are to finance a greater share of municipal and village government expenditures. These reforms will be gradually implemented over the next five years beginning this year with fiscal reforms related to national defense, national security, foreign affairs, public security, and basic public services, and the roll-out of provincial governments' financial assistance to fiscally-strapped municipal and village governments. In 2017–2018, the Chinese government will gradually reform the fiscal system related to education, healthcare, environmental protection, and transportation. In 2019–2020, the Chinese government plans to finalize a clear delineation of central-local government tax powers and expenditure responsibilities.²⁰³
- *Roll-out of value-added tax (VAT) * completed:* On May 1, 2016, the State Administration of Taxation and the Ministry of Finance finished their nearly three-decades-long roll-out of the VAT by expanding the VAT to the construction, real estate, financial, and consumer services industries.²⁰⁴ The VAT re-

*VAT is calculated based on the difference between a good's price before taxes and its cost of production. The VAT will apply to imports as a withholding based on the nature of service provided; exports are generally exempt or roughly zero. KPMG, "China Tax Alert," Issue 9, March 2016.

places the “business tax”^{*} that created double taxation issues for the service sector.²⁰⁵ The service sector is expected to benefit from the \$77.3 billion (RMB 500 billion) reduction in taxes this year, boosting growth and facilitating China’s rebalance to more service-driven and consumption-led growth.²⁰⁶ At the same time, this transition will reduce government revenue by the same amount, placing additional strain on local government finances. Local governments relied on the business tax as one of their largest sources of revenue.²⁰⁷ To offset this loss, the central government has raised local governments’ share of VAT revenue from 25 percent to 50 percent.²⁰⁸

- *Expansion of debt-for-bonds swaps:* In June 2015, the Ministry of Finance launched a debt-for-bonds swap program that converted high-risk local government debt due in 2015 and 2016 to lower-yielding, longer-maturity municipal bonds.²⁰⁹ This program has been instrumental in preventing local government defaults and reducing their burden of repayments.²¹⁰ Since the program began, local governments have issued a total of \$925.4 billion (RMB 6.2 trillion) in swaps, according to analysis by the bond credit rating firm Moody’s.²¹¹ Moody’s further estimated that 29 of China’s 32 provinces have issued bonds to refinance 48 percent of their estimated debt due in 2016.[†] However, this policy only bides time. New sources of local government revenue need to be created to eventually pay off this debt and prevent such reckless borrowing in the future.²¹²
- *Renewed call for property tax:* Revenue from land use is finite, and Dr. Hou testified before the Commission that implementing a recurrent property tax[‡] will create the sustainable, long-term tax base that local governments need and slow the rise of housing prices by implementing a cost for owning a home.²¹³ The central government began calling for a property tax in 2003, but significant bureaucratic and logistical hurdles continue to stymie progress.²¹⁴ The first pilot property tax programs (in Chongqing and Shanghai municipalities) were launched in 2011 but generated low levels of revenue due to lax enforcement and widespread exemptions.²¹⁵ In March 2015, the Ministry of Land and Resources launched a nationwide property registration system that sets the stage for a nationwide property tax and expanded the crackdown on official corruption.²¹⁶ The 13th FYP repeats calls for a property tax, but the Chinese government has not announced any reforms despite a 2017 deadline for the National People’s Congress to enact a property tax.²¹⁷

^{*} Business tax is calculated based on the gross revenue of a business.

[†] At least 40 percent of the bonds issued in the first half of 2016 have maturities of seven years or more. Nicholas Zhu, “Regional and Local Governments—China: Key Factors Shaping Standalone Credit Strength,” August 24, 2016, *Moody’s Investors Service*, 8–9.

[‡] China’s current taxes on property and land include urban and township land use tax, the farmland occupancy tax, the deed tax, stamp duties, and a one-off property tax levied on the original purchase price or construction value net of 10–30 percent of value in urban areas. W. Raphael Lam and Philippe Wingender, “China: How Can Revenue Reform Contribute to Inclusive and Sustainable Growth?” *International Monetary Fund*, March 2015.

Financial Sector Reform

China's financial sector reforms aim to expand access and mobility of capital accounts,* increase the flexibility of its exchange rate, and build strong financial institutions. In the last year, the PBOC has made progress in banking sector reform with liberalized deposit rates, establishment of an explicit deposit insurance scheme, and opening of China's banking sector to private Chinese firms.²¹⁸ Mr. Polk in a meeting with the Commission in Beijing explained that in attempting to simultaneously defend its exchange rate, keep interest rates low, and open up capital accounts, the Chinese government is facing a classic economic policy trilemma.† As the ability to move capital in and out of China increases, Chinese citizens and investors will pursue higher returns abroad, placing pressure on China's currency to devalue.²¹⁹ To maintain the value of the RMB, the PBOC must use its foreign reserves to buy RMB. Facing significant capital outflows in 2015, the PBOC bought up RMB with its foreign exchange reserves to maintain demand, leading to a \$438.1 billion decline in foreign reserves; foreign reserves largely stabilized in the first eight months of 2016, dropping just \$45.7 billion to \$3.2 trillion.²²⁰ Furthermore, efforts to strengthen financial institutions, such as enhanced auditing and accounting standards, strong regulatory frameworks, and corporate governance—necessary to increase the liquidity of financial markets and attract foreign investors—have proceeded much more slowly.²²¹

The CCP remains unwilling to relinquish control over how laws and regulations are implemented, and its concerns over social stability have hindered efforts to impose hard borrowing constraints on bankrupt zombie‡ firms.²²² Instead, China is resurrecting the securitized debt market and debt-for-equity swaps to address its rising number of NPLs. According to James Daniel, José Garrido, and Marina Moretti, analysts at the IMF, these programs “are not comprehensive solutions by themselves—indeed, they could worsen the problem, for example, by allowing zombie firms to keep going.”²²³ A 2016 IMF report found the amount of off-balance-sheet borrowing, commonly known as shadow banking,§ grew 48 percent to reach around \$6 trillion (RMB 40 trillion) in 2015, equal to 58 percent of China's GDP and 40 percent of bank's corporate debt.²²⁴ Chinese banks, particularly smaller banks, accounted for 38 percent of this shadow lending due in part to banks repackaging NPLs as investment securities to avoid increasing their NPL levels.²²⁵

* Capital accounts encompass foreign direct investment, portfolio investments such as equities, and bank borrowing. M. Ayhan Kose and Eswar Prasad, “Capital Accounts: Liberalize or Not?” *International Monetary Fund*.

† Under the “trilemma,” also known as the “impossible trinity,” a government can maintain only two of the following three policies: (1) a fixed (or managed) exchange rate, (2) an independent monetary policy, or (3) free international capital flows. The United States maintains open capital markets and control over both the money supply and interest rates, but has relinquished control over the dollar exchange rate.

‡ A “zombie” company generates only enough revenue to repay the interest on its debt. Because banks are reluctant to take the losses from a write-down of this debt and apply forbearance, these indebted firms are given additional time to repay loans. Hugh Pym, “Zombie Companies Eating Away at Economic Growth,” *BBC*, November 13, 2012.

§ Shadow banking is lending—such as wealth management products, credit guarantees, entrusted loans, and peer-to-peer lending—that occurs outside of the official banking system. For more information on China's shadow banking sector, see U.S.-China Economic and Security Review Commission, Chapter 1, Section 3, “Governance and Accountability in China's Financial System,” in *2013 Annual Report to Congress*, November 2013, 113–152.

Approximately half of these unregulated products are at risk of default or loss, which could create liquidity challenges for China's financial system through the interbank market or high exposure of smaller Chinese banks.²²⁶ An assessment of major financial sector reforms finds the Chinese government has:

- *Liberalized deposit interest rates:* The Chinese government removed all formal interest rate controls in the fourth quarter of 2015, introducing market drivers into China's state-run banking sector.²²⁷ Competition to attract depositors will increase interest rates, and banks will need to raise their returns from loans to offset these higher costs.²²⁸ According to a 2016 report by the IMF, approximately 40 percent of bank loans carry an interest rate more than 10 percent higher than the benchmark rate, which should lead to better allocation of capital toward higher-yield, private sector investments.²²⁹
- *Reopened securitization market:* In May 2016, China reopened its securitized debt market, eight years after regulators closed the market at the onset of the global financial crisis. Securitization allows banks to sell NPLs to investors by repackaging them as securities or transferring them to special asset management companies.²³⁰ Wary of the risks associated with securitization, Beijing has opted to first test the approach through five state-owned banks* and the China Merchants Bank † with quotas for NPL-backed securities totaling \$7.7 billion (RMB 50 billion).²³¹ The first banks to participate, the Bank of China and China Merchants Bank, announced in May 2016 a plan to issue a combined \$79.7 million (RMB 534 million) worth of NPL-backed securities.²³² In July 2016, the Agricultural Bank of China announced it will be selling \$1.6 billion (RMB 10.7 billion) in NPL-backed securities, the largest sale under the pilot program.²³³ Beijing hopes NPL securitization can help improve bank balance sheets and generate liquidity, but purchasers of these securitized bad loans are largely other state-owned banks, which simply cycles these debts around different banks and other financial intermediaries within China.²³⁴
- *Debt-for-equity swaps:* In July 2016, the State Council approved the rollout of a program allowing banks to swap NPLs for equity stakes in indebted firms.²³⁵ In August 2016, Sinosteel Corporation, a central SOE, announced it will be converting half of its \$14.9 billion (RMB 100 billion) debt into three-year convertible bonds that will become equities in the fourth year.²³⁶ A similar program in 1999–2004 successfully removed \$60.4 billion (RMB 405 billion) of NPLs in exchange for stakes in 580 companies.²³⁷ But the debt-for-equity swap proposal does not solve China's debt problem because it allows

*These five state-owned banks are the Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China, and Bank of Communications. Charles Li and Nicholas Health, "Update 1-China Gives Six Banks Quotas for Bad Loan Securitization—Sources," Reuters, February 25, 2016.

† China Merchants Group, a state-owned firm, and its subsidiaries, owned 30 percent of China Merchants Bank shares as of December 2015. China Merchants Bank, "2015 Annual Results Announcement," March 30, 2016, 111.

failing firms to stay operational when they should be shutting down. According to Dr. Prasad, “The program amounts to a sleight of hand that beautifies bank balance sheets but hardly comes to grips with the basic problems of bad loans, distorted incentives in the banking and state enterprise systems, and weak financial regulation.”²³⁸

Capital Controls

The Chinese government maintains an extensive capital control regime that limits the ability of domestic and foreign firms to move capital in and out of China. According to the IMF, as of 2014 China had restrictions on 14 out of the 15 measures of capital inflow openness and 15 out of 16 measures of capital outflow openness.²³⁹ These policies have channeled China’s high household savings into its state-directed banks at the expense of efficient allocation of capital. Over the last decade, the Chinese government has incrementally loosened its controls on the exchange rate and capital flows, but many restrictions remain in place.²⁴⁰ The government fears eliminating these controls too quickly could create monetary, currency, and banking crises, as it has done in other developing countries, but maintaining capital controls hinders efficient allocation of capital and prevents the internationalization of the RMB.²⁴¹ (For more information on China’s exchange rate policies, see Chapter 1, Section 1, “Year in Review: Economics and Trade.”) Key reforms undertaken in the last year include:

- *Widened foreign access to interbank bond market:* Created in 2010, China’s interbank bond market—the third-largest in the world—allows foreign firms and central banks to buy and sell corporate and government bonds.²⁴² In July 2015, the PBOC permitted foreign central banks and sovereign wealth funds access to the bond market without quotas or prior approval,²⁴³ and in April 2016, it removed limits on the size of investment and the ability to remit funds in and out of China.²⁴⁴ In February 2016, the PBOC expanded access to most qualified foreign institutional investors (QFIIs) such as commercial lenders, insurance banks, securities firms, asset managers, and pension and charity funds.²⁴⁵ This opening is a step forward toward capital account convertibility and an effort by the Chinese government to widen the pool of investors and leverage foreign capital, but overall usage remains limited due in part to the rising number of bond defaults.²⁴⁶
- *Loosened capital accounts:* Over the last two decades, the Chinese government has gradually loosened its capital controls to promote the RMB as an international currency and set the stage for China’s emergence as a key player in the global financial market.²⁴⁷ Since 2010, the China Securities Regulatory Commission and State Administration of Foreign Exchange have incrementally expanded the qualified domestic institutional investor (QDII) and QFII schemes that allow greater capital flows while maintaining government control through

quotas, approvals, and ceilings.* In February 2016, the State Administration of Foreign Exchange further loosened QFII restrictions by easing filing procedures for quotas and restrictions on remitting funds in and out of China.²⁴⁸ While the Chinese government has expanded the quota and relaxed restrictions on capital mobility, additional reforms are necessary to entice greater foreign investment.²⁴⁹ Less than 2 percent of A-shares † are foreign owned.²⁵⁰ In June 2016, the U.S.-based stock market index provider MSCI once again delayed inclusion of China's A-shares into its Emerging Markets Index, citing concerns over the suspension of stock trading during last year's stock crisis, ‡ limitations on capital mobility, and the 20 percent monthly repatriation cap.²⁵¹ Beyond the partial opening of access, foreign and domestic investors remain concerned about "weak corporate governance, limited transparency, weak auditing standards, and shoddy accounting practices" in firms listed on China's stock markets.²⁵²

- *Promoted the internationalization of the RMB:* § Dr. Prasad explained that the Chinese government encourages the international use of the RMB by promoting the settlement of trade transactions with the RMB, allowing the issuance of nearly \$400 billion worth of RMB-denominated bonds in Hong Kong, and permitting select banks to offer offshore RMB deposit accounts.²⁵³ The PBOC has established bilateral swap arrangements with 34 other central banks and also sanctioned 17 offshore financial centers outside Hong Kong and Macau.²⁵⁴ In November 2015, the IMF executive board approved the expansion of the Special Drawing Rights basket to include the RMB beginning in October 2016.²⁵⁵ According to Dr. Prasad, the rising prominence of the RMB will gradually erode the dollar's dominant role as a unit of account for international trade transactions and medium of exchange for settling cross-border financial transactions, but will not seriously challenge the dollar's dominant reserve currency status.²⁵⁶ Nevertheless, the RMB is still only the fifth most active currency for global payments and accounts for 1.9 percent of global payments as of July 2016, compared with the U.S. dollar at 41.3 percent and the euro at 31.3 percent.²⁵⁷

* For background on the QDII and QFII, see Nargiza Salidjanova, "The RMB's Long Road to Internationalization," *U.S.-China Economic and Security Review Commission*, September 22, 2014; and Eswar S. Prasad, "China's Efforts to Expand the International Use of the Renminbi," (prepared for the U.S.-China Economic and Security Review Commission), February 4, 2016, 82–89.

† China's A-shares are RMB-denominated equities that can be purchased and traded on China's Shanghai and Shenzhen stock exchanges. Previously restricted to domestic Chinese investors, foreign investors since 2002 have been gradually allowed access to the "A" shares through the QFII, RMB qualified institutional investors (RQFIIs), and Shanghai-Hong Kong Stock Connect. Eswar S. Prasad, "China's Efforts to Expand the International Use of the Renminbi," (prepared for the U.S.-China Economic and Security Review Commission), February 4, 2016, 47–51.

‡ For more information on China's stock market instability, see Nargiza Salidjanova, "China's Stock Market Meltdown Shakes the World, Again," *U.S.-China Economic and Security Review Commission*, January 15, 2016; and Nargiza Salidjanova, "China's Stock Market Collapse and Government's Response," *U.S.-China Economic and Security Review Commission*, July 13, 2015.

§ For more information on RMB internationalization, see Eswar S. Prasad, "China's Efforts to Expand the International Use of the Renminbi," (prepared for the U.S.-China Economic and Security Review Commission), February 4, 2016.

Implications for the United States

The 13th FYP lays out an ambitious economic and social reform agenda to reorient China's economy toward more sustainable economic drivers: domestic consumption and services. If implemented, China's focus on improving the quality of its public services, reducing its environmental footprint, and opening up the service sector provides numerous opportunities for U.S. businesses and opens avenues for U.S.-China bilateral cooperation. But the Chinese government's continued commitment to state-led economic growth is a growing challenge for U.S. and foreign firms seeking to both enter China's market and compete with its state-supported firms abroad. Furthermore, failure to implement politically difficult reforms could ensnare China's economy in a cycle of low growth, dampening global economic prospects and limiting commercial opportunities for U.S. firms.

China's push for urbanization creates new opportunities for domestic and potentially U.S. and other foreign firms in healthcare, services, transportation, and water and wastewater projects—provided these firms have market access. For example, growing Chinese demand for better healthcare could benefit U.S. pharmaceutical, hospital, and insurance firms, according to testimony from Yanzhong Huang, senior fellow for global health at the Council on Foreign Relations and professor at Seton Hall University.²⁵⁸ China's pharmaceutical market is the world's second largest after the United States and is forecast to nearly double from \$105 billion in 2014 to \$200 billion by 2020.²⁵⁹

However, U.S. and other foreign biopharmaceutical firms have raised concerns about the treatment they receive in China, including forced technology transfers, lack of patent protection, long delays in approval of pharmaceutical products, and preferential treatment toward domestic firms and China-manufactured drugs.²⁶⁰ For instance, U.S. biopharmaceutical firms maintain a competitive advantage in terms of size, technology, and R&D investment, but this sector has been identified by the Chinese government as a strategic emerging industry under the 12th FYP and a priority in the 13th FYP.²⁶¹ To support this industry, the Chinese government has provided subsidies for domestic firms ranging from preferential loans to tax breaks on land and capital investments, disadvantaging U.S. and other foreign competitors.²⁶² In addition, China's push for greater localization, a large and qualified talent pool of scientists, and lower operational costs may lead U.S. biopharmaceuticals and medical devices firms to outsource their production to China, eroding U.S. employment in the long run.²⁶³

The enormous growth in China's consumer spending could benefit the U.S. service sector, which in 2014 comprised 80 percent of the U.S. economy, employed 80 percent of the U.S. workforce, and accounted for 30 percent of U.S. exports.²⁶⁴ The degree to which reforms open up China's service sector will determine the overall benefit for U.S. firms and the economy. For instance, the Chinese government's efforts to address its environmental degradation and shift toward a greener economic model may present opportunities for U.S. environmental technology and service firms, which employed around 1.6 million people and exported \$51.2 billion worth

of goods and services in 2015.²⁶⁵ But China maintains “persistent and prohibitive” market barriers for foreign environmental technology firms, such as technical barriers and preferential treatment toward domestic firms.²⁶⁶

As the previous examples indicate, although China’s economic transition presents opportunities, U.S. firms operating in and exporting to China face multiple obstacles, including intellectual property theft, strict market entry criteria, opaque regulations, compulsory joint ventures, and China-specific technical regulations, according to the USTR’s 2015 review of China’s compliance with its World Trade Organization (WTO) obligations.²⁶⁷ The Chinese government continues to control market access with foreign investment restrictions and regulations to create a protected environment for domestic firms, forcing U.S. businesses to shift production and transfer technology and know-how to Chinese competitors.²⁶⁸ U.S. service industries such as healthcare, insurance, financial services, and express delivery services, which could capitalize on demand from China’s growing middle class, continue to face significant market access barriers due to caps on foreign equity, branching restrictions, informal bans on entry, and high capital requirements.²⁶⁹ In addition, the Chinese government requires U.S. automobile and aviation firms to form joint ventures with Chinese competitors and outsource a portion of their manufacturing facilities and supply chains to China as a price of market entry. While outsourcing production may allow for higher exports and sales growth of the parent company, these policies have displaced U.S. workers and may erode U.S. competitiveness and technological advantage going forward.²⁷⁰

The loss of U.S. aerospace and semiconductor production has already reduced the U.S. workforce. From January 2005 to August 2016, the U.S. Department of Labor’s Trade Adjustment Assistance has supported 24,272 former aircraft manufacturing workers and 41,521 former workers in the semiconductor industry that have lost their job due to global trade.* Moreover, the loss of production could undermine the ability of the United States to maintain the most technologically advanced military. According to Brigadier General John Adams, U.S. Army (Ret.), dependence on imports for use in military technologies increases the risk of foreign exploitation and vulnerability to domestic and foreign supply constraints.²⁷¹ For example, the use of imported semiconductors, which are a vital component in many U.S. military platforms and

*A further breakdown of which country these jobs went to is unavailable. The estimated number of workers covered by certified petitions from January 2005 to August 2016 for total aircraft manufacturing workers includes: 14,627 in aircraft manufacturing (NAICS code 336411), 3,570 in aircraft engine and engine parts manufacturing (NAICS code 336412), and 6,075 workers in other aircraft parts and auxiliary equipment manufacturing (NAICS code 336413). The estimated number of workers covered by certified petitions for semiconductor manufacturing jobs includes: 6,473 workers in semiconductor machinery manufacturing (NAICS code 333242) and 35,048 workers in semiconductor and related device manufacturing (NAICS code 334413). U.S. Department of Labor, *36411—Aircraft Manufacturing: Petitions Filed and Decisions Rendered between 1/1/2005 and 8/31/2016*; U.S. Department of Labor, *336412—Aircraft Engine and Engine Parts Manufacturing: Petitions Filed and Decisions Rendered between 1/1/2005 and 8/31/2016*; U.S. Department of Labor, *336413—Other Aircraft Parts and Auxiliary Equipment Manufacturing: Petitions Filed and Decisions Rendered between 1/1/2005 and 8/31/2016*; U.S. Department of Labor, *333242—Semiconductor Machinery Manufacturing: Petitions Filed and Decisions Rendered between 1/1/2005 and 8/31/2016*; and U.S. Department of Labor, *334413—Semiconductor and Related Device Manufacturing: Petitions Filed and Decisions Rendered between 1/1/2005 and 8/31/2016*.

weapons, opens the U.S. military to counterfeit chips, sabotage, and disruptions in the global supply chain.²⁷² He further argues the loss of domestic production erodes U.S. institutional and technological know-how and the ability to design and commercialize emerging defense technologies.²⁷³

Beyond constricting the commercial opportunities for U.S. firms, the Chinese government's Made in China 2025 and Internet Plus initiatives and other industrial policies are attempting to replace U.S. firms with domestic firms and technology both in China and abroad. These two initiatives reinforce preferential support for domestic firms and redouble state-directed investment into building leading-edge R&D and domestic production capacity, targeting sectors where the United States is currently the global leader, such as biotechnology and semiconductors. The scale and volume of resources the Chinese government has directed to expanding domestic production capacity in designated sectors is creating economic and national security concerns for United States.

Strong Chinese government support for domestic steel and aluminum firms and more recently solar and wind industries*—designated as strategic emerging industries under the 12th FYP—created overcapacity and distorted global markets, contributing to falling international prices, revenue losses, and layoffs at U.S. competitors.²⁷⁴ China's Ministry of Industry and Information Technology's creation of the nearly \$110 billion national and regional IC funds represents an unprecedented scale of financial support to build China's domestic semiconductor fabrication capacity.²⁷⁵ Center for Strategic and International Studies researchers Chris Johnson and Scott Kennedy warned that "if China does not properly manage the scale of its investment, it could do for semiconductors and other high-tech sectors what it has done for steel and to some extent aluminum."²⁷⁶

China's financial system is largely disconnected from the global financial system due to its tight capital controls, so U.S. exposure to China's banking system and securities and bonds markets remains low. In the first quarter of 2016, China's share of U.S. banking assets from the four largest U.S. banks accounted for less than 1 percent of their consolidated assets (see Table 3). According to the U.S. Department of the Treasury, China accounted for \$107.8 billion (or 1.1 percent) of total U.S. government and private sector holdings of foreign securities at the end of December 2015 (latest available): \$103.1 billion in equities, \$3 billion in long-term debt securities, and \$1.6 billion in short-term securities.²⁷⁷ Capital controls and the RMB's small share of global trade ensure that China's bond market has little regional or international impact.²⁷⁸

*For in-depth analysis of China's wind and solar policies, see Jacob Koch-Weser and Ethan Meick, "China's Wind and Solar Sector: Trends in Deployment, Manufacturing, and Energy Policy," *U.S.-China Economic and Security Review Commission*, March 9, 2015.

Table 3: Exposure of Four Largest U.S. Banks to China, First Quarter of 2016

U.S. Bank	Exposure to China (US\$ billions)	Consolidated Assets (US\$ billions)	China's Share
J.P. Morgan	14.4	2,015.7	0.7%
Wells Fargo	1.4	1,667.8	0.1%
Bank of America	10.0	1,653.9	0.6%
Citigroup	17.9	1,342.6	1.3%
TOTAL	43.7	6,680.0	0.7%

Note: Exposure includes loans, investment securities, and trading and investments. Ranking of four-largest banks based on Federal Reserve ranking of U.S.-chartered commercial banks by consolidated assets as of March 31, 2016.

Source: J.P. Morgan, "Form 10-Q," March 31, 2016; Wells Fargo and Company, "Form 10-Q," March 31, 2016, 25; Bank of America, "Form 10-Q," May 2, 2016, 88; Citigroup, "Form 10-Q," 82; and Federal Reserve of the United States, "Insured U.S.-chartered Commercial Banks That Have Consolidated Assets of \$300 Million or More, Ranked by Consolidated Assets as of March 31, 2016," March 31, 2016.

Limited direct U.S. exposure aside, the impact of China's slowing growth and economic reforms on trade, commodities demand, and investor confidence is affecting global financial markets.²⁷⁹ Given China's close trade ties with the rest of Asia, investors shift capital in and out of the region based on their expectations of China's economic health. Changes in China's economic growth and reform agenda can lead to shocks in U.S. and Asian stock markets.²⁸⁰ Steps toward loosening capital controls and promoting the internationalization of the RMB are increasing China's presence in the international financial system, deepening China's financial linkages with the rest of the world.²⁸¹ More global investors are able to invest in China's stock and bond markets, and more Chinese investors are able to invest internationally. As the Chinese government continues to loosen capital controls, the pool of Chinese investors widens and will shift investments away from U.S. Treasury bonds, preferred by Chinese government investors, toward higher-return investments.²⁸² The rising importance of the Chinese economy combined with the Chinese government's promotion of the RMB as an international currency may gradually erode the dollar's dominant role as a unit of account for international trade and cross-border financial transactions. At present, however, the RMB does not pose a serious challenge to the U.S. dominant reserve currency status.²⁸³

Conclusions

- The 13th Five-Year Plan (FYP) (2016–2020) seeks to address China's "unbalanced, uncoordinated, and unsustainable growth" and create a "moderately prosperous society in all respects" through innovative, open, green, coordinated, and inclusive growth. This agenda strengthens the Chinese Communist Party's and Chinese government's roles in managing the economy while allowing a greater role for markets to determine the allocation of resources in some sectors of the economy.
- The success of the 13th FYP agenda hinges on the Chinese government's willingness to make politically difficult tradeoffs between contradictory policy objectives, overcome entrenched inter-

ests, and allow for greater volatility. While senior leadership has repeatedly reiterated its commitment to enacting reforms, it remains averse to the market volatility and social instability that reforms create.

- The Chinese government is increasing urbanization, expanding public services such as healthcare and education, and pursuing limited reforms to its household registration system to alleviate poverty, boost domestic consumption, improve quality of life, and create new drivers of economic growth. This transition is fueling enormous demand in urban infrastructure and services, but strict market entry criteria, opaque regulations, compulsory joint ventures, and China-specific technical regulations limit the market opportunities for U.S. and other foreign firms in China.
- The Chinese government is building on its success under the 12th FYP to reduce greenhouse gas and air pollution and address the more technically difficult soil and water contamination under the 13th FYP. In 2016, the Ministry of Environmental Protection stepped up enforcement of its environmental standards—a key weakness of environmental reform efforts under the 12th FYP—through its new authority to conduct random inspections of provincial and municipal governments and its expansion of national, real-time monitoring systems.
- China's renewed focus on indigenous innovation and creation of globally competitive firms in key emerging industries, such as integrated circuits, biomedicines, cloud computing, and e-commerce, targets sectors in which the United States is a global leader. Continued preferential government treatment and financial support of state-owned enterprises and designated industries have lowered these firms' cost of capital and production, creating a competitive advantage over U.S. and other private firms both within China and abroad.
- The 13th FYP requires an estimated \$8.1 trillion (RMB 54 trillion) of public and private capital just to fund portions of its agenda focused on urbanization, healthcare, and clean energy and environmental remediation. To attract sufficient investment, the Chinese government is pursuing fiscal reform, encouraging public-private partnerships, increasing its government debt, and loosening capital controls. Despite repeated pledges to allow the market to play a bigger role, the Chinese government continues to reinforce the state's central role in the economy. In addition, fiscal and financial reforms have yet to impose discipline and hard budget constraints on borrowers.

Addendum I: Key Targets in China's 12th, and 13th FYPs*

Target	2010 (Actual)	12th FYP (2015 Target)	2015 (Actual)	13th FYP (2020 Target) [Average Annual Rate]
GDP+	—	—	6.77 billion RMB	>9.27 billion RMB (E)
Average GDP Growth	11.2%	7% (E)	7.8%	>6.5% (E)
Service Sector as % of GDP	43%	47% (E)	50.5%	56% [5.5%] (E)
Overall Labor Productivity (RMB/person)+	—	—	87,000	>120,000 [>6.6%] (E)
Urbanization				
<i>Urbanization Rate (%)</i>	47.5%	51.5% (E)	56.1%	60% [3.9%] (E)
<i>Urban Hukou Household Registration Rate+</i>	—	—	39.9%	45% [5.1%] (E)
R&D as % of GDP	1.75%	2.2% (E)	2.1%	2.5% [0.4%] (E)
Patents per 10,000 People	1.7	3.3 (E)	6.3	12 [5.7%] (E)
Contribution of Science and Technological Advances to Economic Growth+	—	—	55.3% (E)	60% [4.7%] (E)
Fixed Broadband Household Penetration Ratio+	—	—	40%	70% [30%] (E)
Mobile Broadband Sub- scriber Penetration Ratio+	—	—	57%	85% [28%] (E)
Population Cap	1.341 billion	1.39 billion (B)	1.375 billion	—
Average Life Expectancy	73.5	74.5 (E)	76.34	[1 year] (E)
Rate of Nine-Year Compulsory Education Enrollment	89.7%	93% (B)	93%	—
Rate of High School Enrollment	82.5%	87% (E)	87%	—

*In this table, all targets followed by a + next are new and were introduced for the first time in the 13th FYP. All binding targets are marked with a (B), and expected targets an (E). Binding targets are incorporated into the CCP's evaluation criteria for government officials at every level, while expected targets (such as GDP growth) are either given less weight or not included into the CCP evaluation criteria. U.S.-China Economic and Security Review Commission, *Hearing on China Ahead of the 13th Five-Year Plan: Competitiveness and Market Reform*, written testimony of Oliver Melton, April 22, 2015, 5.

Addendum I: Key Targets in China's 12th, and 13th FYPs—*Continued*

Target	2010 (Actual)	12th FYP (2015 Target)	2015 (Actual)	13th FYP (2020 Target) [Average Annual Rate]
Average Years of Education of the Working Population+	—	—	10.23 years	10.8 years [0.57%] (B)
New Urban Jobs Created (5-year total)	57.71 million	45 million (E)	64.31 million	>50 million (E)
Urban Registered Unemployment Rate	4.1%	Under 5%	4.05%	—
Average Growth of Per Capita Disposable Income+	—	—	—	>6.5% (E)
Urban Annual Per Capita Disposable Income (RMB)	19,109 (+9.7%)	>26,810 (>+7%) (E)	7.7%	—
Rural Annual Per Capita Income (RMB)	5,919 (+8.9%)	>8,310 (>+7%) (E)	9.6%	—
Reduce the Number of Rural Residents Living in Poverty+	—	—	—	55.75 million (B)
Basic Retirement Insurance Coverage Rate+	—	—	82%	90% [8%] (E)
Urban Population with Basic Retirement Insurance	257 million	357 million (B)	377 million	—
Working and Non-working Urban and Rural Cooperative Health Care Coverage	—	3% (B)	>3%	—
Construction of Affordable Urban Housing	—	36 million housing units (B)	40.13 million housing units	—
Renovation of Urban Shantytowns+	—	—	—	20 million housing units (B)
Reduction in Energy Intensity per Unit of GDP	19.1%	16% (B)	18.2%	15% (B)
Air Quality+				

Addendum I: Key Targets in China's 12th, and 13th FYPs—Continued

Target	2010 (Actual)	12th FYP (2015 Target)	2015 (Actual)	13th FYP (2020 Target) [Average Annual Rate]
<i>Ratio of Good Air Quality Days in Cities at the Prefecture Level or Above+</i>	—	—	76.7%	>80% (B)
<i>Reduction in the PM_{2.5} Concentration that Exceeds 35 Micrograms per Cubic Meter in Cities at the Prefecture Level or Above+</i>	—	—		18% (B)
Surface Water Quality*+				
<i>Percent of Water Meeting or Exceeding Class III Level+</i>	—	—	66%	>70% (B)
<i>Percent of Water Exceeding the Class V Level+</i>	—	—	9.70%	<5% (B)
Increase of Water Efficiency Coefficient in Agricultural Irrigation	0.5	0.53 (E)	0.532	—
Reduction of Water Consumption per Unit of Industrial Value Added	36.7%	30% (B)	35%	—
Reduction in the Water Consumption per 10,000 RMB of GDP+	—	—	—	23% (B)
Farmland Reserves	121.2 million hectare	121.2 million hectare (B)	124.3 million hectare	124.3 million hectare [0%] (B)
Land Use for New Construction †+	—	—	—	<2.14 million hectares
Forest Development				
<i>Forest Coverage</i>	20.36%	21.66% (B)	21.66%	23.04% [1.38%] (B)

*The Ministry of Environmental Protection classifies surface water into five categories based on toxicological indicators such as chemical oxygen demand, ammonia, mercury, lead, etc. Class I and II can be used as drinking water. Liu Hongqiao, "Who Is Responsible for China's Water?" *ChinaDialogue*, October 4, 2015. For a complete list of these categories, see Ministry of Environmental Protection, *National Standards of the People's Republic of China*, GB3838–2002.

†This binding target is seeking to increase the efficiency of new urban construction by raising population and economic density. Ministry of Land and Resources, *NPC and CPPCC Delegates Passionately Discuss the 13th Five-Year Plan Draft*, March 13, 2016. Staff translation.

Addendum I: Key Targets in China's 12th, and 13th FYPs—Continued

Target	2010 (Actual)	12th FYP (2015 Target)	2015 (Actual)	13th FYP (2020 Target) [Average Annual Rate]
<i>Forest Stock</i>	13.7 trillion cubic meters	14.3 trillion cubic meters	15.1 trillion cubic meters	16.5 trillion cubic meters [14%] (B)
Reduction in Carbon Emissions per Unit of GDP	—	17% (B)	20%	18% (B)
Nonfossil Fuel as a Per- cent of Primary Energy Consumption	8.3%	11.4% (B)	12%	15% [3%] (B)
Reduction of Emission of Major Pollutants				
<i>Reduction in Chemical Oxygen Demand (COD)</i>	—	8% (B)	12.9%	10% (B)
<i>Reduction in Sulphur Dioxide (SO₂)</i>	—	8% (B)	18.0%	10% (B)
<i>Reduction in Ammonia Nitrogen</i>	—	10% (B)	13.0%	15% (B)
<i>Reduction in Nitrous Oxides</i>	—	10% (B)	18.6%	15% (B)

Source: People's Republic of China, *12th Five-Year Plan on National Economic and Social Development*, March 16, 2011. Staff translation; People's Republic of China, *13th Five-Year Plan on National Economic and Social Development*, March 17, 2016. Staff translation.

RECOMMENDATIONS

China's 13th Five-Year Plan

The Commission recommends:

- Congressional committees of jurisdiction hold hearings to:
 - Analyze the impact of China's state-directed plans such as the Made in China 2025 and Internet Plus on U.S. economic competitiveness and national security, and examine the steps Congress can take to strengthen U.S. high-tech and high-value-added industries such as artificial intelligence, autonomous vehicles and systems, and semiconductors.
 - Ensure that U.S. government agencies such as the U.S. Department of Treasury, U.S. Department of Commerce, and the Office of the U.S. Trade Representative have sufficient personnel, funding, and Chinese-language capabilities to examine China's economic and trade policies and China's compliance with their bilateral and multilateral commitments, including the World Trade Organization.
 - Examine U.S. access to China's domestic market, particularly for services and high-tech sectors. This hearing should assess how U.S. government agencies such as the U.S. Department of Commerce and the Office of the U.S. Trade Representative are seeking to increase market access for U.S. firms and explore what additional policy options could be pursued.
- Congress direct the U.S. Department of the Treasury to prepare a report analyzing U.S. exposure to China's financial sector and the impact of China's financial sector reforms on the U.S. and global financial systems. This report should also identify the policies the U.S. government is or should be adopting to protect U.S. interests in response to this changing environment.

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