# China's Economy Bounces Back, But to Which Growth Path?

**David Dollar**

**Fall 2020 Issue 65**
**Tuesday September 1, 2020**

China is leading the major economies in recovery from the COVID-19 pandemic and recession. But for a variety of reasons there is unlikely to be a quick "V-shaped" recovery back to the old growth path. Prolonged global weakness plus the U.S.-China trade war mean that exports will not play the same role as they did in the past. The buildup of debt to risky levels also sets limits on the role that investment will play. Furthermore while uncertain at this moment, there is a good chance that people will be more cautious about many activities even after a vaccine is developed, so it is likely that private consumption will be lower than it was on the previous growth path. China can turn all of these factors to its advantage, but it will take an acceleration of reform to do so. Particularly important will be new trade agreements, financial sector reform, and expansion of social services to migrants.

China's economic growth plummeted from 6.0 percent in the fourth quarter of 2019 to –6.8 percent in the first quarter of 2020—a breath-taking drop in activity. This was the economy's response to the COVID-19 pandemic, with most factories, offices, and retail establishments closed for a month. The lockdown, coupled with the recipe for testing, tracing, and isolation, brought the virus under control (recognizing that it will not be fully under control until a reliable vaccine is developed and distributed worldwide). Starting in March, the economy began to bounce back, and in many ways the recovery has been faster in China than it has been in other major countries. But a key question remains—to which growth path is the economy bouncing back?

The next section of this essay examines the immediate recovery of the economy during mid-2020. The remainder of the essay focuses on potential long-term changes occasioned by the pandemic. There is tremendous uncertainty at the moment about the path of both the virus and the economy. But I argue that it is unlikely that China will return to its former growth path. Also, because that path was unsustainable it is not necessarily a bad thing that the growth model will be adjusted. The crisis creates an opportunity to implement reforms that will enhance the welfare of the Chinese people, have spillover benefits for the rest of the world, and make Chinese growth more sustainable.

What are the likely long-term effects of the pandemic on China's growth model? First, in the short run, China will certainly be less export-dependent. The rest of the world was hit by the virus later than China and thus will recover later, so for the moment there is depressed demand for Chinese exports and they cannot be a leading force for recovery. Also, it is difficult to separate the virus from the U.S. trade war, which is continuing and likely to escalate. Hence, in the future it is likely that there will be less trade and investment back and forth between China and the U.S. China can mitigate the effect of a trade war to some extent by signing new trade and investment agreements with other countries, as it has done recently with the Regional Comprehensive Economic Program. China is likely to be less connected to the U.S. economically, but if it pursues liberalization with partners in Europe, Asia, and Africa, it does not have to be less integrated into the global economy.

A second likely change in the growth model is that it will be less investment-dependent. China has built up very high leverage in its economy, a sign that the big lending spree since the global financial crisis included many bad projects, which now have turned into bad loans that threaten the stability of the financial system. The pandemic increases the risk of a financial crisis because some otherwise sound businesses will go under, leaving more bad debts. It is interesting that China has been very muted in its fiscal and monetary response to the downturn, a reflection of lack of headroom to expand lending. To control these risks, reforms in the financial system are needed to open up financial services to more competition and flexibility of interest rates. The growth of credit will have to be slower than it has been in the recent past, and this means that allocating credit will be important if China is to maintain a healthy growth rate.

Finally, the pandemic has exposed weaknesses in China's safety net, especially for the nearly 300 million migrant workers, 200 million of whom do not have fair access to public services in health, education, and pensions. China is entering a demographic phase in which the elderly population will increase dramatically while the labor force will shrink. Most of the elderly live in the countryside, often as their grown children work elsewhere. Mobility is constrained by the *hukou* system as well as by access to healthcare and the portability of pensions. Given what is likely to be a persistent shortfall in demand, this is a good moment to expand public resources for social services and to unify the urban and rural systems.

## China's Uneven Recovery

The initial spread of COVID-19 had a devastating effect on the Chinese economy. Officials suppressed information about the disease for 2–3 weeks in January while, ironically, economic activity continued at a rapid pace. But once the authorities acknowledged the dangerous spread of the disease and locked down Wuhan city and several other cities in Hubei province, the economy ground to a halt. Since this was playing out during Spring Festival, it was easy for factories, schools, and offices to remain closed beyond the normal holiday period.

GDP, which is always reported on a quarterly basis, is a highly imperfect measure of the economy, and in the case of China, there is always suspicion about official numbers. Fortunately, there are growing independent sources of micro-data that can supplement what we know from GDP statistics. These data tell a consistent story of a steep drop in activity in February followed by a gradual recovery beginning in March. For example, the Transportation Congestion Index for 100 cities shows that the drop in car traffic during the Chinese New Year, which is normal, continued on for four weeks after the holiday. In mid-February the index was down 21 percent from the previous year, but by mid-March the gap had narrowed to 11 percent. In mid-February, coal use by five big power groups in the coastal provinces was down to one-third of the pre-virus level, but by end-March, it was back up to two-thirds of the pre-crisis level. However, SMEs did not fare as well. A big data study of SME revenue by the PBC School of

Finance at Tsinghua University finds that even at the end of March revenue was down by about 60 percent compared to the previous year.[1]

Using the historical relationship between high-frequency data and official GDP growth numbers, an independent analyst, Yicai Global, uses a variety of indicators to formulate a real-time estimate of GDP growth. According to the Yicai Index, GDP growth was normal in January, but then in February it plummeted to a rate nearly –20 percent compared to that in the previous year. GDP growth was still negative in March, though less so than in February. For the quarter, the index averaged –6.7 percent, similar to the official number of –6.8 percent. In Q2 the Yicai Index showed growth rates of –4.4 percent in April, 0.6 percent in May, and 1.4 percent in June.[2] In other words, China's economy is gradually returning to positive growth. The official GDP number for Q2, 3.2 percent,[3] is a bit higher than expected based on the micro-data, but it is plausible that this is because so much of the rebound was concentrated in construction.

What comes through from all the data sources is that the recovery is uneven across sectors and firm types (and probably across locations, though it is difficult to determine that in real time). The downturn hit firms in both manufacturing and services. Initially, it seemed that manufacturing would recover first. It was easier to get workers back to factories than back to offices, restaurants, and retail establishments. The Purchasing Manager Index (PMI) for manufacturing jumped in March, and China actually had one good month of exports in April, probably because of pent-up demand, the need for medical supplies, and the fact that China was recovering just as other parts of the world economy were falling into recession. In May and June, however, manufacturing was weak, especially exports (see below), whereas the non-manufacturing sectors were recovering. The decline in exports is a "second shock" indicating that during a severe global recession China cannot expect exports to come to its rescue. It will have to rely on domestic demand. The June PMIs saw non-manufacturing (54.4) expanding much more rapidly than manufacturing (50.9).[4]

Manufacturing and services are very broad categories and within each there is sharp differentiation. The auto industry, which caters to domestic demand, is enjoying a mini-boom based on pent-up demand and a reluctance to return to public transport: auto sales in the second quarter were up 10.4 percent from the previous year. Traffic (unfortunately) is back to normal, whereas metro ridership as of May was only 65 percent of the pre-virus levels in Beijing and 73 percent of the pre-virus levels in Shanghai.[5] Travel among provinces and cities by air and rail is down sharply as are entertainment, hotels, and restaurant meals. In contrast, delivery services and construction are booming. The latter reflect both recovery of the housing market (apartment sales are back to normal) as well as the government stimulus aimed at infrastructure projects. Curiously, China has applied much less stimulus than the advanced economies, primarily out of concern for the already high level of debt in the economy.[6] The U.S., Japan, and Germany are all implementing 10 percent or more of GDP in a fiscal stimulus, whereas China is applying half that amount. Still, it is a significant stimulus compared to its 2019 fiscal policy. In addition to loans for infrastructure, China is spending more on healthcare while taking in less tax revenue, so its on-budget deficit will rise significantly this year.

China's growth rate for the year will be a low, positive number—a combination of the recession in the first half of the year and the recovery in the second half that has been uneven across sectors. As a whole, during the first half China's GDP contracted 1.6 percent. The June IMF forecast for this year is growth of 1.0 percent.[7] Respected UBS economist Wang Tao predicts a more recent and upbeat forecast of 2.5 percent.[8] At the May National People's Congress (NPC), the leadership wisely did not set an official target; it is more important to get the virus under control (the recent mini-outbreaks in the Northeast, Beijing, and Xinjiang are reminders that the virus will not be fully controlled until there is a reliable vaccine). The NPC speeches also emphasized the prioritization of employment over GDP growth. At this moment, the forecasts for a low positive number appear to be about right. The IMF also sees a strong rebound into 8.2 percent growth in 2021.[9] Nevertheless, there is huge uncertainty about such estimates because the virus could always come back with a vengeance and/or the severity of the global recession could be more serious than anticipated. The IMF forecast numbers for China are much more positive than its forecasts for the other major economies. The U.S. is looking at an 8 percent decline this year, followed by a tepid rebound to 4.5 percent in 2021.[10] If these numbers are right, by the end of 2021 the Chinese economy will be 10 percent larger than it was during the pre-virus period and the U.S. economy will be 4 percent smaller.

**External Economic Relations Shift Away from the U.S.**

An important question for China is how the coronavirus will affect its trade and external economic relations. In the short run, China's trade will decline, and it will not be able to rely on exports to spur its recovery. But a more important question is whether in the longer term China will pursue greater integration or greater isolation with the global economy. In this area, it is impossible to separate the impact of the virus from the U.S.-China trade war. During the two years before the virus hit, the U.S. imposed a 25 percent tariff on increasing categories of imports from China, reaching about half of all imports. China retaliated, though its smaller amounts of imports meant that its tariffs covered less trade. The two sides negotiated a kind of truce that was signed by President Trump and Vice Premier Liu He in mid-January, just when the virus was emerging as a global issue. The U.S. rolled back only a small amount of its tariffs, leaving most in place, but it dropped a planned expansion of the tariffs to new products. China agreed to some structural measures that were already in the works and fully opening investment in autos and financial services. The heart of the deal was an agreement that during 2020 and 2021 China would purchase an additional $200 billion (over 2017 levels) of U.S. goods and services, covering agriculture, manufactures, energy, and services.

From the start, economists were skeptical about the deal as it represented a kind of managed trade rather than an opening of Chinese markets. Furthermore, the amounts were implausible: starting from actual U.S. exports in 2019, it would have required a 40+ percent increase in 2020 and a further 40+ percent increase in 2021.

The trade war and the virus are linked in several ways. First, the short recession in China, combined with the deeper recession in the U.S., made the targets less plausible. In the first six months of 2020 China's imports from the U.S. were down 4.3 percent compared to the previous year and down 18 percent compared to the benchmark year of 2017. They were at about one-half the level needed to meet the 2020 target. The reason for this is simply the recession. China's overall imports are down 6 percent compared to last year, and what it is buying from the

U.S. is also down.[11] Second, the nature of the global recession arising from the coronavirus makes two of the specific targets in the agreement virtually impossible. China is supposed to import a lot more services from the U.S., and this mainly consists of Chinese tourists and students traveling to the U.S. Their spending on travel, housing, education, and entertainment is an important export for the U.S. But with the closing off of travel routes, visas, entertainment establishments, and universities, the travel of students and tourists will be seriously hampered. Similarly, there will be a sharp drop in the plan to sell $50 billion in energy to China: at current market prices the U.S. industry is cutting back, not looking for export opportunities. Third, anger among Americans about the virus has led to new lows in public opinion about China. Senior administration officials have accused China of deliberately creating and releasing the virus, and blaming China is a key part of President Trump's campaign strategy. So far, the two sides have found it in their respective interests to maintain that the deal is alive, but it is difficult to see it surviving for two years.

It is common for U.S. analysts of China to assume that there will be some economic de-coupling of the two economies. Furthermore, the nature of the de-coupling will be critical for both sides. China (like other countries) has benefited enormously from integration into the global economy. This year it is taking an important, positive step toward greater integration through the Regional Comprehensive Economic Program (RCEP), a free-trade agreement among the ASEAN countries, China, South Korea, Japan, Australia, and New Zealand. Trade economists estimate that the trade war will reduce world incomes by $301 billion annually and will reduce world trade by nearly $1 trillion annually by 2030 from what they would have been during the pre-Trump policies.[12] But the RCEP *adds* $209 billion to world incomes, largely offsetting the overall trade war, though not fully for China and the United States. The region rightly sees the RCEP as a big deal: by some measures it is the largest free trade agreement; the first on this scale written largely by and for the developing countries; the first to connect China, Japan, and Korea; and the first to set common rules and low barriers for East Asian trade. It may not be as advanced an agreement as the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP), but the RCEP has simple, cumulative rules of origin, so East Asian producers will be able to buy most inputs tariff-free from any part of the region. That will be a big boost for supply chains. Even before the RCEP goes into effect, China's trade has been shifting away from the U.S. toward Southeast Asia. In the first half of 2020 ASEAN moved past both the U.S. and the EU to become China's largest trading partner.[13] Somewhat remarkably, China-ASEAN trade actually increased in the first half of 2020 compared to the previous year.

The US-China trade war hastened the RCEP by threatening trans-Pacific supply chains. The new agreement is East Asia's "Plan B"; it will lower trade costs and amplify regional strengths in innovation, high-tech industries, manufacturing, and agricultural and other natural resources. It will help East Asia to recover more rapidly from COVID-19 and become more productive in the long run. Ironically, given the trade war, the RCEP will produce greater benefits than would have been the case without the trade war: if the U.S. is abdicating its traditional free-trade role in the Pacific, then trade liberalization among the remaining economies will be more valuable.

Even though the benefits of the RCEP are real, they are modest compared to the benefits of the CPTPP because the latter requires much deeper reform and opening. In particular, the benefits to the world of China joining the CPTPP will be an estimated $485 billion per year, much of which would accrue to China since it started with a fairly high level of distortions. Premier Li Keqiang has recently spoken of China joining the agreement. That would be a smart move that requires accelerated reform and it would put China squarely at the center of the Asia-Pacific economy, which will continue to be the fastest growing in the world. Given the agreement's discipline on cross-border data flows, IPR protection, state enterprises, and other issues, it will also produce a heavy lift for China.

Although it seems likely that China's economic relations will shift away from the U.S. toward other partners, especially in Asia, one aspect of China's economic relations—the Belt and Road Initiative (BRI)—has definitely been set back by the coronavirus. The BRI lacks transparency, but from what we know many of China's leading clients, especially in Africa, are in debt distress because their GDPs and exports have fallen and they cannot service the debts they have built up from borrowing from China—largely on commercial terms. At least for the next few years, it seems likely that the BRI will proceed on a smaller scale as the borrowing countries cannot afford to take on new debt and China will have trouble subsidizing the program to a greater extent owing to its own financial problems.

**Financial Reform is More Important Than Ever**

COVID-19 increases the risk of a financial crisis in China and makes financial reform more important than ever. The financial system is bank-dominated, and, in particular, it is dominated by the four state-owned commercial banks. They have done an adequate job of channeling resources to productive activity, as evidenced by 10 percent annual GDP growth for nearly four decades. But there is evidence that the sector has become less efficient over time, probably because the financial challenges have become larger and the banks have not adapted in turn. During the rapid export-growth phase of the 1990s and 2000s it was straightforward to channel resources to exporters and housing construction. Now that growth depends less on an expansion of capital stock and more on productivity and innovation, the task for financial institutions has become more challenging.

The simplest indicator of this changing efficiency of the financial system is the overall leverage in the economy. Take, for example, the debt of firms plus households relative to GDP (leaving aside for the moment local and central government debt). During the ten years before the global financial crisis, this measure of leverage was surprisingly stable. Banks issued a lot of credit for investment and mortgages, and apparently these investments had high returns and generated growth, so the ratio of debt to GDP was stable. After the global financial crisis, however, leverage roughly doubled during a decade, from 110 percent of GDP to 210 percent of GDP.[14] This suggests that a lot of bad investments were financed, but these were investments that did not contribute to growth of the economy. Local and central government debt also grew as a result of the big stimulus program in response to the global financial crisis, taking total leverage in the economy up to near 300 percent of GDP—a number that is not unusual for a developed country but is high for a developing country. With so much credit expansion, there are bound to be bad investments that become non-performing loans and those in turn will result in bank failures.

All of this was in place before the virus hit, and it put China in a weak position to respond to the crisis with a fiscal and monetary stimulus. The IMF estimates that the U.S. fiscal stimulus this year will be more than 10 percent of GDP, whereas China's response will be about 5 percent. It makes sense for China to be cautious given the level of non-performing loans and the weak state of its financial system. Aside from avoiding a financial crisis, China's financial system in the future will need to do a better job in allocating capital. Stabilizing leverage means that credit will grow less rapidly than it did in the recent past, and China will need a financial system that allocates credit to uses with the highest returns.

Concretely, what does this mean for policy? Up until recently foreign financial institutions have been constrained from expanding in China and providing competition to the state-owned banks, mostly through a requirement that they operate as minority partners in joint ventures. Now foreign institutions will be able to have 100 percent–owned subsidiaries in China, an important reform on paper. But it remains to be seen how easy it will be for foreign banks to operate in China in practice. Opening space for the domestic private sector is important as well, though in the short run the big international banks are more likely to provide competition for the huge state-owned institutions.

On paper, China has had flexible interest rates for some time. But there is not much flexibility in practice, either through changes over time in response to market conditions or through differentiation in interest rates for different customers based on risk. This lack of flexibility probably reflects central bank guidance plus the oligopolized nature of financial services, so introducing new private banks should help. Another way to introduce more flexibility and competition into the system is to reform capital markets. Going to the stock or bond markets for financing is a bureaucratic process in China for firms, subject to administrative approvals. If, alternatively, firms that meet standards could make their own decisions about stock and bond issuances, then many large, successful firms would turn to capital markets for lower cost financing. This would leave the commercial banks to focus on smaller, riskier firms, plus households, and the end result would be a more differentiated set of interest rates.

All of these reforms are needed before China can open its capital account and become integrated into the global financial system. There are two basic ingredients to a financial crisis: bad investments that lead to non-performing loans, and withdrawal of the banks' funding sources. China has the first but not the second. China's banks are financed by domestic household deposits—China's famous high savings—and are held within China by fairly effective capital controls. If these were to be lifted immediately, there would probably be a large net outflow—because everyone is aware of the risks in the financial system—and then the second condition for a crisis would be fulfilled. But if over time China opens up financial services (different from opening the capital account), generates more competition and risk-based pricing, and reforms its capital markets, the prevalence of bad investments and non-performing loans should diminish. Opening the capital account is then the last stage of reform, one that allows investment to flow in both directions as households worldwide benefit from diversification.

The basic point here is that going forward the corona-virus raises the risk of a financial crisis and probably also lowers China's potential growth rate; this makes financial sector reform more important than ever.

**COVID-19 Exposes Weaknesses in the Social Safety Net**

The COVID-19 pandemic has exposed weaknesses in China's social safety net, the most important of which involves migrant workers. There are both social and economic reasons to address these weaknesses now. On the social side, migrants will be most vulnerable if there is a resurgence of the virus or the emergence of any similar virus. In this crisis, China used ad hoc measures, for example, by providing care to all infected people in Wuhan. But it would be better to have in place high-quality healthcare for everyone before the next health crisis occurs. On the economic side, there is likely to be reduced demand for exports and investment, as enumerated above. Also, although uncertain at this point, probably some consumer habits will change permanently, and there is likely to be less private consumption of certain services going forward. An obvious substitute for lost private demand would be more government provision of social services, such as healthcare, education, unemployment compensation, and pensions. To provide more public services sustainably, China will need new sources of government revenue, notably a property tax at the local level. Since any such tax will fall disproportionately on the rich, while expanded social services will, ideally, benefit the entire population, this policy will also help reduce inequality in China.

The current problem with China's safety net primarily concerns the coverage of migrants. At the end of 2019 official statistics showed 290 million migrants,[15] that is, people with rural *hukous* working in urban areas. That is nearly one-half of the urban labor force. Many of these migrants have been in the same city for long periods. We may have a false image of migrants as young workers who leave the farm for better opportunities, but the average age of migrants has been rising steadily, from 34 years old in 2008 to 41 years old in 2019. One-quarter of the migrant workforce is now over the age of 50.[16] Registered urban workers have fairly good social services, though the quality varies from city to city. Migrants can participate in the urban social programs *provided they have a formal employment contract.* But only about one-third of migrants have formal contracts, and this figure has been going down; in 2009 43 percent of migrants had formal contracts.[17] This means that today about 200 million migrant workers are not benefiting from public services, even though they contribute to local GDP and the tax base. This is a nice system for registered urban workers and the minority of migrants with employment contracts, but it leaves a large pool of migrants to fend for themselves in terms of healthcare, unemployment insurance, and pensions.

Aside from covering migrants, there is also the question of the portability of benefits, an issue that becomes more important as China ages. The population over the age of 65 will increase from about 200 million today to 400 million by 2049, while the overall population will decline slightly. Within this group, the most rapid rise will be the population that is 85 years old and older—from fewer than 50 million today to more than 150 million in 2049.[18] Taking care of the elderly would be a challenge under any situation, but the challenge will be compounded by the rural-urban divide discussed above. Most of the elderly live in the countryside, though their working-aged children have often moved to the cities as migrant workers (frequently leaving behind school-aged children). Rural health systems are weak compared to urban systems, so taking care of the elderly will require a combination of more permanent migration to the cities (with access to benefits) plus strengthened delivery of rural services. It is time for China to completely scrap the *hukou* registration system that limits permanent migration and to unify rural and urban pensions, health insurance, and educational systems.

Dealing well with aging is first and foremost a social issue. But it also has economic implications. As China's workforce shrinks, the 55–64-year-old cohort will increase dramatically. Keeping this group and the "young-olds" (65–85 years old) healthy and active is China's best hope for staving off a dramatic decline in the labor force. Improving rural education is also critical because about one-half of the workers of the future will be going to school in the countryside, and deficiencies in their education will affect China's growth for years to come.

What is the relation of this to the COVID-19 pandemic? There is a lot of uncertainty right now, but probably even under the best scenario people, fearful of travel and large crowds, will be slow to return to their former consumption habits. There will be some return to normalcy, but there likely will still be a big shortfall in private consumption. This is the perfect time to dramatically expand public resources to address weaknesses in the safety net. Among other things, it will provide insurance against future pandemics.

**Conclusion**

China is leading the major economies in recovery from the COVID-19 pandemic and recession. But for a variety of reasons there is unlikely to be a quick "V-shaped" recovery to the old growth path. Prolonged global weakness plus the U.S.-China trade war mean that exports will not play the same role as they did in the past. In addition, the buildup of debt to risky levels means that investment cannot play as strong a role as it did in the past. And while uncertain at this moment, there is a good chance that people will be more cautious about many activities even after a vaccine is developed, so private consumption will be lower and household savings will be higher than they were when China was on its previous growth path.

China can turn all of these factors to its advantage, but it will take an acceleration of reform to do so. New trade agreements could deepen China's integration into the world economy, even as it turns away from the U.S. Following through on the RCEP will be a start. Joining the CPTPP would be a smart next move as it would require serious structural reforms and would cement China's position at the heart of Asia-Pacific supply chains. To manage the growing risks in the financial system, credit will have to grow less rapidly than it did in the past, meaning that the Chinese economy should be less dependent on the quantity of investment. Hence the quality of investment will become more important, and more openness and competition in financial services will make the allocation of capital more efficient. Finally, the drop in private consumption may provide an opportunity to expand social services. To do this sustainably will require new revenue sources, especially for local governments. Chinese people are likely to welcome a shift in the growth model so that there is less private consumption than there would have been otherwise but there are more and better public services. Each of the reforms enumerated, however, will face opposition from special interests that benefit from the current system, and it remains to be seen if the leadership will be willing and able to take on these interests in order to put China on a new and sustainable growth path.

**About the Contributor**

David Dollar is a senior fellow in the John L. Thornton China Center at the Brookings Institution and host of the Brookings trade podcast, Dollar&Sense. He is a leading expert on China's economy and U.S.-China economic relations. From 2009 to 2013, Dollar was the U.S. Treasury's economic and financial emissary to China, based in Beijing, facilitating the macroeconomic and financial policy dialogue between the United States and China. Prior to joining Treasury, Dollar worked 20 years for the World Bank, serving as country director for China and Mongolia, based in Beijing (2004-2009). His other World Bank assignments focused on Asian economies, including South Korea, Vietnam, Cambodia, Thailand, Bangladesh, and India. Dollar also worked in the World Bank's research department. His publications focus on economic reform in China, globalization, and economic growth. He also taught economics at University of California Los Angeles, during which time he spent a semester in Beijing at the Graduate School of the Chinese Academy of Social Sciences in 1986. He has a doctorate in economics from New York University and a bachelor's in Chinese history and language from Dartmouth College.



**Notes**

[1] Tsinghua PBCSF, *Recovery of Small, Medium- and Micro-economies in the Context of the Epidemic - Based on Analysis of Millions of Business Data of SMEs*, April 2020, cited in David Dollar, "Reopening the World: China Recovers First – with What Lessons?" Brookings Institution, June 16, 2020, https://www.brookings.edu/blog/order-from-chaos/2020/06/16/reopening-the-world-china-recovers-first-with-what-lessons/

[2] For construction of the index, see Mark Kruger, "How Is China's Recovery Progressing," June 6, 2020, https://www.yicaiglobal.com/opinion/mark.kruger/how-is-china-recovery-progressing. I received the most recent monthly data in personal correspondence with Mark Kruger. The coal consumption data are no longer published, so going forward the authors will have to make an adjustment to the index.

[3] National Bureau of Statistics of China, "Coordinative Efforts for Epidemic Control and Economic Development Delivered Notable Results with National Economy Recovered Gradually in the First Half of 2020," July 16, 2020, http://www.stats.gov.cn/english/PressRelease/202007/t20200716_1776211.html

[4] National Bureau of Statistics of China, *China's Purchasing Managers Index* (updated July 31, 2020), http://data.stats.gov.cn/english/swf.htm?m=turnto&id=1 .

[5] "How China Kept Transit Running During Covid-19," Institute for Transportation and Development Policy, July 3, 2020, https://www.itdp.org/2020/07/03/how-china-kept-transit-running-during-covid-19/.

[6] Vitor Gaspar and Gita Gopinath, "Fiscal Policies for a Transformed World," *IMF Blog*, July 10, 2020, https://blogs.imf.org/2020/07/10/fiscal-policies-for-a-transformed-world/?utm_medium=email&utm_source=govdelivery .

[7] IMF, *World Economic Outlook Update, June 2020,* June 2020, 7, https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020 .

[8] Sharon Chen, Miao Han, and Yinan Zhao, "China's Economy Will Grow 2.5% This Year, UBS Says," *Bloomberg News*, July 22, 2020, https://www.bloomberg.com/news/articles/2020-07-23/china-s-economy-will-now-grow-2-5-this-year-ubs-says.

[9] IMF, *World Economic Outlook Update June 2020,* 8.

[10] Ibid.*,* 7.

[11] General Administration of Customs, PRC, *China's Total Export & Import Values, June 2020* (updated July 14, 2020), http://english.customs.gov.cn/Statics/6bd9d613-6a26-4078-82e8-54ee3bbe1f92.html.

[12] Peter A. Petri and Michael Plummer, "China Could Help Stop the Freefall in Global Economic Cooperation, " Brookings Institution, July 16, 2020, https://www.brookings.edu/blog/order-from-chaos/2020/07/16/china-could-help-stop-the-freefall-in-global-economic-cooperation/.

[13] Issaku Harada, "ASEAN Becomes China's Top Trade Partner as Supply Chain Evolves," *Nikkei Asia Review*, July 15, 2020, https://asia.nikkei.com/Politics/International-relations/ASEAN-becomes-China-s-top-trade-partner-as-supply-chain-evolves.

[14] Bank for International Settlements, *Credit to the Non-financial Sector* (updated June 3, 2020), https://www.bis.org/statistics/totcredit.htm .

[15] Tianlei Huang, "China's Migrant Workers Need Help in the Economic Downturn," Peterson Institute for International Economics, May 14, 2020, https://www.piie.com/blogs/china-economic-watch/chinas-migrant-workers-need-help-economic-downturn.

[16] Ibid.

[17] Ibid.

[18] David Dollar, Yiping Huang, and Yang Yao, *China 2049: Economic Challenges of a Rising Global Power* (Washington, DC: Brookings Institution Press, 2020), 73.