

## Innovation

### The Story So Far

Innovation drives economic potential, especially as incomes rise and workforce and investment growth moderate. Promoting innovation is more difficult than cutting interest rates or approving projects. Innovativeness within an economy is an outcome reflecting education, intellectual property rights (IPR) protection, marketplace competition, and myriad other factors. Some countries have formal innovation policies and some do not, and opinions vary on whether government intervention helps or hurts in the long run. Many Chinese, Japanese, and other innovation policies have fallen short in the past, while centers of invention in the United States such as Silicon Valley, Boston, and Austin have succeeded with limited government policy support. In other cases, innovation interventions have helped, at least for a while.

- The 2013 Third Plenum released a series of decisions aiming at improving the innovation environment in China. Compared with previous innovation strategies, the Third Plenum placed a greater emphasis on market forces, calling for “market-based technology innovation mechanisms” while announcing that the “market is to play a key part in determining innovation programs and allocation of funds and assessing results, and administrative dominance is to be abolished.”
- In May 2015, China officially launched Made in China 2025 (MC2025), a 10-year strategic plan for achieving new levels of innovation in emerging sectors. The MC2025 agenda diluted the Third Plenum’s emphasis on market mechanisms with more elements of central planning. The blueprint set performance targets for 10 key industries in the proportions of domestic content and domestic control of intellectual property. An associated implementation road map document laid out specific benchmarks for global market share to be achieved by Chinese firms in emerging sectors, generating significant international backlash.
- Recognizing the prevalence of subsidy abuses and excess capacity related to its industrial policy programs, Beijing announced in December 2017 that it would gradually phase out some subsidy programs, such as for photovoltaic power generation and new energy vehicles (NEV).
- In March 2018, the U.S. Trade Representative’s Section 301 Report concluded that key parts of China’s technology push, including MC2025, were “unreasonable or discriminatory and burden or restrict

U.S. commerce.” The United States then imposed trade tariffs on \$250 billion worth of Chinese imports over the course of 2018, including some products related to MC2025 and many that were not.

- In May 2019, the U.S. Trade Representative raised tariffs from 10% to 25% on nearly \$200 billion of goods from China and started to review tariffs on the remainder of imports from China. Beijing retaliated by raising tariff rates on some imports from the United States. The U.S. Department of Commerce also added several Chinese high-tech manufacturers to its “Entity List”—a list of companies believed to present national security risks to the United States—effectively restricting those firms’ access to U.S. exports.

### Methodology

China’s goal is to grow innovative industries and prune low-value sunset sectors. Indicators such as patent filings are increasing, but analysts question their quality. To measure progress, we estimate the industrial value-added (IVA)—a measure of meaningful output—of innovative industries as a share of all IVA in China, which tells us how much innovative structural adjustment is happening. Because China does not publish all IVA data details, we use an indirect approach to do this. Our supplemental gauges look at value-added growth rates in specific industries, China’s performance compared with that of advanced economies in specific industries, China’s trade competitiveness in innovative products, and two-way payments flows for the use of intellectual property.

### Quarterly Assessment and Outlook

- We downgrade our assessment of China’s innovation reform progress to neutral this quarter. Innovative industries contributed less to China’s economy in 1Q2020, a development that is probably tied to the COVID-19 shock and therefore temporary.
- Five of the seven innovative industries we follow contracted in 1Q2020. Among them, three industries performed worse than the industrial sector average.
- New regulations that promote intellectual property (IP) generation may benefit the innovation environment. Reforms of IP-related laws and regulations are linked to the U.S.-China trade agreement but also reflect the growing need to sustain innovation at home.

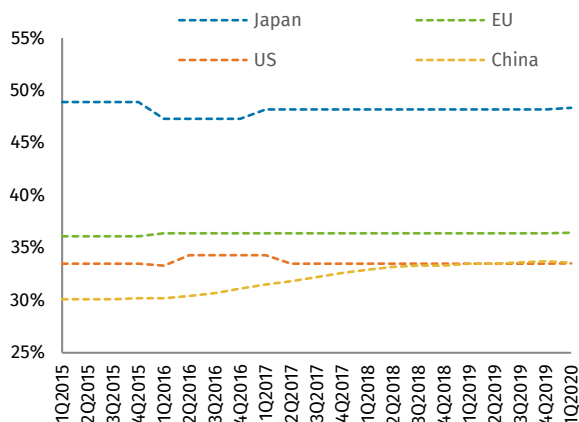
### This Quarter’s Numbers

Innovation played a smaller part in China’s industrial economy in 1Q2020. Our primary indicator, the **Innovative Industry Share in Industrial Value-Added**

(IVA), shows a slight decline in China's innovative activity. As of 1Q2020, innovative manufacturing sectors accounted for 33.59% of total value-added in China's secondary industry, on par with the United States (33.52%) but below the European Union average (36.44%).

**Primary Indicator: Innovation Industry Share in Industrial Value-added**

4qma, percentage



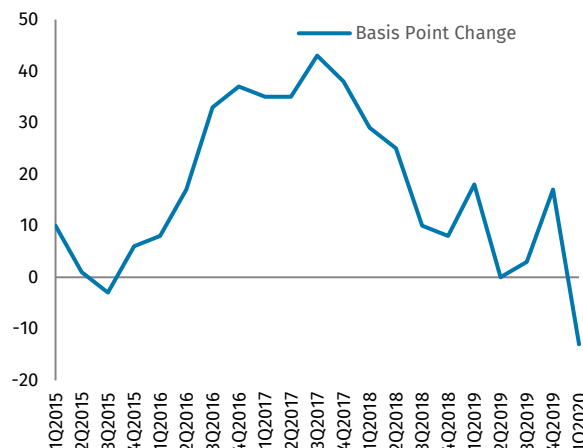
Source: OECD, National Bureau of Statistics, Rhodium Group.

The downturn is likely to be temporary. Economic activity came to a halt after COVID-19 hit, causing the industrial sector to shrink in the first quarter of 2020. Five of the seven innovative industries we follow contracted, and three underperformed the industrial average (see **Industrial Value-Added Growth Rates for Specific Innovative Industries**). Industrial activity has rebounded since April, and this will likely lead to an improvement in 2Q2020.

A robust intellectual property (IP) regime is essential for innovation. As IP is better protected and utilized, China's IP trade flows should increase. In 1Q2020, however, two-way IP flows shrank, with China's IP imports decreasing by almost 10% (see **Intellectual Property Flows**). This is partly the result of the COVID-19 lockdown, which caused China's services imports to fall across the board. However, it may also reflect China's declining payments for the use of foreign copyrights, proprietary manufacturing processes, or computer and software-related licensing.

**Supplemental 1: Volatility in Innovative Industry**

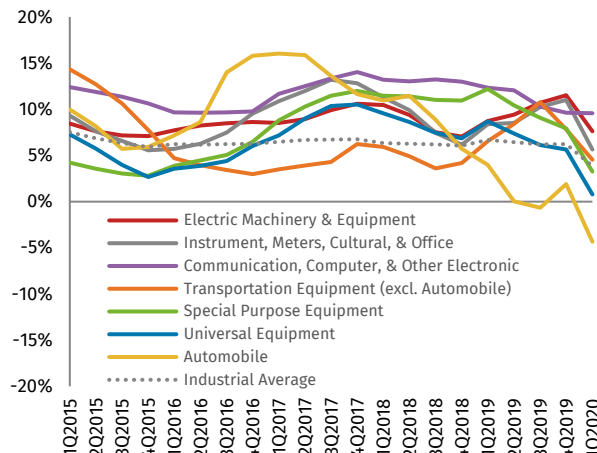
4qma, bp



Source: National Bureau of Statistics, Rhodium Group.

**Supplemental 2: Industrial Value-Added Growth Rates for Specific Innovative Industries**

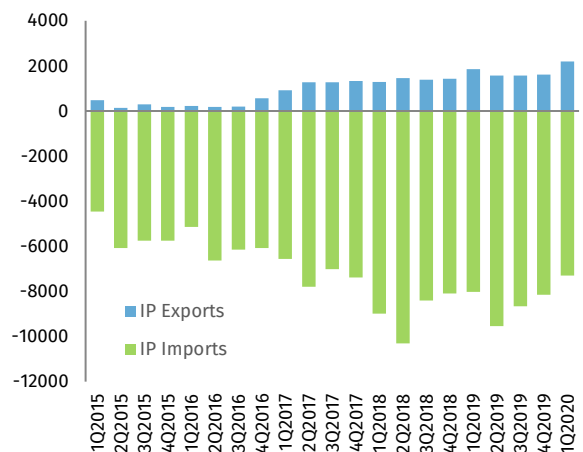
4qma, percent



Source: National Bureau of Statistics, Rhodium Group.

**Supplemental 3: Intellectual Property Flows**

USD Million



Source: National Bureau of Statistics, Rhodium Group.

## Policy Analysis

Our assessment of China’s innovation policy reform is more positive this cycle given enhancements to trade secrets protections and trademark reviews.

The China National Intellectual Property Office (CNIPA) has launched several initiatives since April to strengthen IP protection. On April 22, the CNIPA released a 2020–2021 work plan that puts the November 2019 State Council/CCP Central Committee “Opinions on Strengthening the Protection of Intellectual Property” into force (see **Winter 2020** edition). The scope of this plan is broad, going beyond the IP commitments made in the January 2020 U.S.-China Phase One trade agreement. With 133 action items, the plan calls for patent legislation advancement, establishment of a China International IP Arbitration Committee, and the building of a National IP Data Center. The action items come with specific deadlines, which add further credibility.

On May 28, the CNIPA unveiled another initiative, “100 Priority IP Projects for 2020,” which commits to completing patent reviews with a high market value potential within 16 months and shortening the average trademark review cycle from five months to four. The initiative noted that while China is a global leader in the *volume* of patents, the quality of those patents is inconsistent. The CNIPA called for an end to locally subsidized patents, which have low innovation content and are generated only to meet local performance goals. Task 66 in the plan calls for better information disclosure for public R&D projects and improving the evaluation of IP assets in state-owned enterprises (SOEs). These measures are tailored to improve the quality of the domestic innovation system.

Developments in the legal sphere were also encouraging. On June 9, the Supreme People’s Court (SPC) issued a draft Judicial Interpretation of the civil trade secret law. Judicial Interpretations are quasi-legal SPC enactments that can have the force of law. Legal commentators noted the interpretation moved China’s trade secrets protection regime closer to U.S. legal practice, which is positive. Subsequent Judicial Interpretations have addressed practical issues in IP litigation, such as evidence preservation and expert appraisal. China’s recent efforts to reform IP-related laws and regulations are partially motivated by the U.S.-China trade agreement but also go beyond those commitments in some cases. This suggests that officials in Beijing are aware that the environment for innovation needs serious improvement for the sake of domestic economic growth and development.