

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.

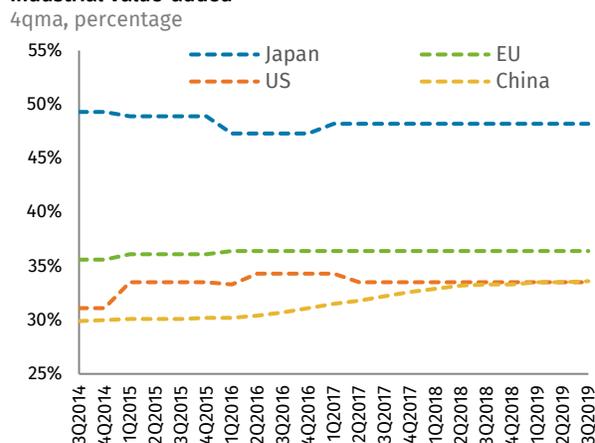
- In May 2019, the U.S. Trade Representative raised tariffs from 10% to 25% on nearly \$200 billion of goods from China and started to review tariffs on the remainder of imports from China. Beijing retaliated by raising tariff rates on some imports from the United States. The U.S. Department of Commerce 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

Primary Indicator: Innovation Industry Share in Industrial Value-added



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

- Our assessment of China’s innovation reform progress in 3Q2019 is neutral. The weight of innovative industries in China’s economy increased only slightly – and not enough to indicate progress.
- While five out of the seven innovative industries we track outperformed average industrial activity, one capital goods industry (universal equipment) fell below the industry average, joining the auto industry. The economy-wide slowdown is weighing on medium and high-tech industries that benefit from government support.
- Beijing made efforts to improve intellectual property protection. International policy alignment to counter China’s industrial policy practices is emerging, which could slow China’s innovation progress.

This Quarter’s Numbers

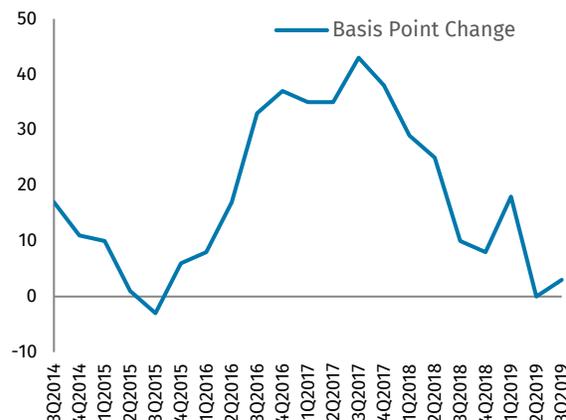
Innovative sectors did not play a bigger role in China’s economy this quarter. Our primary indicator, **Innovative Industry Share in Industrial Value-Added (IVA)**, did display a small uptick (0.03 percentage points on a four-quarter moving average basis), but the increase is too small to be considered noteworthy. As of 3Q2019, innovative manufacturing sectors accounted for 33.6% of total value-added in China’s secondary industry – on par with the U.S. level in 2017, but below the European Union average (36.4% as of 2017).

Preferential policies did not insulate innovative industries from the growth headwinds facing China’s industrial sector. Five out of the seven innovative industries we track (**Industrial Value-Added Growth Rates for Specific Innovative Industries**) continued to grow above the reported industrial sector average (6.2% year-on-year, on a four-quarter moving average basis). However, universal equipment manufacturing fell below the 6.1% industrial average for the first time since 2017, making it the second innovative industry after auto (-0.7%) to become a drag on our innovation proxy. The universal equipment manufacturing industry produces capital goods used in other industrial activities, thus exposing it to the broad industrial slowdown underway.

Intellectual property (IP) rights protection is essential for innovation, yet China’s payments for the use of foreign patents, trademarks, copyrights, and industrial processes have not increased meaningfully since 2017. In 3Q2019, China paid \$8.6 billion in IP royalties to other countries (see **Intellectual Property Flows**). Beijing committed to increase total U.S. services imports by \$37.9 billion (from 2017 levels) over the next two years as part of the U.S.-China Phase 1 deal. Looking ahead, this indicator will be

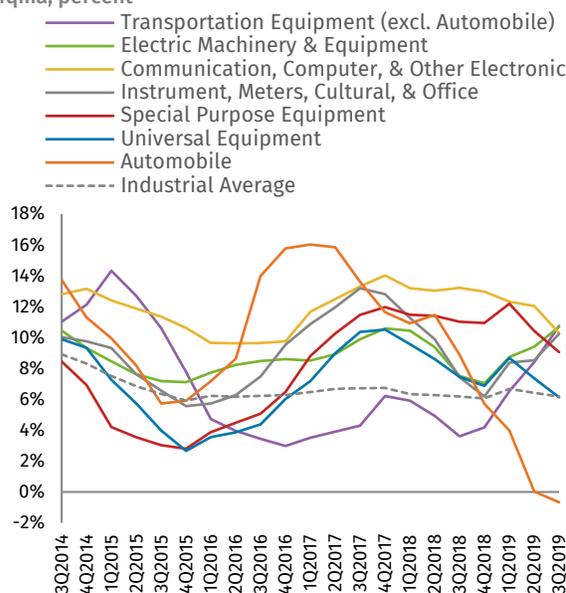
monitored to gauge the implementation of that commitment, although the coronavirus outbreak starting in December has halted activity in China and will impact services trade flows and economic growth broadly in the first half of 2020.

Supplemental 1: Volatility in Innovative Industry
4qma, bp



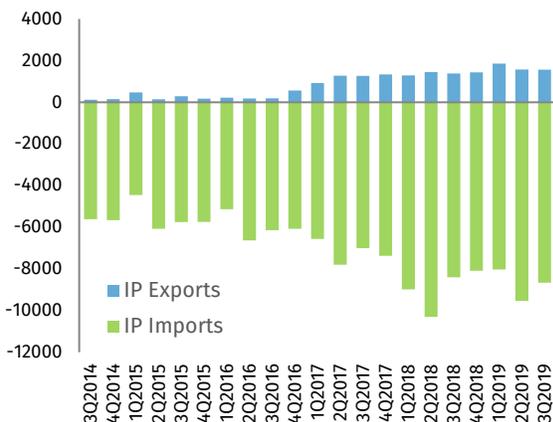
Source: National Bureau of Statistics, Rhodium Group.

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

IP protection was a major theme in China’s innovation policy discourse this period. For years, China has made commitments to improve the domestic IP regime, but progress has been slow at best. In recent quarters, leadership emphasized the focus on IP protection – partly due to heightened pressure from the United States and other advanced economies, and partly because more domestic innovators now stand to benefit from better IP protection at home and abroad.

On November 24, the State Council and the Chinese Communist Party (CCP) released a joint policy guidance on IP protection, marking the first time that the Party and the government issued public IP-related guidance together. Titled “Opinion on Strengthening IP Protection,” the guidance instructs authorities to improve the domestic IP legal framework by strengthening enforcement and coordination across agencies. In particular, the opinion emphasizes that in infringement cases, the accusing party’s burden of proof should be relaxed. This is significant and could lead to real improvement across different levels of the government. In fact, recent legal revisions referenced by the opinion, such as the draft Patent Law, have been fast-tracked on the legislative agenda and could be implemented as early as the first half of 2020.

The Foreign Investment Law Implementing Regulations, which went into effect on January 1, 2020, feature two articles addressing IP issues. Article 24 promises swift enforcement and punitive compensation, while Article 25 reemphasizes that no official should force foreign investors to transfer technology. The scope of these reassurances is limited, and the regulations lack important detail.

The Phase 1 agreement reached by the United States and China on January 15 features two sections covering a plethora of IP issues ranging from trade-secret protection to licensing requirements. Some commitments serve to institutionalize changes already made (such as China’s recent revision of the Anti-unfair Competition Law); others are promising but lack implementation rules (such as shifting the burden of proof in civil proceedings to the accused). Overall, China is likely to implement these commitments in campaign-style enforcement actions, which would present encouraging statistics but might lack long-term sustainability.

Taken together, China has made efforts to improve its domestic IP regime due to both external pressure and internal necessity. But the speed, direction, and impact of these steps will likely remain mixed. One major structural constraint to effective reform is China’s anti-competitive industrial policy approach. On December 5, the Ministry of Industry and Information Technology (MIIT) published its “New Energy Vehicle Industry Development Plan (2021–2035).” The plan features hallmarks of state-led industrial policy: government-set market share targets, emphasis on self-controlled technology, and subsidies. The new MIIT plan increased the 2025 new energy vehicles sales target from the previous 20% to 25% (of all vehicles sold), heavily emphasized indigenous technology, and promised subsidy and financing support to boost growth.

China’s industrial policy is drawing increasing international backlash. On January 14, the European Union, Japan, and the United States issued a trilateral Joint Statement, including proposals to curb industrial subsidies. While not China-specific, the document states that existing World Trade Organization rules are insufficient to address distortions caused by state subsidies and financing. The three contributors specified certain subsidies that should be prohibited and others where the burden of proof should be shifted away from the complainant. If implemented, many Chinese innovators, which export or operate overseas, could face significantly higher business costs, given the omnipresent nature of government support in the manufacturing sector. The quickly changing external environment thus places China’s innovation reform at a critical juncture: the new way is not yet fully developed, but the old way is under the spotlight of China’s trading partners.