Sci-tech Finance Policies Show Remarkable Results

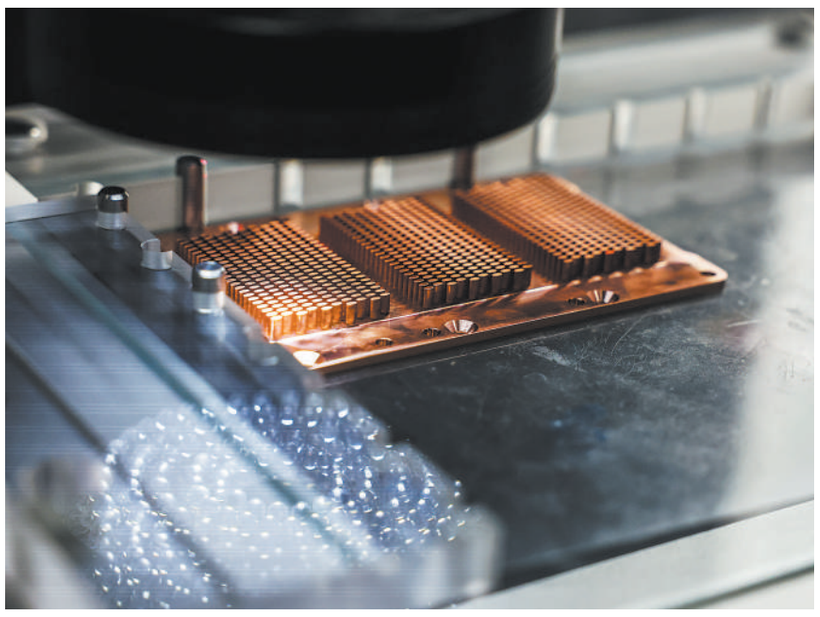
Policy Express

By WANG Manxi & DAI Xiaopei

By the end of May, the contracted amount for re-lending policies for sci-tech innovation and technological transformation loans reached 1.74 trillion RMB, with sci-tech loans growing 12 percent year on year — outpacing overall loan growth, according to a press conference held by the State Council Information Office on July 14.

The conference reported the monetary credit policy implementation and financial statistics for the first half of 2025, and the term "science and technology" was mentioned 49 times — a testament to the intensive rollout and tangible results of sci-tech financial policies during this period.

Cao Yuanyuan from the People's Bank of China (PBOC)'s financial markets department, stated that this year the central bank has introduced two key measures: optimizing re-lending policies for sci-tech innovation and technological transformation; and launching a "sci-tech board" in the bond market. These initiatives aim to accelerate the development of a sci-tech finance ecosystem spanning credit, bonds and equity financing.



A new materials tech enterprise tests pin-type heat dissipation copper substrates. (PHOTO: XINHUA)

The re-lending policies for sci-tech innovation and technological transformation have achieved expanded scale, lower costs and broader coverage. As of the end of May, banks had signed 1.7 trillion RMB in sci-tech innovation and technological transformation loans with enterprises — 1.9 times the level at the end of 2024. The loan balance was 614 billion RMB.

These funds have enabled 15,000 tech small and medium-sized enterprises to secure their first loans and supported 3,983 equipment renewal projects in key sectors.

The bond market's "sci-tech board" represents an innovative approach to sci-tech finance, introducing differentiated issuance and trading mechanisms to support financial institutions, tech firms and equity investment institutions issuing sci-tech innovation bonds. Between its May launch and June 30, it had seen 288 entities issue approximately 600 billion RMB worth of bonds, including over 400 billion RMB on the inter-bank market.

Policy innovation achievements are evident from the data: 27 equity investment institutions issued 15.35 billion RMB in sci-tech innovation bonds on the inter-bank market by June 30. Among them, five private institutions have received credit enhancement from risk-sharing tools, achieving longer maturities, lower issuance costs and more effective innovation capital formation.

PBOC Deputy Governor Zou Lan highlighted the clear monetary policy effectiveness in supporting the real economy, with continued credit structure optimization. At the end of May, inclusive loans to small and micro businesses grew 11.6 percent year on year, medium- and long-term loans for the manufacturing sector rose 8.8 percent, and tech loans expanded 12 percent — all exceeding overall loan growth.

Tech Drives China's Motor City Forward

Vibrant China

By Staff Reporters

Changchun in northeast China, a traditional heavy industry city long known as China's "Motor City," is witnessing its traditional manufacturing sector ride the fast train of digital intelligence to achieve industrial chain upgrading.

Tech innovation drives enterprise transformation

At Audi's first exclusive production base for pure electric vehicles in China, it's a scene of "machines but no workers" as car bodies and chassis are precisely assembled by machines, with an intelligent new energy vehicle ready to roll off the production line.

CRRC Changchun Railway Vehicles Co., Ltd. represents China's rail transit industry. Every leap forward in China's high-speed rail development is closely tied to it.

At the end of 2023, China launched the "quiet carriage" pilot program for high-speed trains. The acoustic experimental test center at CRRC Changchun's engineering laboratory provides a semi-free acoustic field environment for finished vehicles, simulating operational noise conditions to address vibration and noise reduction in rail transit equipment.

China FAW Group Co., Ltd. (FAW) is hailed as the "cradle of China's automotive industry." In 2024, FAW has made breakthroughs in nearly 400 core technologies in key fields, with multiple innovations breaking foreign barriers. Zhao Meng, safety team leader at FAW Jiefang's intelligent assembly workshop, said a finished vehicle rolls off the line every 54 seconds on average.

At FAW Jiefang's J7 intelligent factory, technologies like unmanned tire assembly and fully automated intelligent inspection are used extensively, creating the most flexible and intelligent finished vehicle production line in the global commercial vehicle industry.

Early this year, the factory was selected as one of the first batch of exemplary intelligent factories by the Ministry of Industry and Information Technology, becoming the only commercial vehicle manufacturer on the list.

Industrial clusters activate manufacturing

In 2020, Jilin province in northeast China proposed establishing the Changchun International Automobile City in Changchun, the provincial capital. Tianhai (Changchun) Electronics Co., a professional automotive wiring harness manufacturer, mainly supplies high- and low-voltage wiring harnesses for FAW's Hongqi and Besturn brands, with an annual production capacity of 400,000 sets of automotive wiring harnesses.

"Located adjacent to FAW's main plant, we enjoy superior geographical advantages to serve the entire northeast automotive industry," said Hong Gang, the company's assistant to the general manager.

Building Changchun's modern metropolitan area requires coordinated industrial development. "In recent years, the Daling Economic Development Zone has transformed into a zone for advanced manufacturing, new energy industries and modern services, becoming one of FAW's most convenient and efficient auto parts supply bases. So far, 69 auto parts enterprises and 36 vehicle logistics companies have settled here," Hu Chunming, deputy director of the Changchun Daling Economic Development Zone management committee, said.

Song Shaozhong, deputy director of the Ministry of Industry and Information Technology of Changchun City, said the Changchun automobile cluster was selected as a national advanced manufacturing cluster in 2022, undertaking multiple national key pilot projects. In 2024, the output value of the cluster reached 461.1 billion RMB.

Zhang Zhixin, director of the Jilin Provincial Development and Reform Commission, said Changchun is integrating into coordinated development of metropolitan areas, promoting accelerated transformation of sci-tech achievements into productive forces through differentiated industrial division and innovation chain connections.

Yan Jici: Scholar Who Used Science to Resist Invasion

80 Years On
Salute to Scientists

By LIANG Yilian & ZHANG Jiaxing

A small quartz crystal once carried across two continents helped power China's scientific resistance during the Chinese People's War of Resistance Against Japanese Aggression.

Behind it stood Yan Jici, one of the founding figures of modern physics research in China and a member of the Chinese Academy of Sciences. With unshakable patriotism and scientific rigor, he turned a fragment of quartz into a weapon for national survival, pushing the boundaries of physics while leading wartime innovation in telecommunications.

Discovery that electrified France

In the fall of 1925, Yan arrived in France to study at Madame Marie Curie's laboratory. There, he received a precious quartz crystal sample left behind by her husband, the late physicist Pierre Curie, who had discovered that applying force to quartz generated electrical charges. But the reverse effect remained unproven even after 40 years.

Determined to tackle the issue, Yan abandoned mechanical measurement techniques and instead used precise optical methods to detect the deformation in the crystal. His experiments successfully observed voltage-induced changes, confirming the reverse piezoelectric effect and uncovering the deeper connection between force and electricity in such materials. The discovery caused a stir in French scientific circles.

This breakthrough would later prove crucial. In radio communications, sound waves exert pressure that piezoelectric materials convert into electrical signals, making these crystals the heart of radio devices. Yan's deep understanding of piezoelectric and optical materials would become useful when he turned his knowledge to improving China's telecommunication technology during wartime.

Strengthening wartime communication

On July 7, 1937, Japanese forces launched a full-scale invasion of China. Yan, then attending an academic conference in France, was outraged. He condemned the aggression in public speeches and used his voice at international conferences to rally support for China.

At the International Conference on Cultural Cooperation at Paris in 1937, Yan told the gathering: "While scholars discuss protecting cultural relics, Japanese invaders threaten to bomb Beijing, a capital known for its heritage. The world must condemn this crime."

He collaborated with Wu Yuzhang, an important figure in the Communist Party of China, to publicize China's resistance in Paris. He introduced Wu to French physicist Paul Langevin and accompanied him to rallies, translating and advocating for the Chinese cause.

In an interview, Yan told *Le Progres* newspaper that China's resistance was a just cause. "No matter how long or dangerous the war, the final victory will be ours. Though I'm a scholar and cannot go to the front to contribute my strength, I will join hands with millions of Chinese scholars to offer my humble contribution to the War of Resistance Against Japanese Aggression," he said.

His stance inspired other Chinese students abroad, though it made him a target. Japanese spies, unable to reach Yan, poisoned his daughter in Beijing. His wife escaped with the children to Hong Kong.

Leading in adversity

Returning to China, Yan couldn't reenter Japanese-occupied Beijing and relocated to Kunming with the Institute of Physics. There, amid a national effort to preserve scientific work, he shifted the institute's focus from basic research to wartime production. With most equipment lost, the team made lenses by hand and measured focus manually to support military needs.

In 1946, Yan was awarded the prestigious Order of the Brilliant Star for his contributions to the war effort — an honor granted to only two scientists.

In China's darkest hours, Yan wielded science as a weapon. With clarity, courage and commitment, he embodied the spirit of a patriot-scholar and helped defend his country with the power of knowledge.

Global Journal Observatory

ZR: Publishing Model from 'Vessel Chartering' to 'Ship Owning'

By YAO Yonggang

Yao Yonggang. (COURTESY PHOTO)

Zoological Research (ZR), launched in 1980 by veteran Chinese zoologists, started as a Chinese-language journal with a primarily domestic readership. Few at the time could have anticipated its transformation into one of the leading international journals in zoology.

Since 1980, *ZR* has evolved into an English-language publication. In the *2025 Journal Citation Reports*, it ranked third among 181 zoology journals by the 2024 Impact Factor. The multi-institutional 2023 World Journal Clout Index also identified *ZR* as the highest-ranked zoology journal.

Jointly published by the Kunming Institute of Zoology, the Chinese Academy of Sciences, and the China Zoological Society, *ZR* enjoys full editorial independence and follows the principle of "Openness, innovation, truth-seeking" to shape zoological discourse while enhancing the global visibility of Chinese research.

Advancing critical scholarly discourse

Zoology, as a foundational discipline and pivotal branch of the life sciences, increasingly drives interdisciplinary convergence. *ZR* rapidly disseminates original research addressing national priorities and scientific challenges, including biodiversity conservation, ecological sustainability, biosecurity and public health. Its well-defined disciplinary focus and efficient editorial workflow attract global scholars to publish their important research results here.

In 2020, a German Primate Center team led by Professor Christian Roos submitted the taxonomic description of the Trachypithecus popa, a kind of langur, to *ZR*. This discovery, among the few large-bodied mammal species identified in the 21st century, resulted from the coordinated work of 27 research teams spanning Myanmar, China, Singapore, and the U.S.

Classified as critically endangered, the species immediately drew global attention, catalyzing widespread engagement across academic, media, and conservation communities. This case exemplifies the role of high-impact journals in documenting and amplifying calls for urgent biodiversity protection and policy-driven action.

Forging an independent publishing pathway

Unlike many English-language journals in China choosing co-publication with multinational publishers, *ZR* follows a fully independent publishing model. Upon transitioning to English in 2014, the journal faced a pivotal decision: whether to rely on established international 'vessel-chartering' infrastructure or build a domestic platform meeting global standards.

Following detailed evaluation, the journal pioneered independent publishing, testing the feasibility of sovereign editorial and production systems.

Subsequent restructuring focused on adopting international publishing standards by benchmarking leading journals and integrating with major international repositories and platforms. Core developments included open-access publishing on the journal website, genomic data deposition, a peer review network, and AI tools to enhance discoverability and citation. These coordinated measures formed an integrated, standards-compliant framework for effective knowledge dissemination.

ZR's success demonstrates that China-initiated journals can achieve global reach without external publishing intermediaries. Continued advancement of domestic infrastructure will enable scalable, autonomous publication for more state-initiated journals.

Marking its 45th year, *ZR* has entered a new phase with the launch of *Zoological Research: Diversity and Conservation* in 2024. This initiative responds to the growing integration of zoology and conservation science. The journal must uphold academic quality while embracing innovation and fostering collaboration across institutions and national boundaries to support the continued development of zoological research.

The author is the editor-in-chief of Zoological Research.

Journal Review

ZR exemplifies how an academic journal can skillfully balance tradition and innovation, bridging classical research with cutting-edge advancements. By publishing exclusively in English, *ZR* has strategically refined its scope to focus on primates and animal models, the conservation and utilization of animal resources, and animal diversity and evolution. In just a few years, *ZR* has risen to become a leading journal in its field.

As a long-time supporter of *ZR*, I am delighted to witness its continued evolution. The successful launch of its sister journal, *Zoological Research: Diversity and Conservation*, is another exciting milestone.

With the enduring and steadfast support of global scholars, the editorial board, and publishing partners, I am confident that *ZR* will have a bright and impactful future.

—— *David Irwin, professor, Department of Laboratory Medicine and Pathobiology and Department of Ecology and Evolutionary Biology, University of Toronto, Canada.*