

January 2021

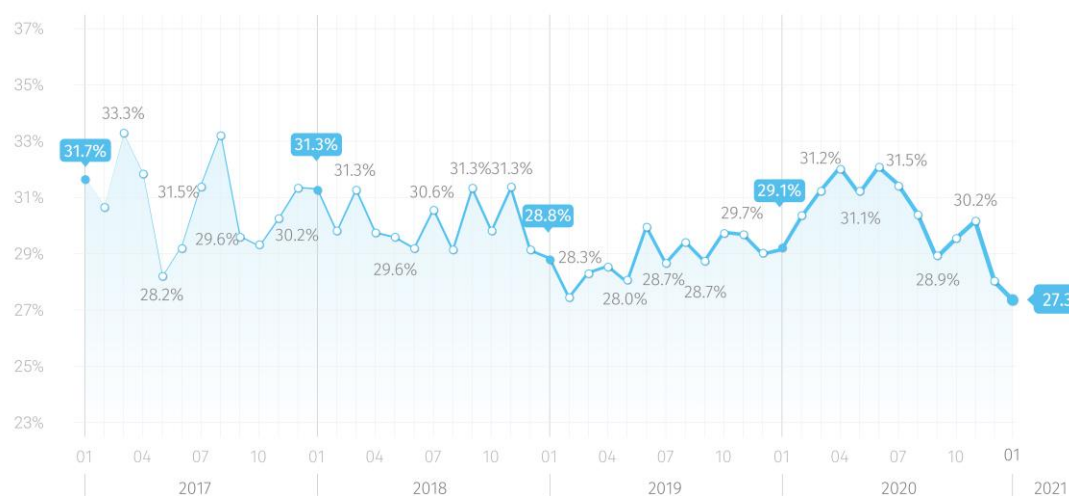
Mastercard Caixin BBD China New Economy Index

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Overview

In January 2021, the Mastercard Caixin BBD New Economy Index (NEI) reading came in at 27.3, indicating that the New Economy accounted for 27.3% of overall economic input activities that month, down 0.8 ppts from December 2020 (Chart 1). The declining NEI was attributed to the decrease in capital inputs. New economy is defined as following: 1) human capital intensive, technology intensive and capital light, 2) sustainable rapid growth, and 3) in line with the strategic new industries defined by the government. Please refer to our previous reports (March 2016 and March 2017) for the list of NEI sectors.

Chart 1: China Monthly New Economy Index



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Primary Inputs

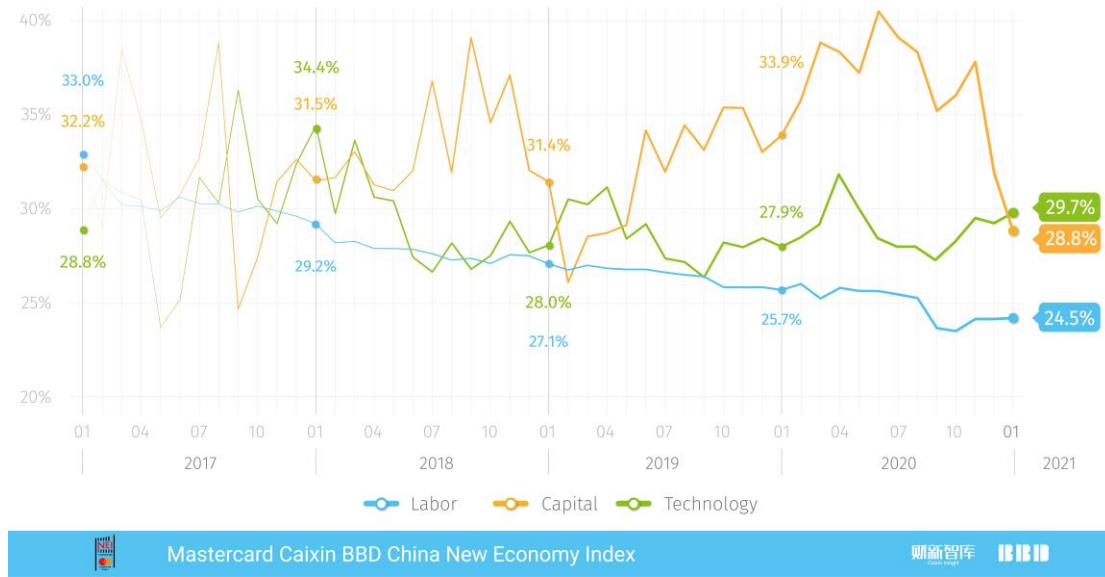
The NEI includes labor, capital and technology inputs that account for 40%, 35% and 25% of the total weights of the index, respectively. The declining NEI was attributed to the decrease in capital inputs (Chart 2). Capital input fluctuated widely in recent year, decreasing to 28.8 this month, with 2.6 MoM decrease. Technology input index was on an uptrend since September 2020, coming in at 29.7 this month, with 0.4 MoM increase. Labor input index declined moderately in recent two years, increasing to 24.5 this month, with 0.1 MoM increase.



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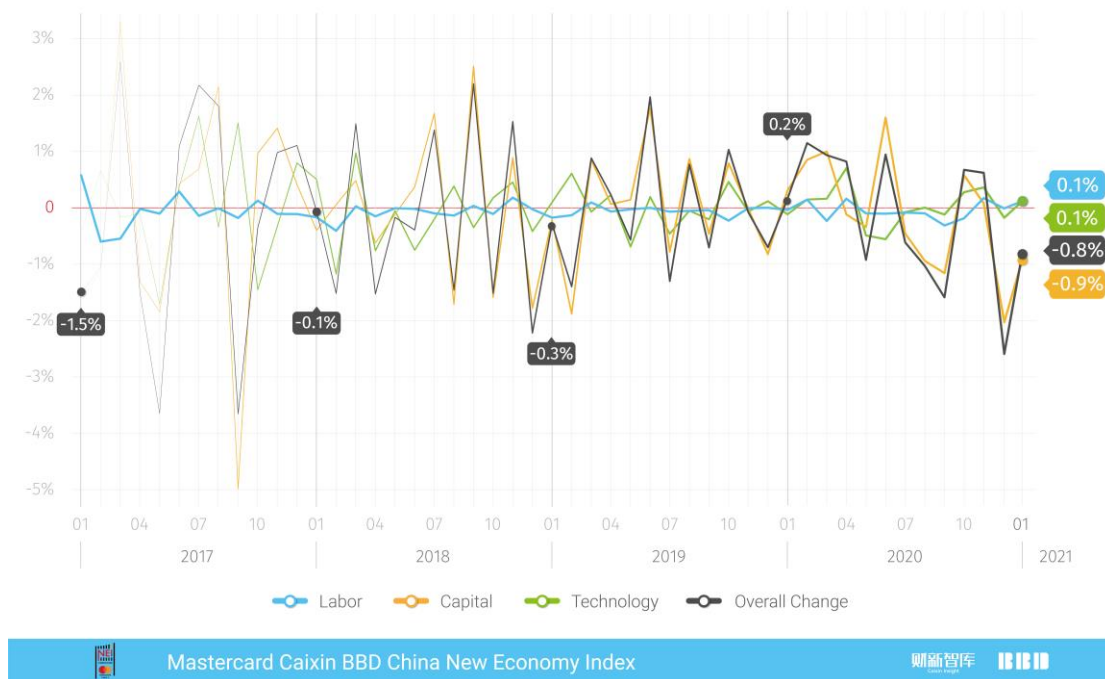
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Chart 2: NEI Primary Input Index



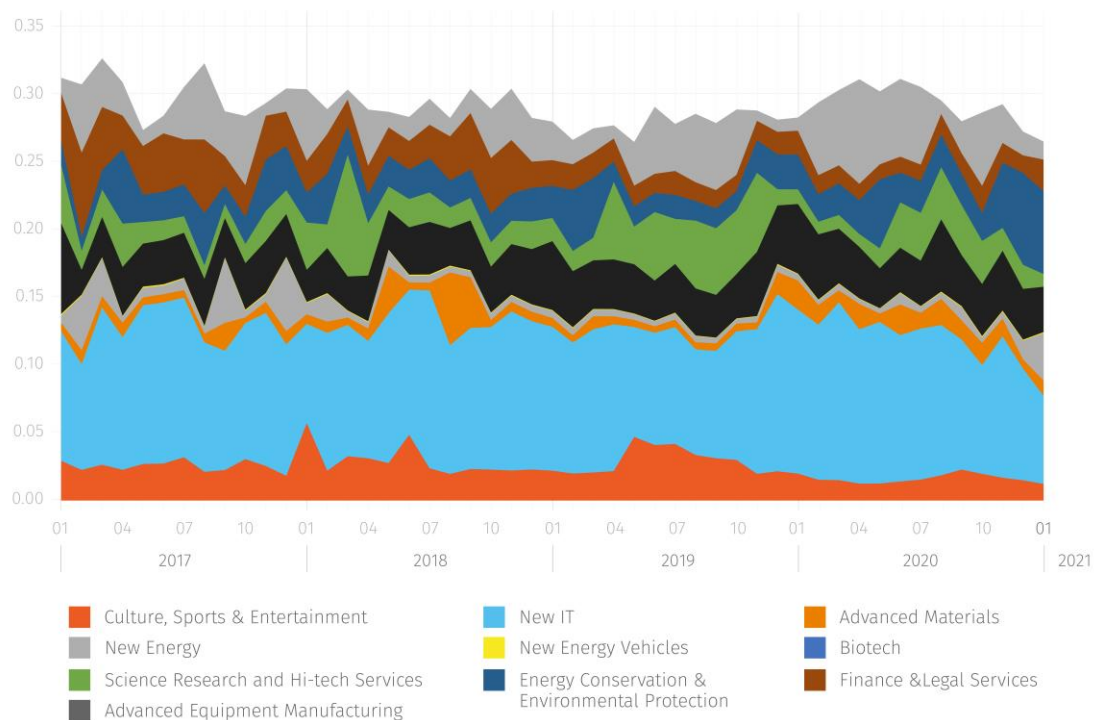
Taking the weights into account, percentage changes in labor, capital and technology inputs were 0.1, -0.9, and 0.1 ppts, respectively. The net NEI change was -0.8 ppts in total (Chart 3).

Chart 3: Primary Input Contribution to NEI



As for sectors, the New IT industry formed the largest proportion of the New Economy Index, contributing 6.7 ppts to NEI. New Energy was the industry with fastest growth in January, contributing 3.6 ppts and ranking the third (Chart 4).

Chart 4: New Economy Sector Contribution Breakdown



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New Economy Employment

In January 2021, the average monthly entry-level salary of the New Economy was RMB 12,181, decreasing from last month's level of RMB 12,524 (Chart 5), and the entry-level salary premium of the New Economy which is the ratio of average entry salary level of New Economy to that of the whole economy, decreased to 4.5%, compared to 6.6% in December 2020 (Chart 6). The wages are compiled from online websites of career platforms and recruitment services including 51job and Zhaopin, as well as other sites that list job openings.

Chart 5: New Economy Avg. Monthly Entry-Level Salaries

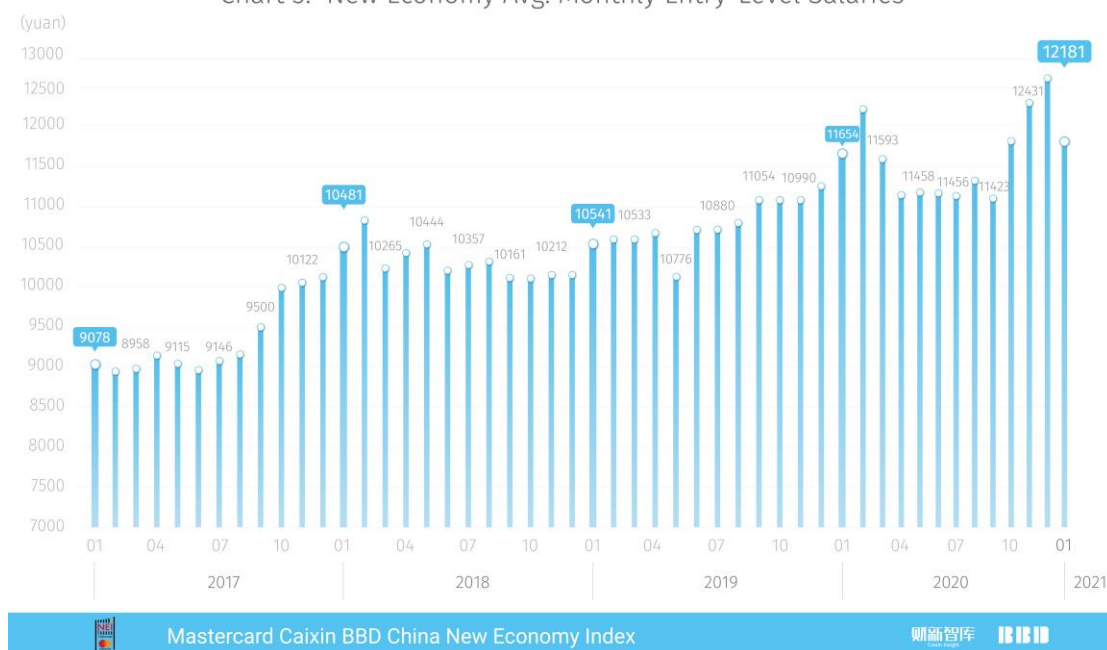
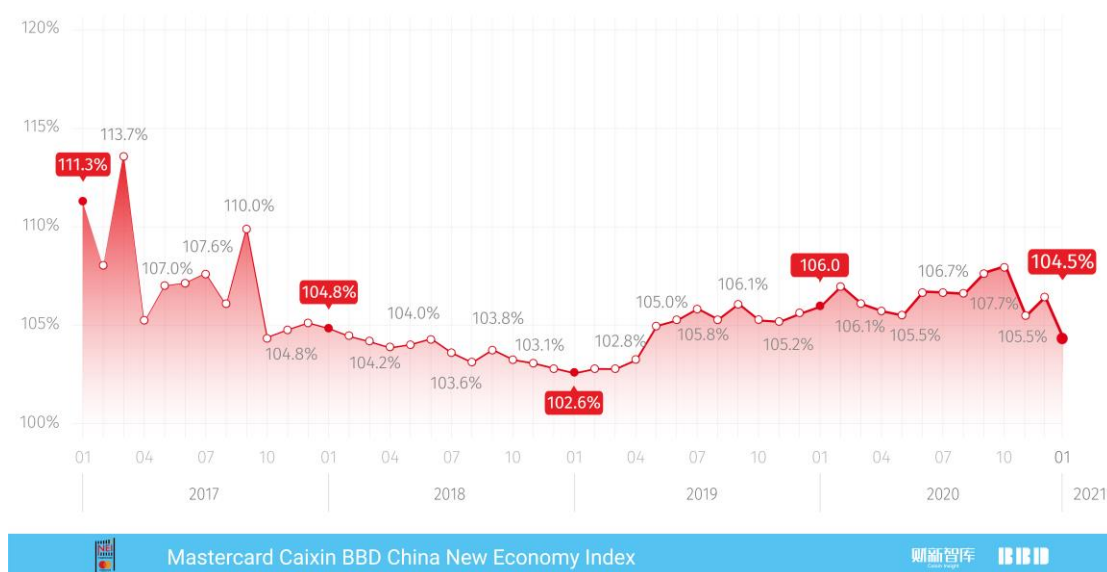


Chart 6: New Economy Entry-Level Salary Premium over Economy-wide Entry Level Salaries



Economic Trend Based on Employment Data

This month, NEI hit its lowest point in history. Compared to sub-indices in January 2019, labor input, capital input and technology input changed by -2.5%, -2.6% and 1.7% respectively. Technology input has overtaken the other two indicators, leading the new economy market.

Using detailed exporting data in 2016 and U.S. tariff list in 2018, we categorized all

manufacturing enterprises into six groups by the percentage of products exported to United States (0-50%,50%-100%) and the average tariff rates (0-10%,10%-20%, above 20%) as below (Chart 7-1).

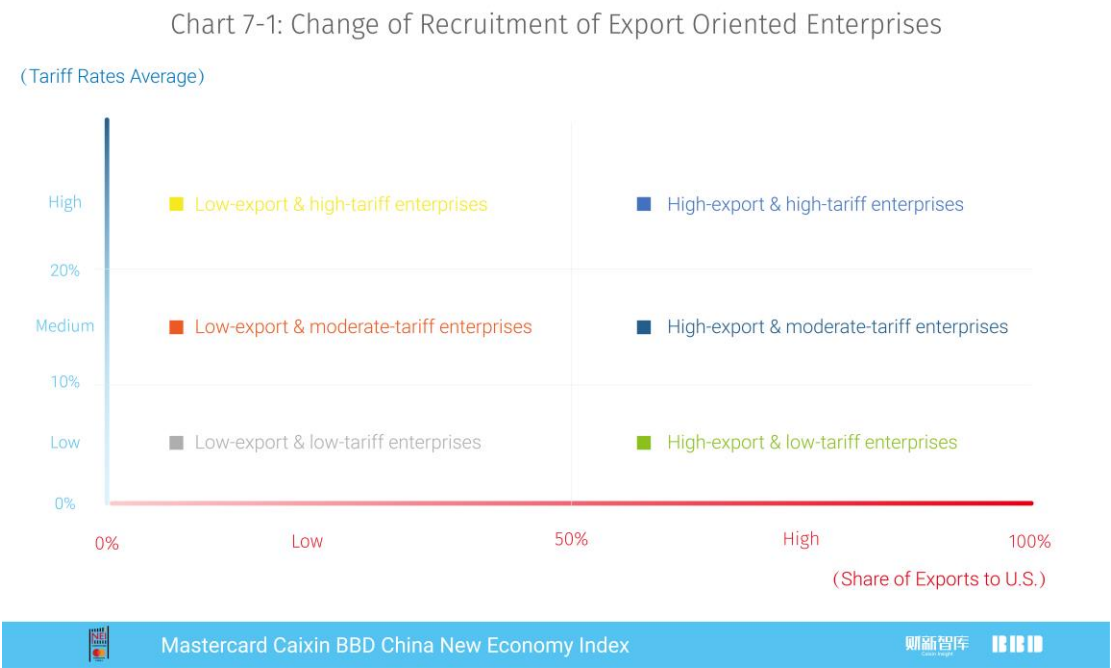


Chart 7-2 showed YoY employment changes of each group compared to that of their non-exporting counterparts. After U.S.-China trade friction, the employment ratio of exporting enterprises to non-exporters was below 1, which meant in general exporting enterprises grew slower than their non-exporting counterparts. However, the trend was reversed by the epidemic outbreak in 2020 when employment of low-export and high-tariff enterprises increased by 30% compared to non-exporting ones. For export enterprises, especially those exporting to United States, the outbreak of the epidemic offset in part the negative effect of trade frictions.

Chart 7-2: Change of Recruitment of Export Oriented Enterprises

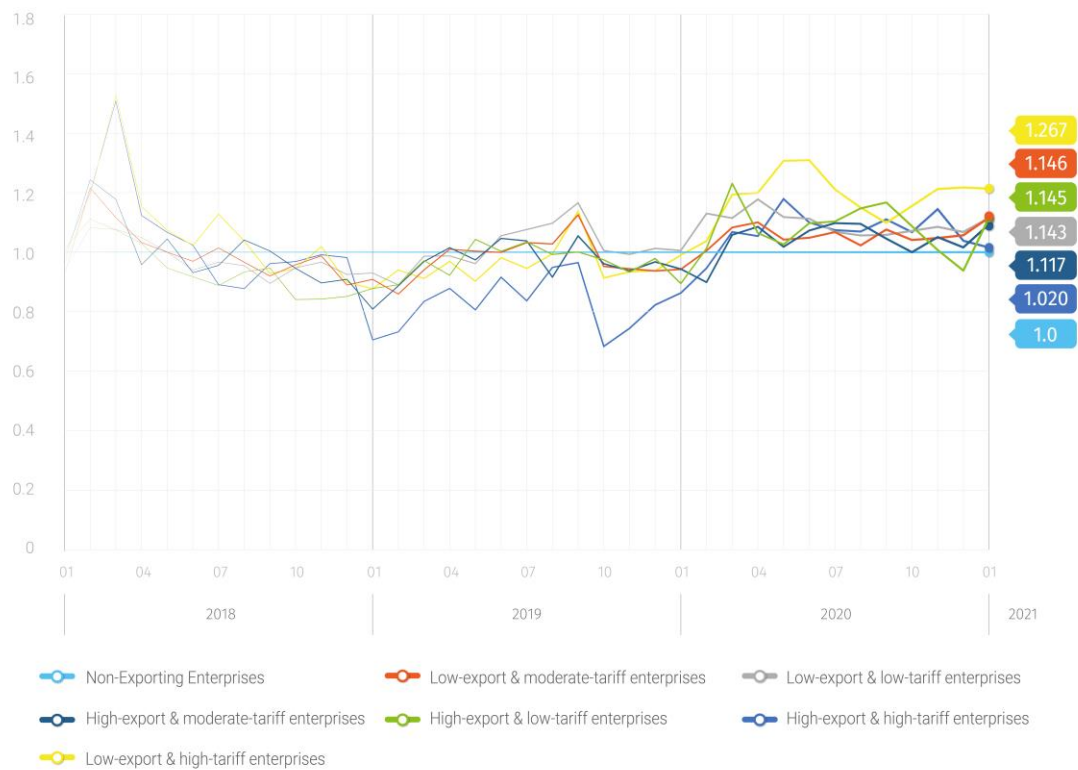
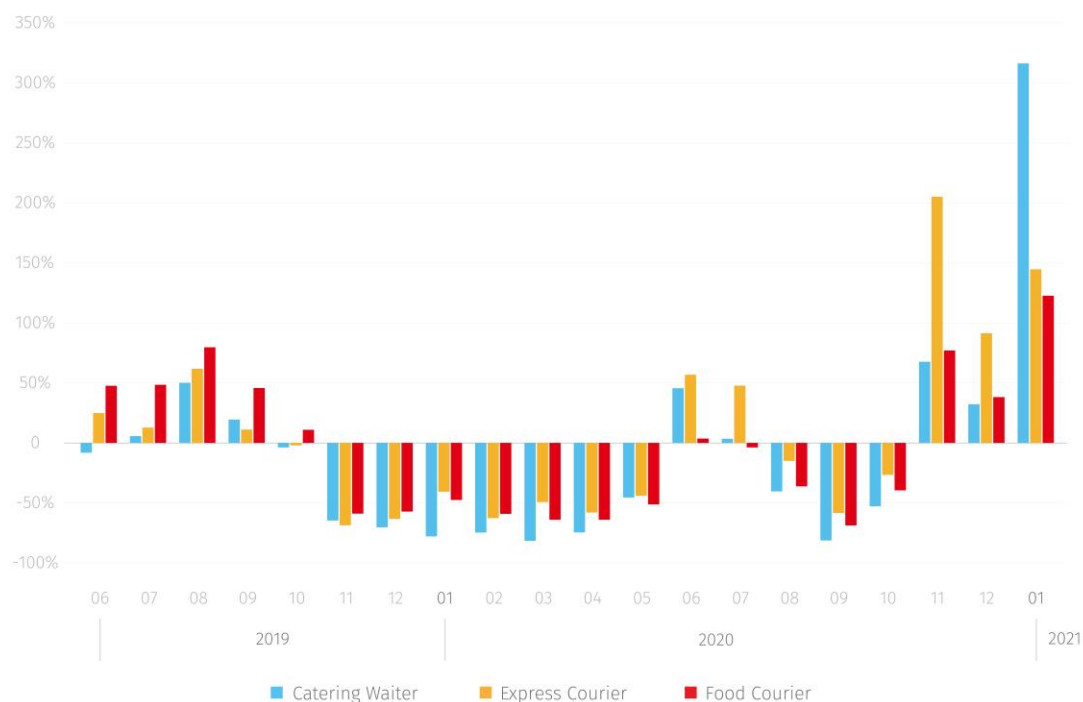


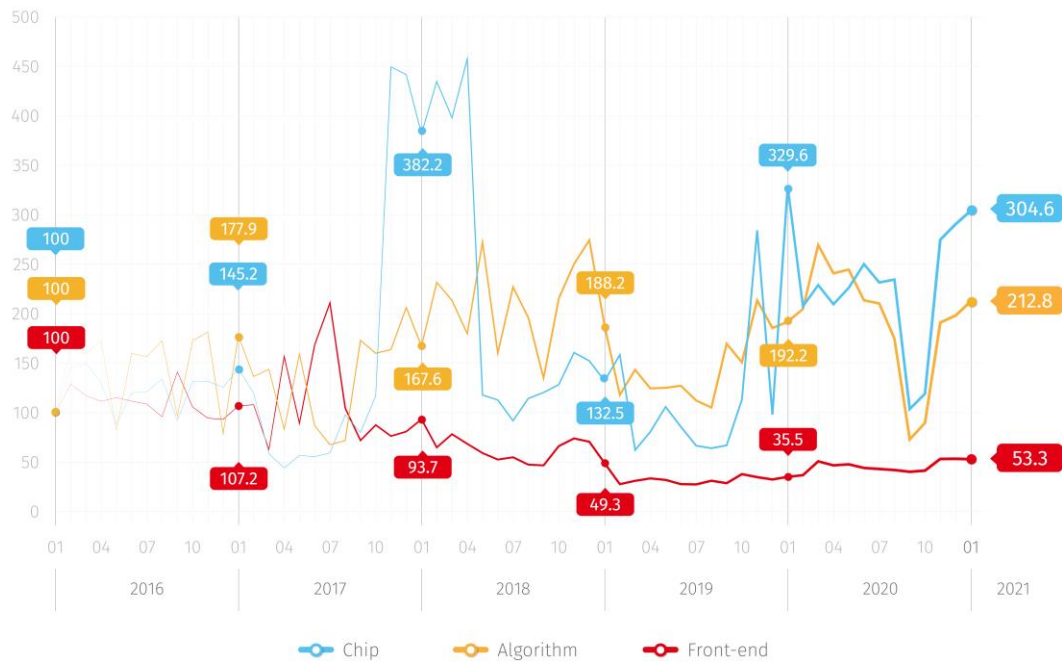
Chart 8 showed the YoY growth rate of recruitment in typical service industry. In 2020, the YoY growth rates of employment in catering waiter, express courier and food courier were negative for months, rebounding to positive territory at the mid and the end of the year. From November 2020, the recruitment of three positions experienced growth, among which express courier recovered faster than others.

Chart 8: YoY Growth Rate of Recruitment in Typical Service Industry



We focused on labor demand in New IT sectors by exploring the employment and average salary of chip engineers, algorithm engineers and front-end engineers. Data implied that the recruitment for front-end engineers remained low since 2018 (Chart 9-1). However, the employment of algorithm and chip engineers were relatively active, whose growth remained significant even in early 2020 when the epidemic was serious. Especially, different from short-lived rebound in 2018, the recruitment of chip engineers experienced large sustainable demand in 2020, showing higher activities in the chip markets. In terms of average salaries (Chart 9-2), the premium of front-end engineers fluctuated downward and that of algorithm engineers declined as well, which dropped from 2.4 times at the end of 2018 to around 2 times in January 2021. Nevertheless, the salaries of chip engineers kept rising, narrowing the gap with salaries of algorithm engineers.

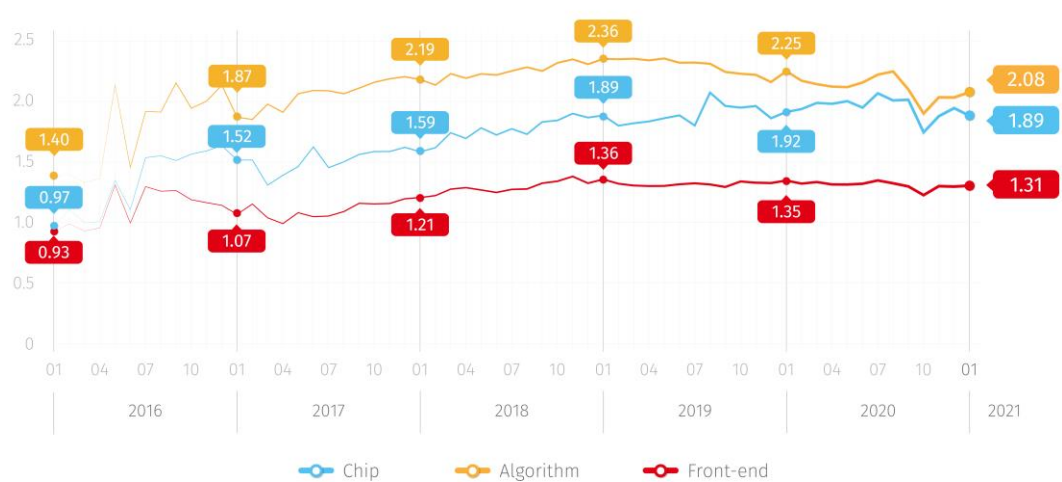
Chart 9-1: Change of Labor Demand in New IT Sectors
(January 2016 as Base Period)



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Chart 9-2: Change of Average Salary of New IT Sectors
(Average Salary Normalized to 1)



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City Rankings of the New Economy

Overall New Economy Rankings are based on a weighted average of the percentile ranks of indicators for the city in the past six months. The top twenty cities were shown in Chart 10. In January, the top five cities were Beijing, Guangzhou, Shanghai, Hangzhou and Shenzhen.

Chart 10: China's Top 20 Cities Ranked by New Economy Sector Output

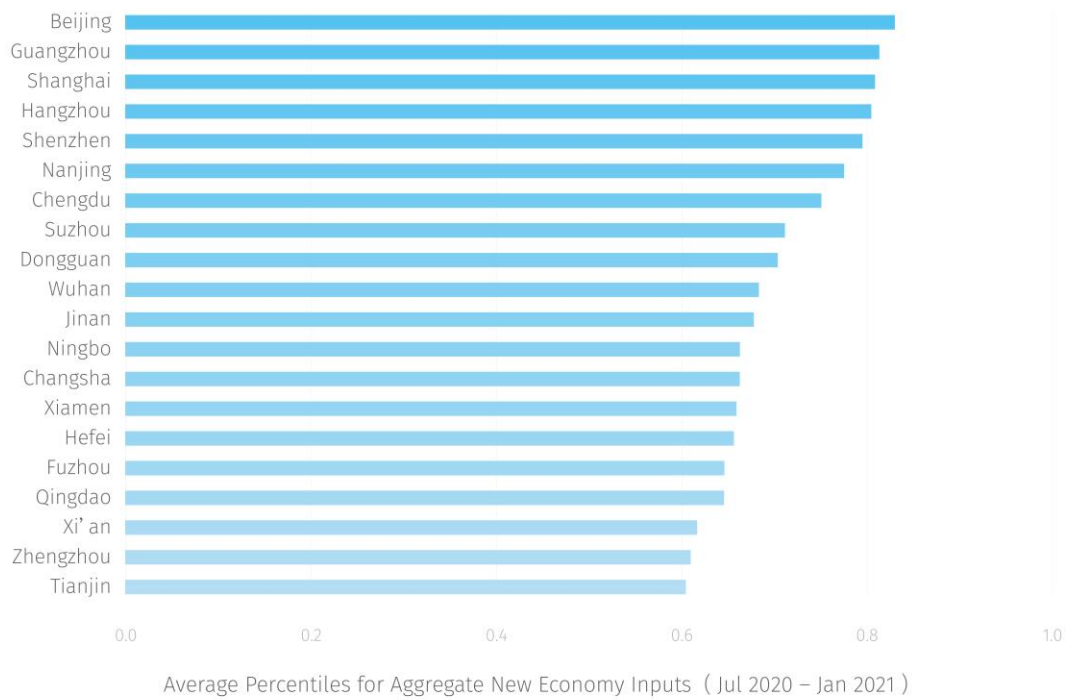
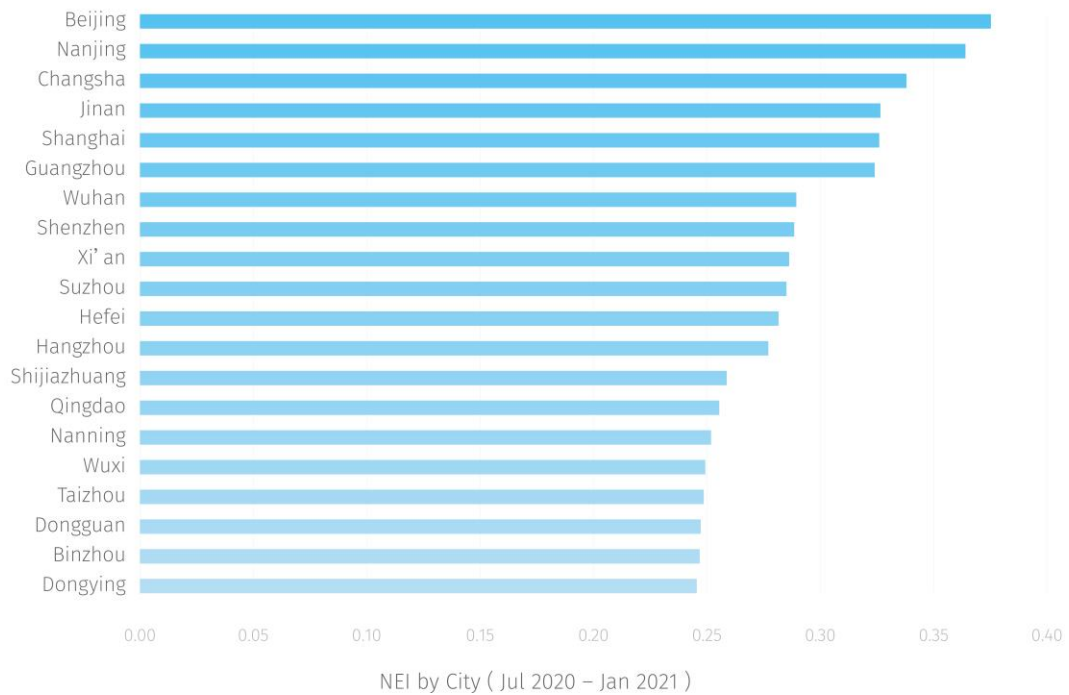


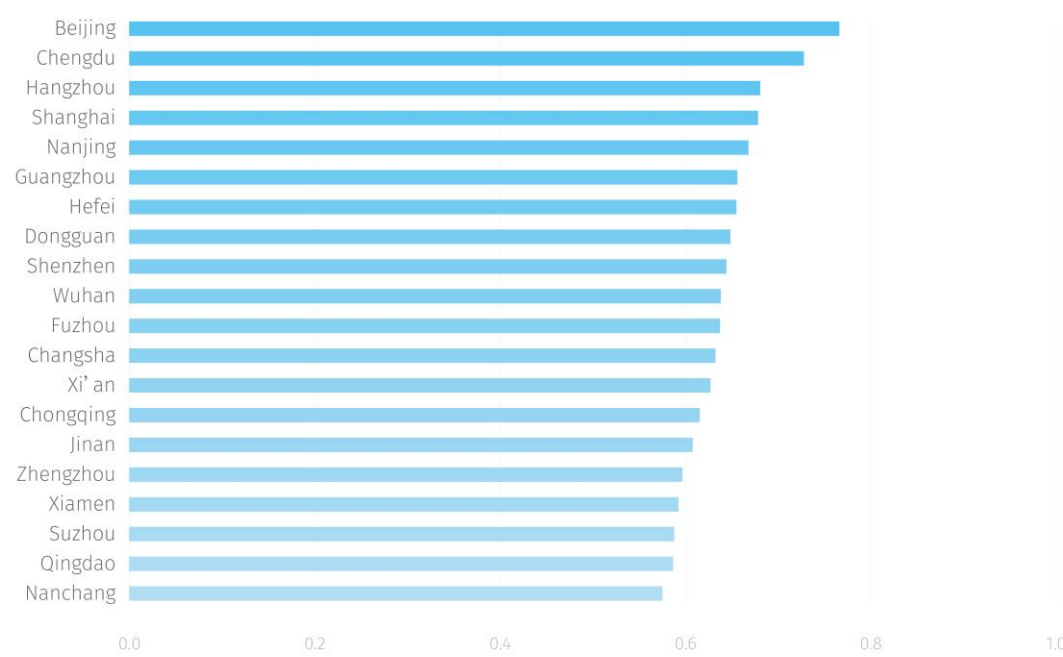
Chart 11 showed the average NEI city rankings between July 2020 and January 2021. The top five cities were Beijing, Nanjing, Changsha, Jinan and Shanghai.

Chart 11: China's Top 20 Cities Ranked by Average NEI



In addition, we showed the city rankings adjusted by living cost by taking housing price, minimum wage and disposable income per capita into account (Chart 12). After the adjustment, the top five cities were Beijing, Chengdu, Hangzhou, Shanghai and Nanjing, following by Guangzhou and Hefei.

Chart 12: China's Top 20 Cities Ranked by New Economy Sector Output Adjusted by Living Cost



Average Percentiles for Aggregate New Economy Inputs Adjusted by Living Cost (Jul 2020 – Jan 2021)

Data Visualization Design by Wu Yi

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The Mastercard Caixin BBD China New Economy Index is the fruit of a research partnership between Caixin Insight Group and BBD, in collaboration with the National Development School, Peking University. The subject of a year of research, the NEI was first publically released on March 2, 2016 and will be issued the 2nd of every month at 10:00am China Standard Time.

About Mastercard

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