Mastercard Caixin BBD China New Economy Index

Overview

In February 2021, the Mastercard Caixin BBD New Economy Index (NEI) reading came in at 28.2, indicating that the New Economy accounted for 28.2% of overall economic input activities that month, up 0.9 ppts from January 2021 (Chart 1). The increasing NEI was attributed to the increase 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
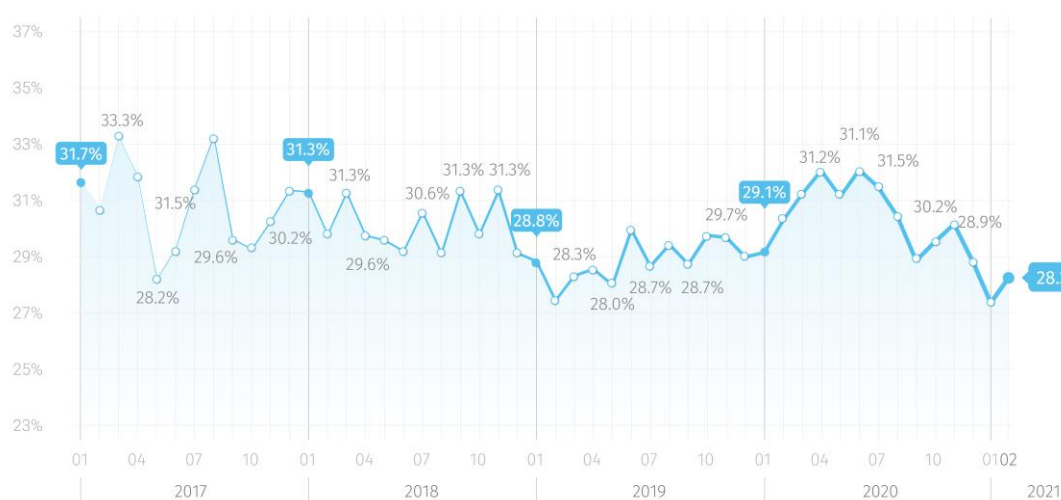
Mastercard Caixin BBD China New Economy Index
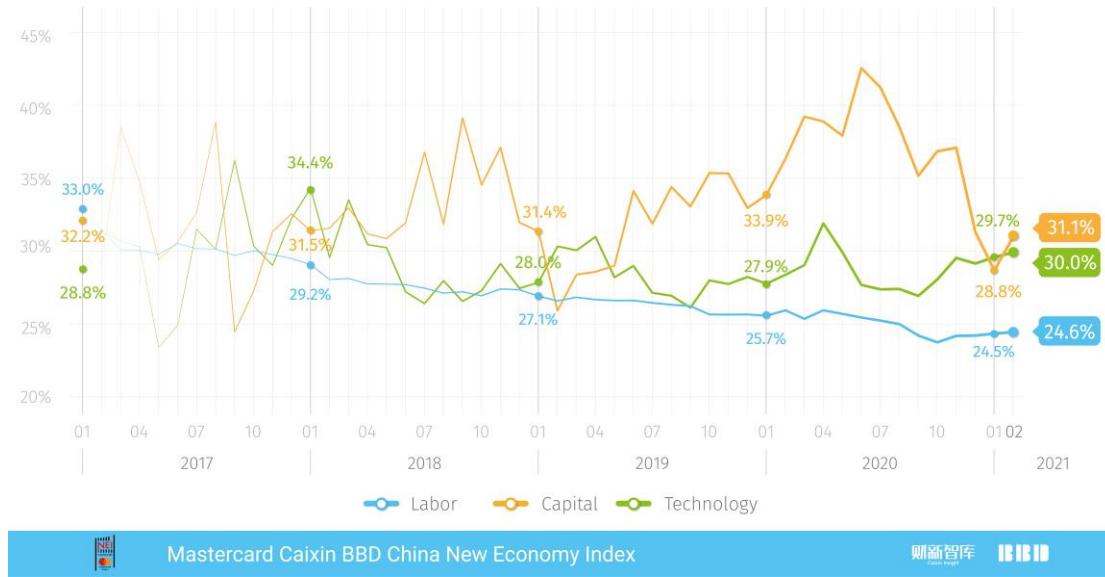
Primary Inputs

The NEI includes labor, capital and technology inputs that account for 40%, 35% and 25% of the total weights of the index, respectively. The increasing NEI was attributed to the increase in capital inputs (Chart 2). Capital input fluctuated widely in recent year, increasing to 31.1 this month, with 2.3 MoM increase. Technology input index was on an uptrend since September 2020, coming in at 30.0 this month, with 0.3 MoM increase. Labor input index declined moderately in recent two years, increasing to 24.6 this month, with 0.1 MoM increase.
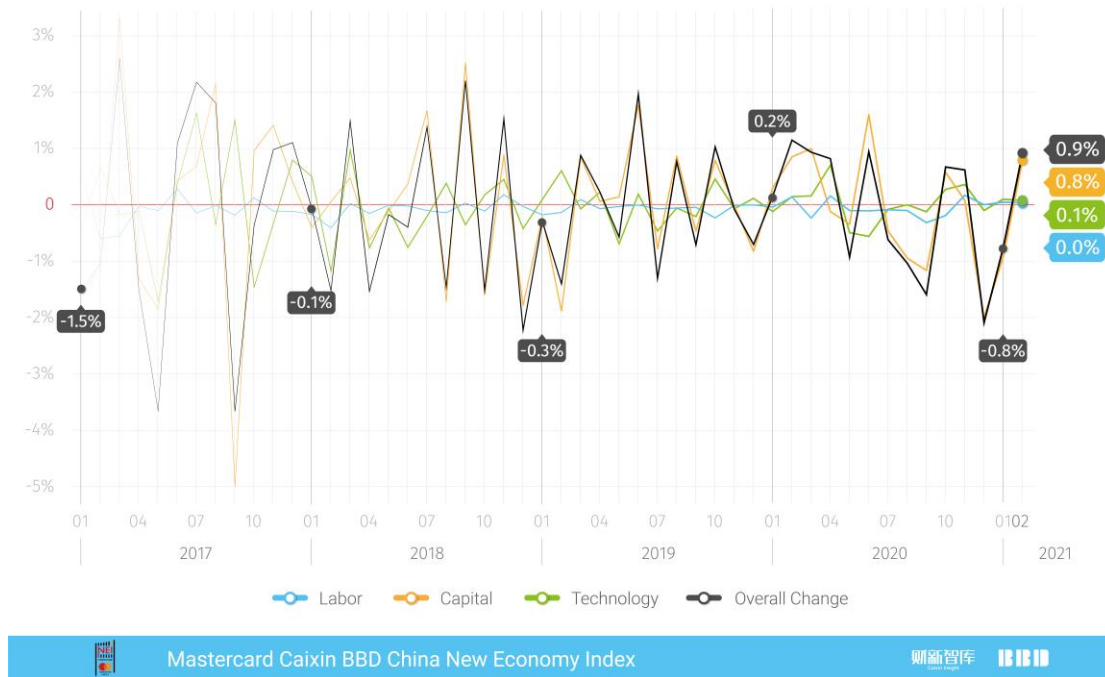
Chart 2: NEI Primary Input Index

Taking the weights into account, percentage changes in labor, capital and technology inputs were 0.0, 0.8, and 0.1 ppts, respectively. The net NEI change was 0.9 ppts in total (Chart 3).

Chart 3: Primary Input Contribution to NEI

As for sectors, the Energy Conservation & Environmental Protection industry formed the largest proportion of the New Economy Index, contributing 10.3 ppts to NEI. Advanced Materials was the industry with fastest growth in February, contributing 1.6 ppts and ranking the fifth. New

Energy was the industry with fastest decline in February, contributing 0.6 ppts and ranking the ninth (Chart 4).

Chart 4: New Economy Sector Contribution Breakdown
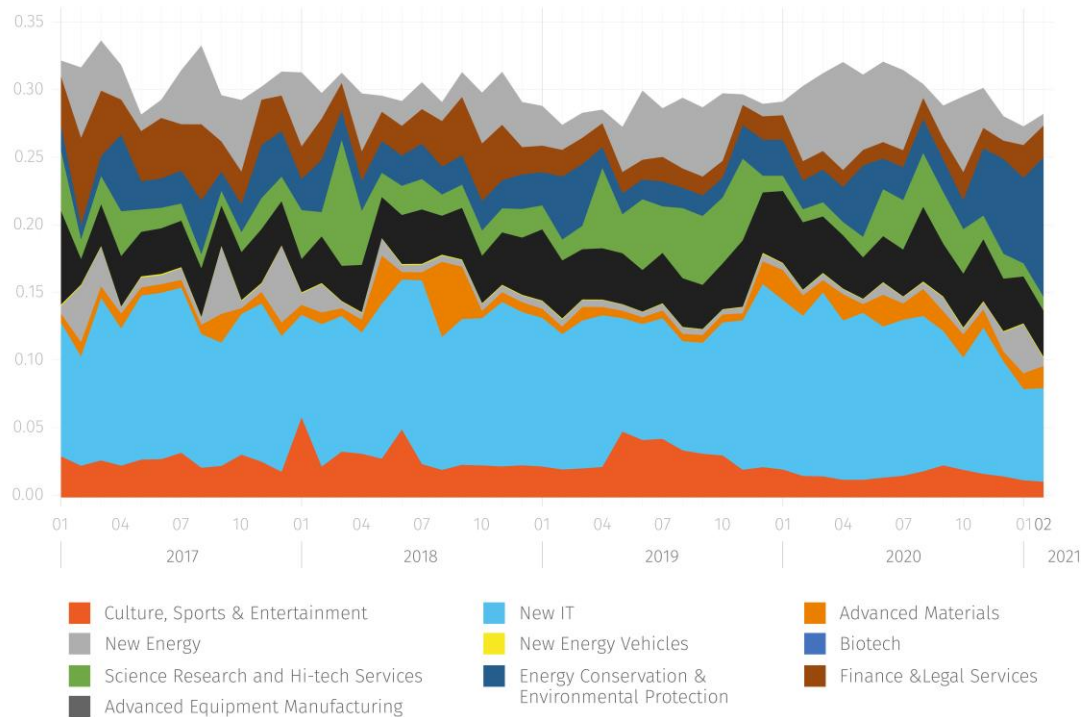
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New Economy Employment

In February 2021, the average monthly entry-level salary of the New Economy was RMB 12,278, decreasing from last month's level of RMB 12,181 (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, increased to 4.6%, compared to 4.5% in January 2021 (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.

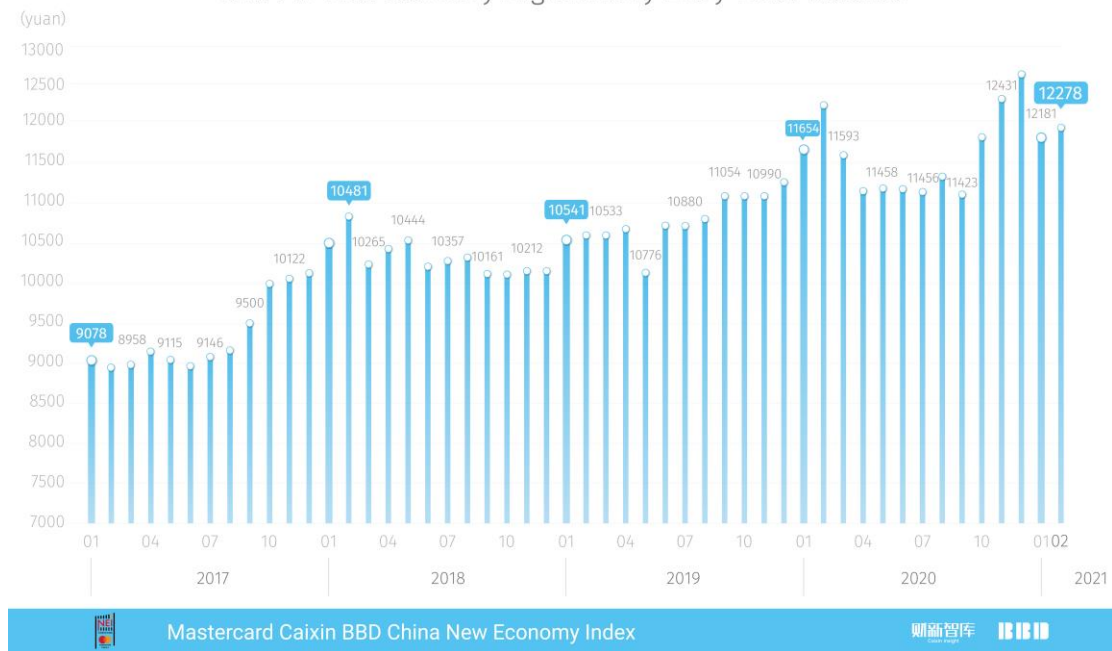Chart 5: New Economy Avg. Monthly Entry-Level Salaries

Chart 6: New Economy Entry-Level Salary Premium over Economy-wide Entry Level Salaries
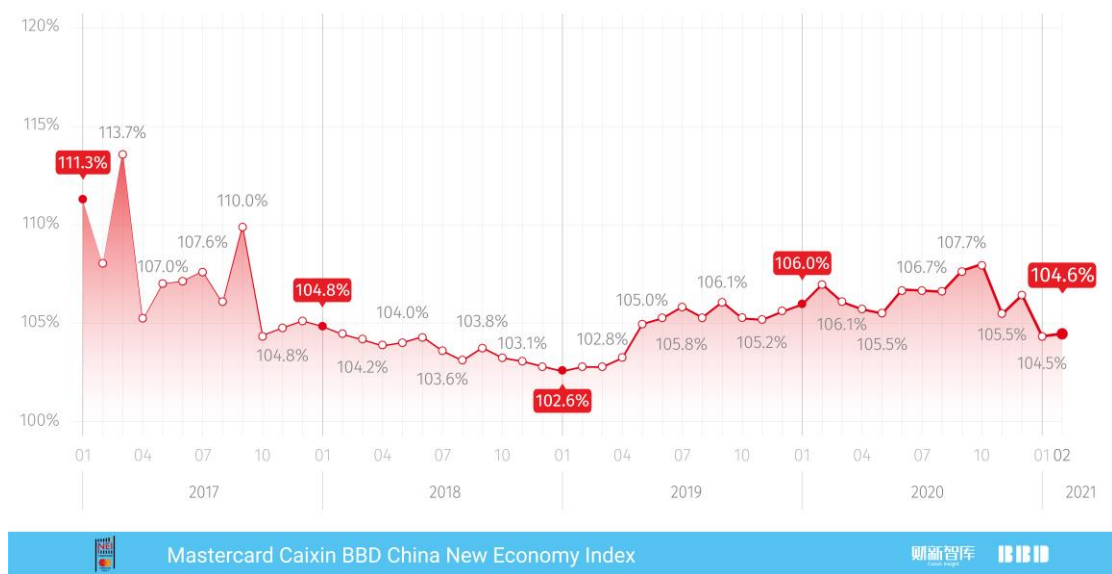
Economic Trend Based on Employment Data

As post- Chinese New Year days in recent years, NEI rebounded in February. This month, we focused on professional skills in the labor market, which were categorized into four groups by Deming (2017): repeating, analytical, social and service skills. With the popularity of artificial intelligence, the social skills might be of more importance in facilitating communication. Is it true? We explored different skills demanded by cities and industries.

Among the top 30 largest cities (Chart 7), Hefei, Ningbo and Foshan were among cities requiring the highest repeating skills. Demands by Nanchang, Jinan and Harbin were lowest. For analytical skills, Wuxi, Suzhou and Nanjing had the highest demands, while Wuhan, Hefei and Guangzhou had the lowest. In terms of social skills, Kunming, Zhengzhou and Chongqing ranked at top, along with Changchun, Suzhou and Dongguan at the bottom. Demands for service skills were similar to social skills. The top three cities were Kunming, Harbin, and Zhengzhou, and Suzhou, Shenzhen and Dongguan were at the bottom. In summary, industrialized cities had strong demands for repeatability, and cities leading in digital economy preferred analytics. Social and service skills were favored in cities with strong tertiary sector.

Chart 7-1: Repeating Skills Demanded by Cities
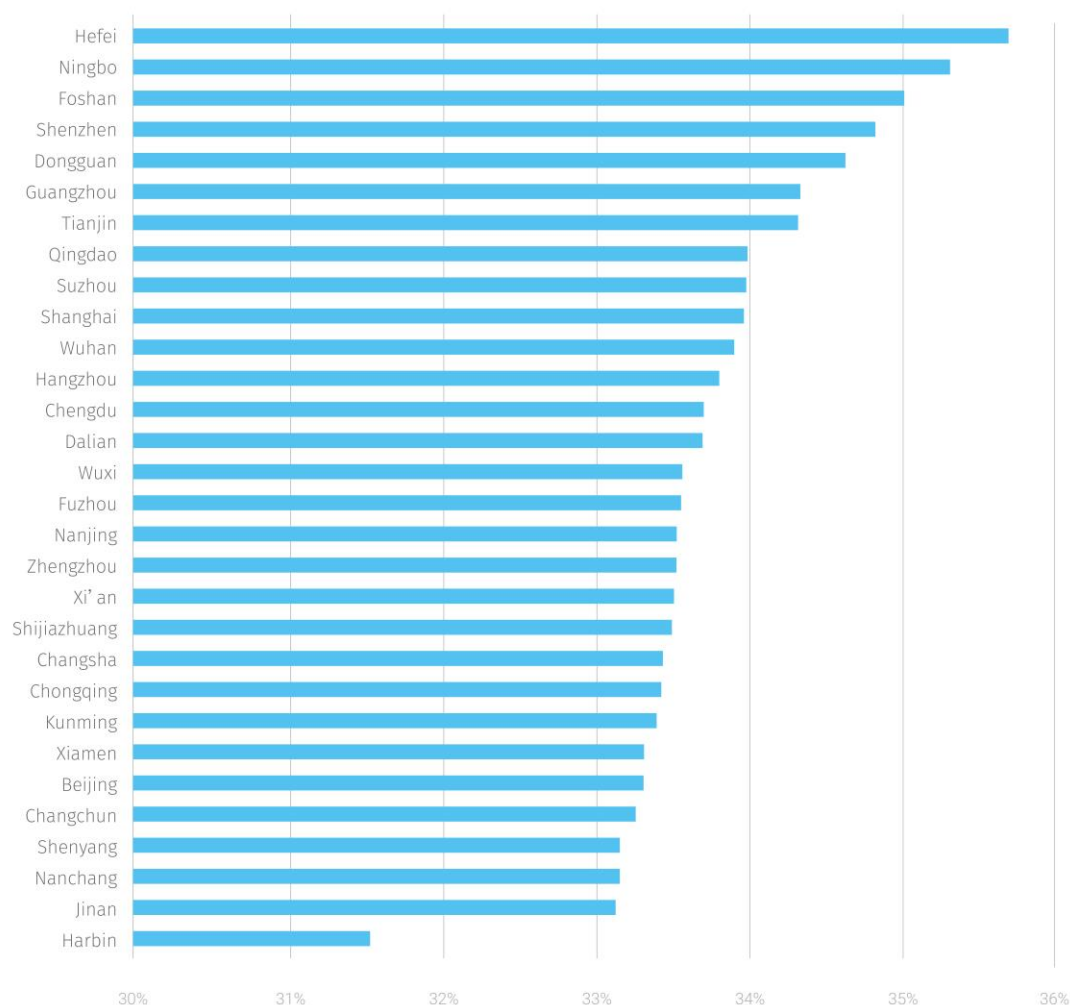
Chart 7-2: Analytical Skills Demanded by Cities

City	
Wuxi	
Suzhou	
Nanjing	
Ningbo	
Beijing	
Qingdao	
Shanghai	
Xiamen	
Hangzhou	
Jinan	
Shenzhen	
Fuzhou	
Chongqing	
Kunming	
Changchun	
Nanchang	
Tianjin	
Dalian	
Chengdu	
Shijiazhuang	
Changsha	
Zhengzhou	
Foshan	
Dongguan	
Xi'an	
Harbin	
Shenyang	
Wuhan	
Hefei	
Guangzhou	

46% 47% 48% 49% 50%
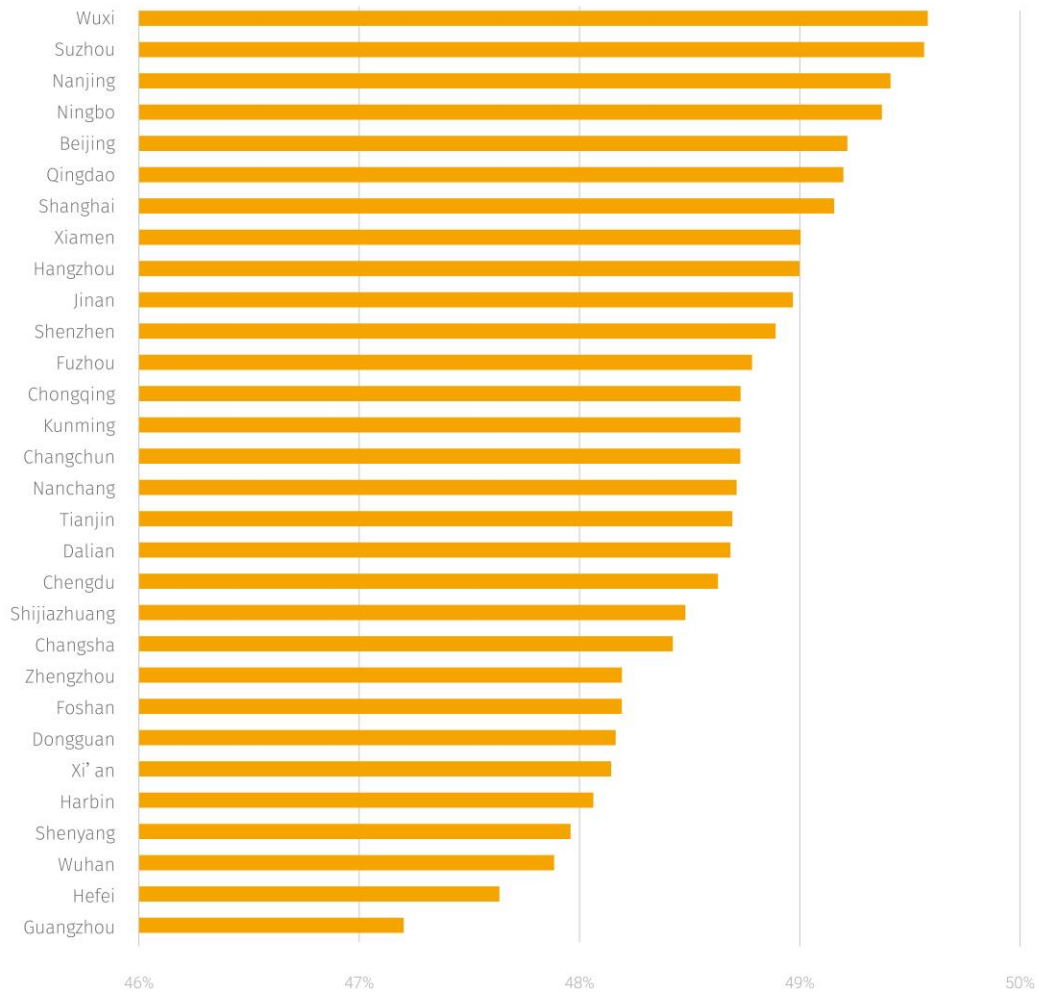
Chart 7-3: Social Skills Demanded by Cities

City	
Kunming	
Zhengzhou	
Chongqing	
Jinan	
Shijiazhuang	
Xiamen	
Nanchang	
Changsha	
Chengdu	
Fuzhou	
Harbin	
Wuhan	
Shenyang	
Nanjing	
Beijing	
Xi'an	
Hangzhou	
Qingdao	
Hefei	
Shanghai	
Guangzhou	
Tianjin	
Shenzhen	
Foshan	
Dalian	
Wuxi	
Ningbo	
Changchun	
Suzhou	
Dongguan	

50%   52%   54%   56%   58%
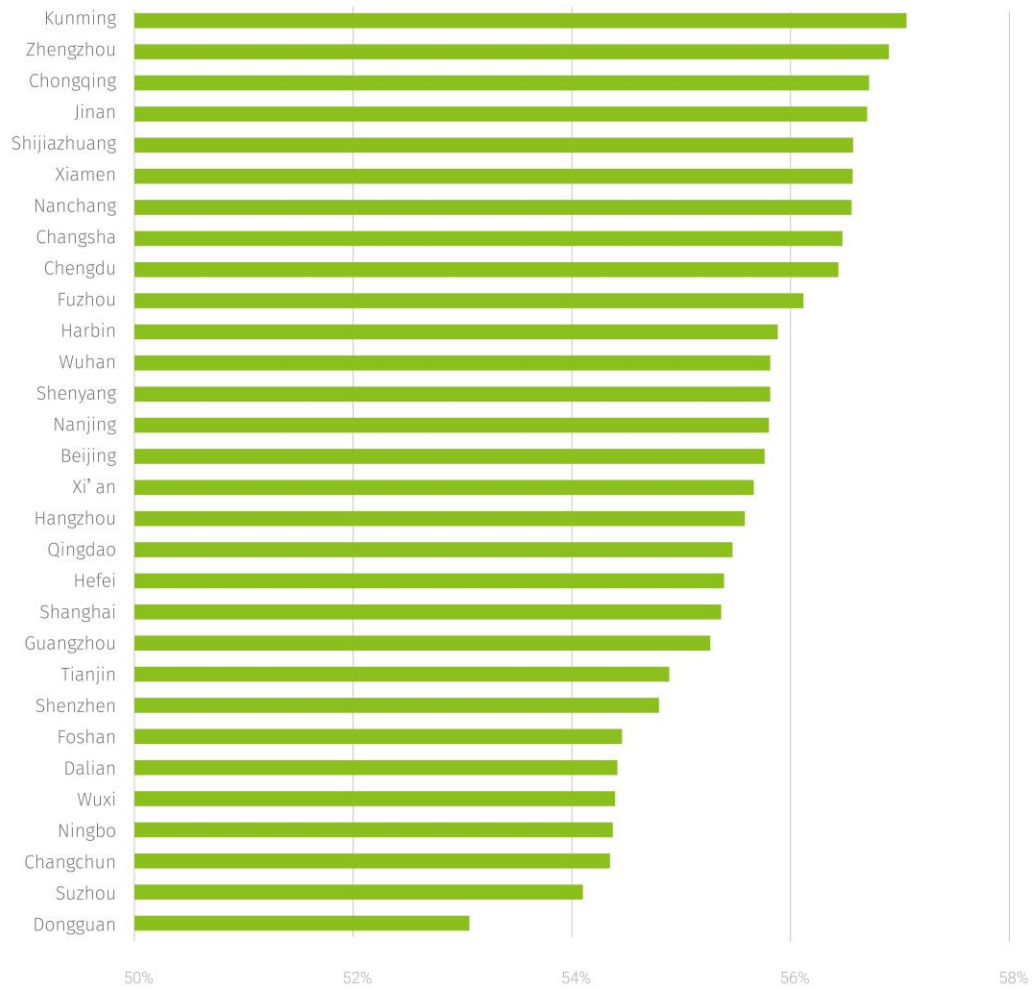
Chart 7-4: Service Skills Demanded by Cities

City	
Kunming	
Harbin	
Zhengzhou	
Shenyang	
Shijiazhuang	
Chongqing	
Hefei	
Chengdu	
Wuhan	
Jinan	
Nanchang	
Xi'an	
Tianjin	
Qingdao	
Changsha	
Fuzhou	
Dalian	
Nanjing	
Xiamen	
Guangzhou	
Shanghai	
Foshan	
Changchun	
Beijing	
Hangzhou	
Wuxi	
Ningbo	
Suzhou	
Shenzhen	
Dongguan	

45%   46%   47%   48%   49%
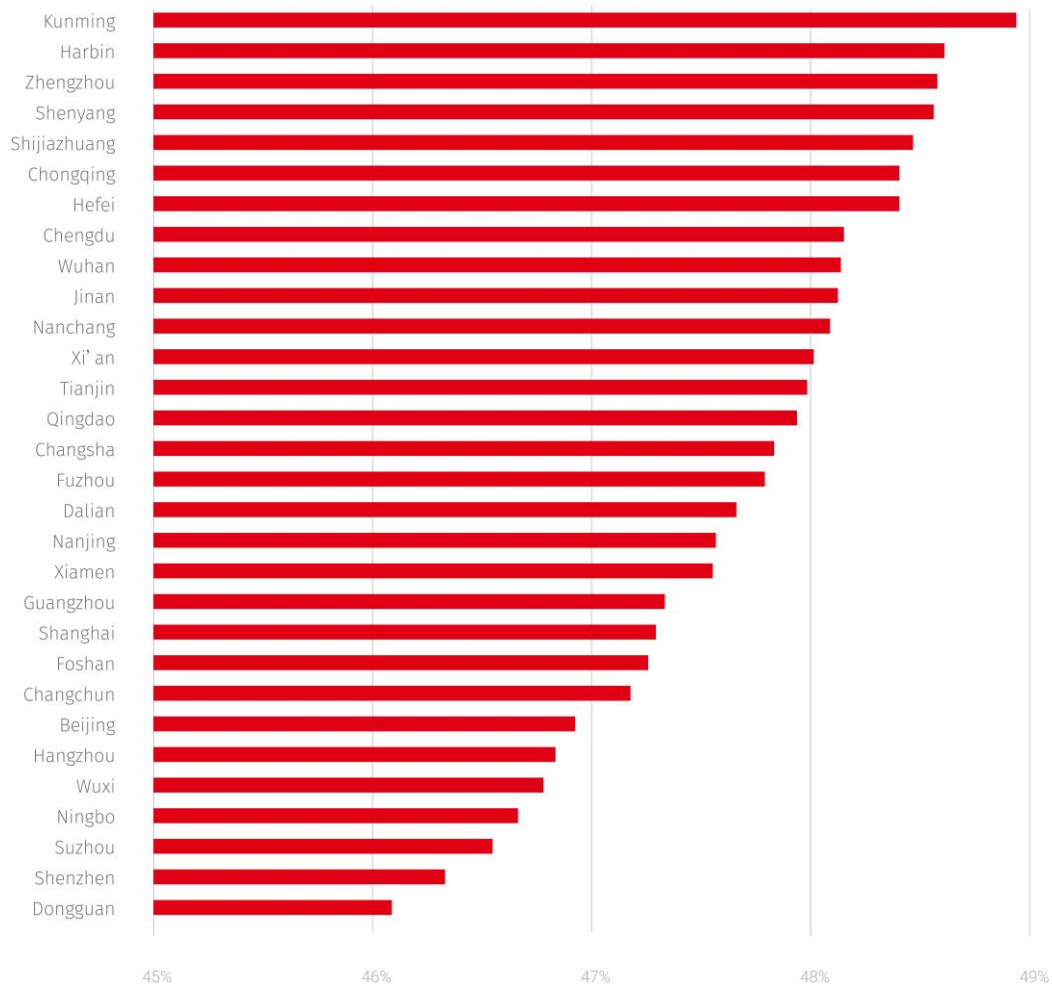
Demands for professional skills differed among new economy industries (Chart 8). The top two industries with the highest repetition demanded were financial & legal services and new IT, which also were the best paid industries. Higher salaries restricted the development of financial & legal services and new IT as well in that these two new economic industries were mainly driven by human resources rather than technology. In terms of analytical skills, science research and hi-tech services and advanced equipment manufacturing had the highest demands, in contrast to old economy industries and culture, sports & entertainment demanding the least. Biotech and financial & legal services were the top two industries in both social and service skills demands. Unexpectedly, biotech showed top on the list, which might be due to the fact more that half of employees in the industry were medical representatives. The demands for social and service

skills reflected the insufficient technological progress in the new economy industry.
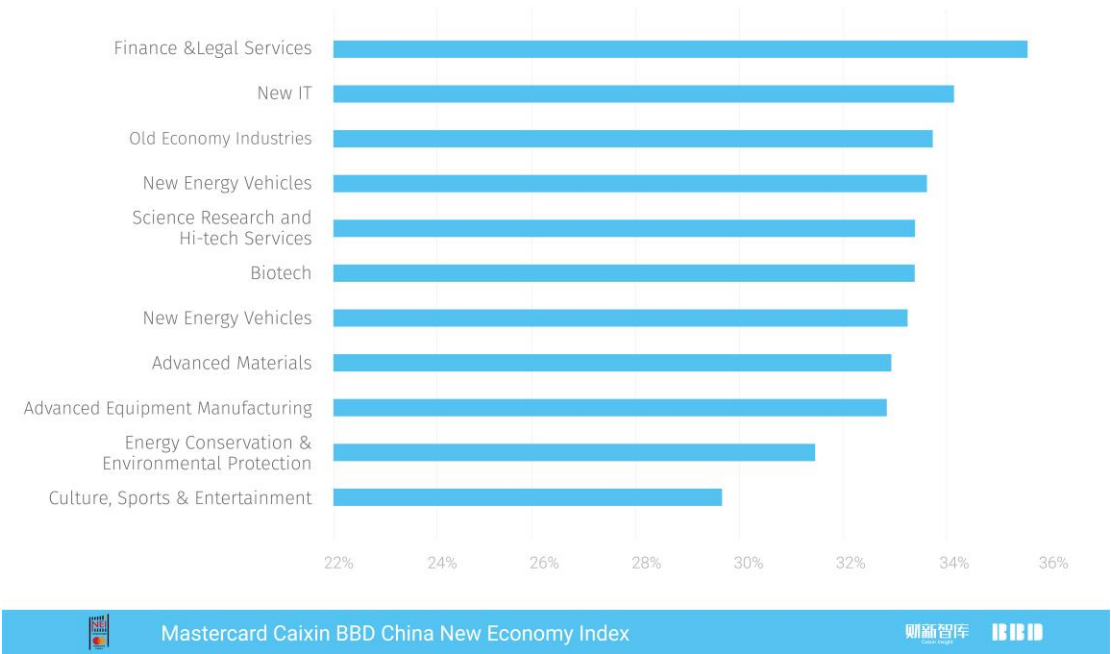
Chart 8-1: Repeating Skills Demanded by Industries

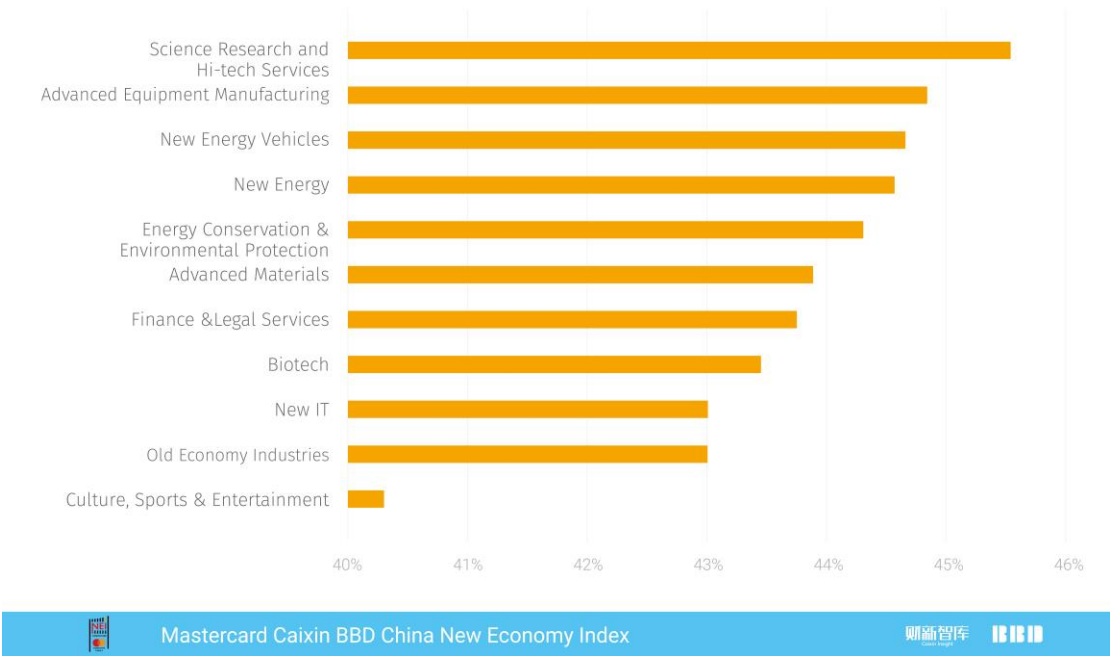## Chart 8-2: Analytical Skills Demanded by Industries
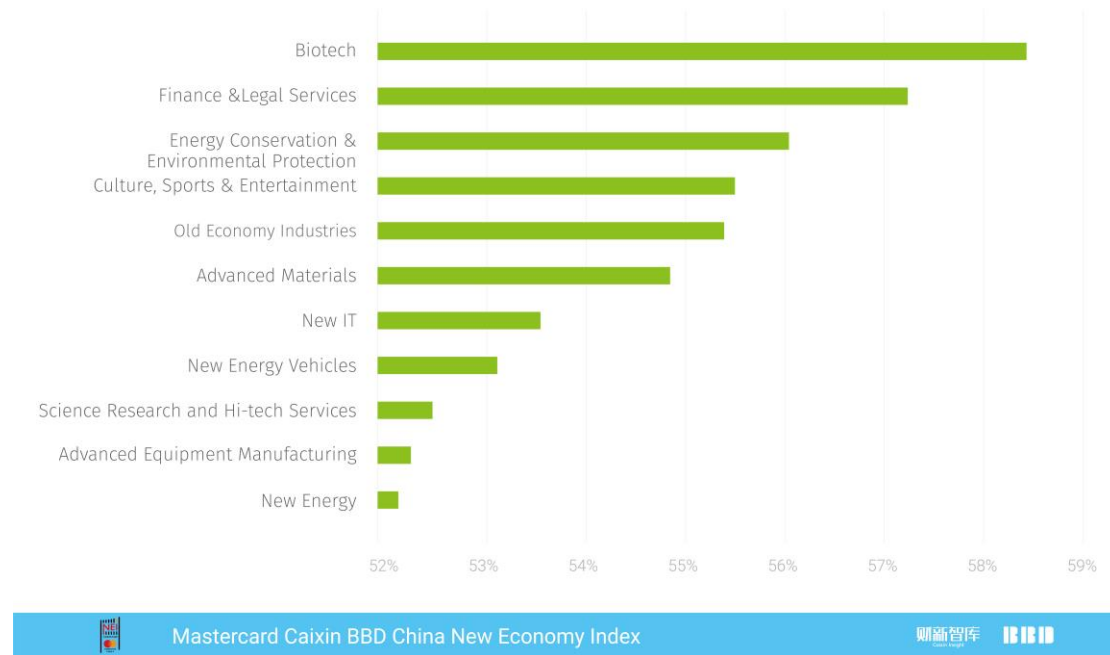
Chart 8-3: Social Skills Demanded by Industries

Biotech
Finance &Legal Services
Energy Conservation & Environmental Protection
Culture, Sports & Entertainment
Old Economy Industries
Advanced Materials
New IT
New Energy Vehicles
Science Research and Hi-tech Services
Advanced Equipment Manufacturing
New Energy

52% 53% 54% 55% 56% 57% 58% 59%

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Chart 8-4: Service Skills Demanded by Industries

Biotech
Finance &Legal Services
Culture, Sports & Entertainment
Old Economy Industries
Energy Conservation & Environmental Protection
Advanced Materials
New IT
New Energy Vehicles
Advanced Equipment Manufacturing
Science Research and Hi-tech Services
New Energy

42% 43% 44% 55% 46% 47% 48% 49% 50%

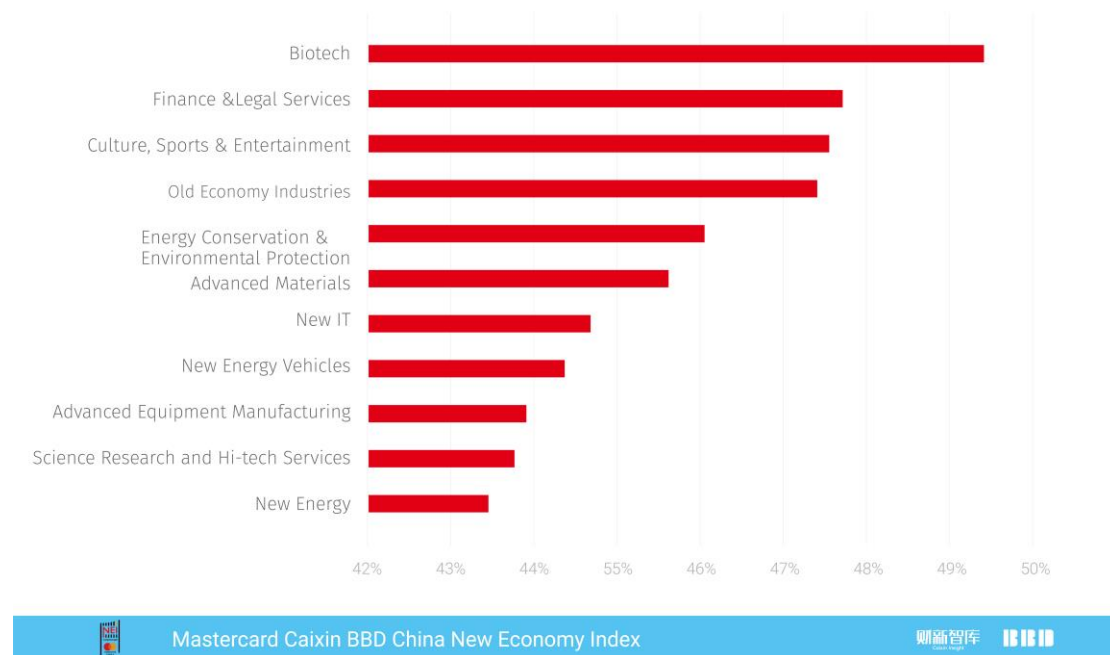Mastercard Caixin BBD China New Economy Index   财新智库 BBD

Chart 9 showed the professional skills demanded in new economy and old economy industries. In terms of repeating and service skills, the demands by new economy industries were always lower than old economy, and the gap between them almost stayed unchanged. In social skills demanded, the new economy industries were higher than the old economy industries early, but

fell below the old economy industries since the second half of 2018. Trend for analytical skills demanded by new economy industries was reversed: the demand gradually surpassed the old economy industries in recent years and the gap was widening. In general, there was no significant difference between the new economy industries and the old economy industries in different skills demanded. It was worth noting that, increasing demands for social skills were not observed and the importance of analytical skills weren't weakened in era of artificial intelligence.

Chart 9-1: Repeating Skills Demanded in New Economy Industries and Old Economy Industries
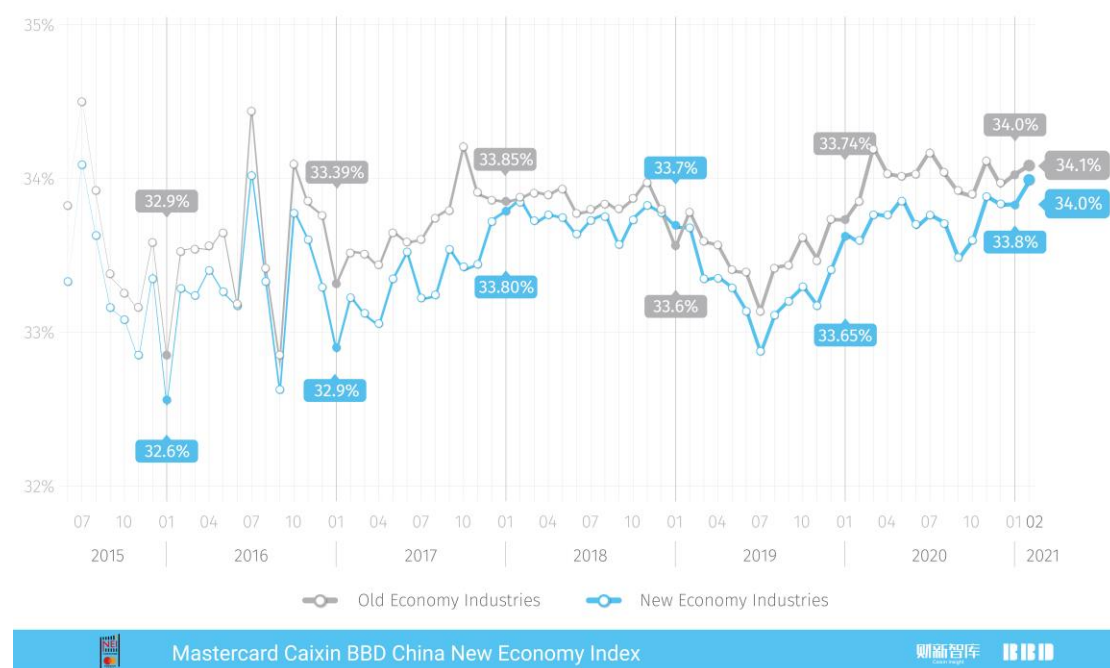

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Chart 9-2: Analytical Skills Demanded in New Economy Industries and Old Economy Industries


Old Economy Industries   New Economy Industries

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Chart 9-3: Social Skills Demanded in New Economy Industries and Old Economy Industries

Old Economy Industries   New Economy Industries

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Chart 9-4: Service Skills Demanded in New Economy Industries and Old Economy Industries

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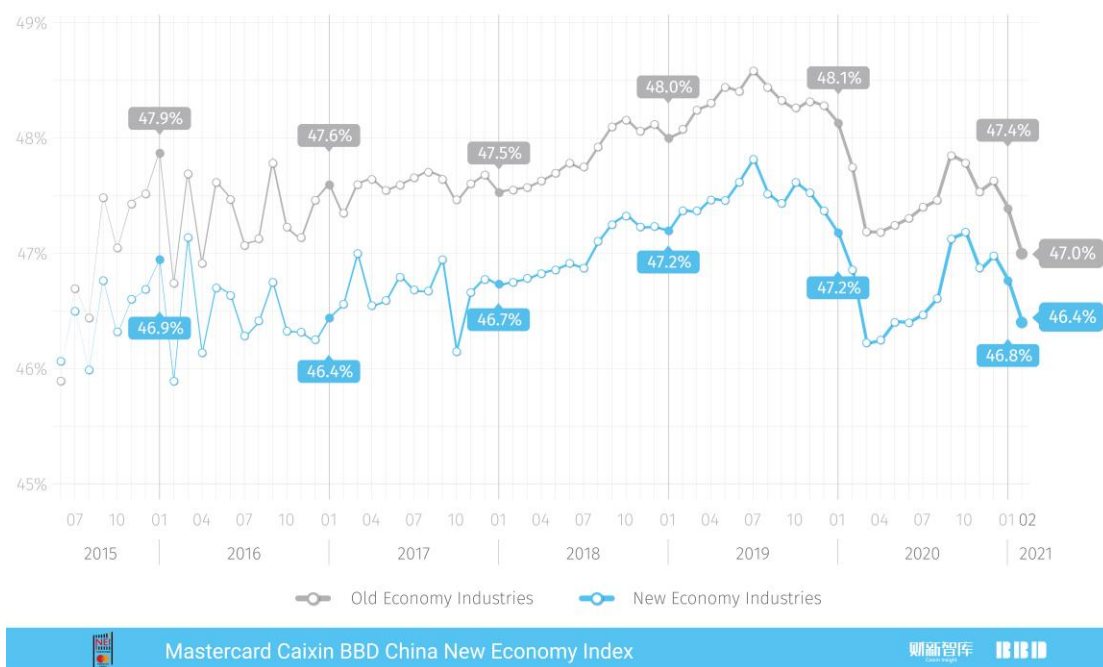
City Rankings of the New Economy

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 February, the top five cities were Beijing, Guangzhou, Hangzhou, Shanghai and Shenzhen.

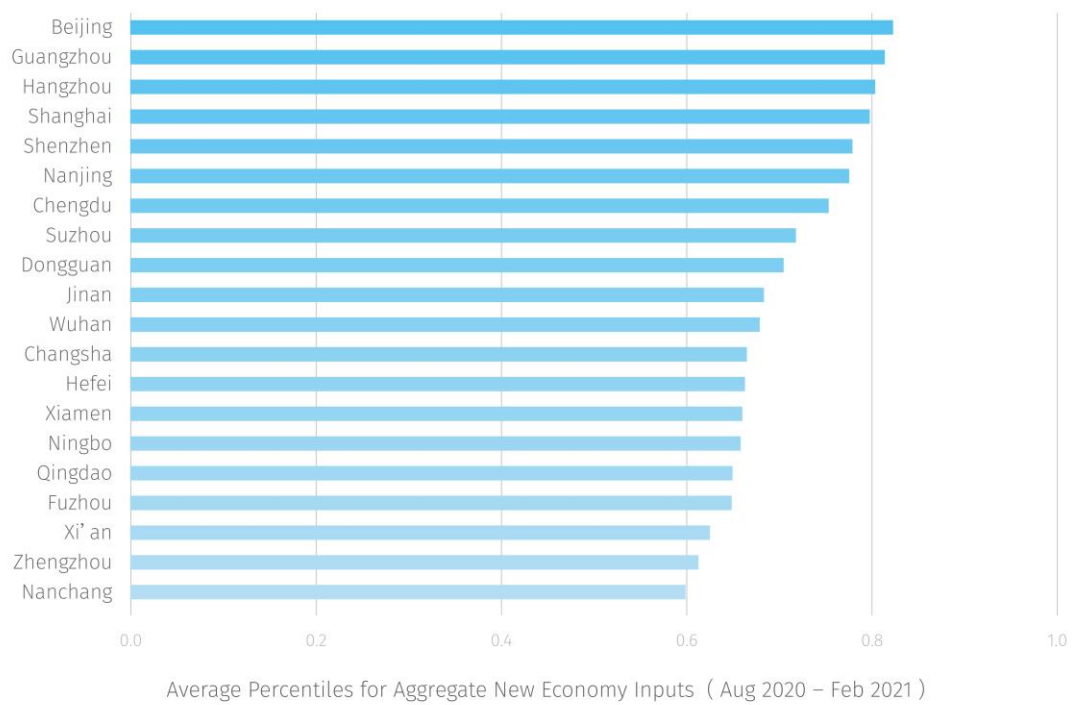## Chart 10: China's Top 20 Cities Ranked by New Economy Sector Output

Beijing
Guangzhou
Hangzhou
Shanghai
Shenzhen
Nanjing
Chengdu
Suzhou
Dongguan
Jinan
Wuhan
Changsha
Hefei
Xiamen
Ningbo
Qingdao
Fuzhou
Xi'an
Zhengzhou
Nanchang

0.0   0.2   0.4   0.6   0.8   1.0

Average Percentiles for Aggregate New Economy Inputs（Aug 2020 – Feb 2021）

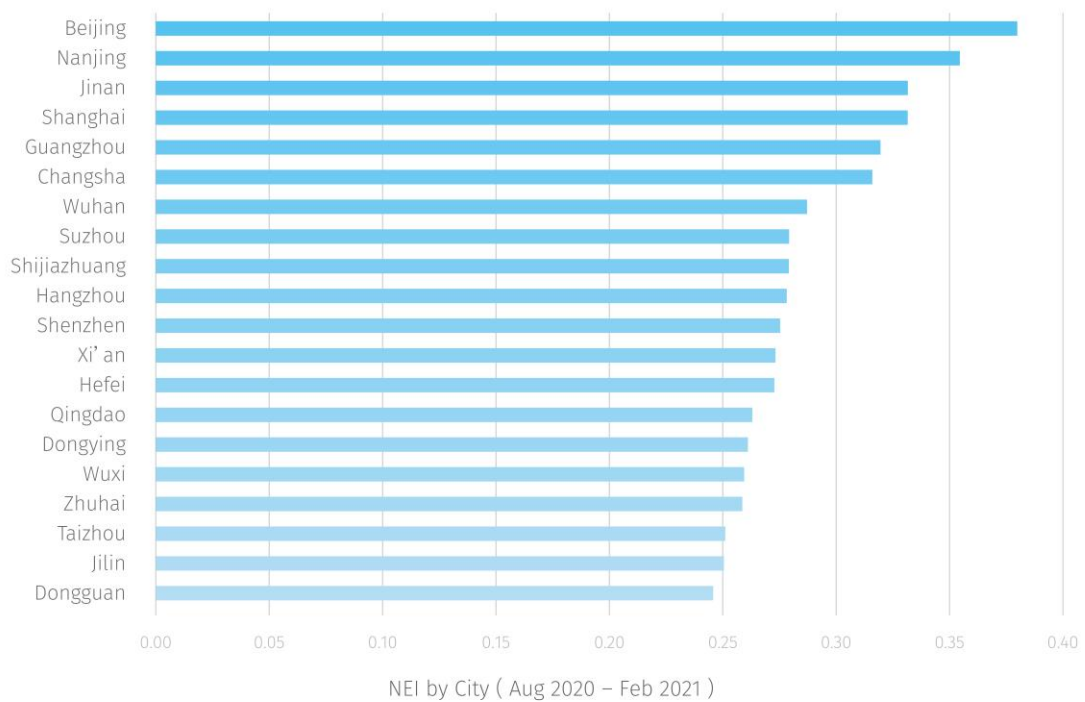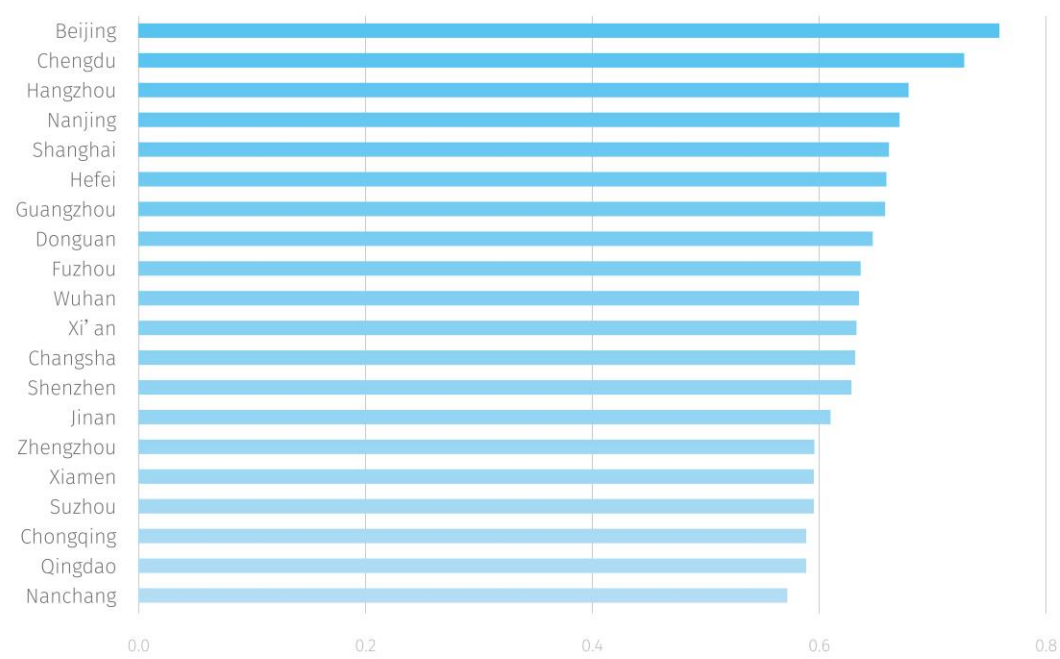Mastercard Caixin BBD China New Economy Index

Chart 11 showed the average NEI city rankings between August 2020 and February 2021. The top five cities were Beijing, Nanjing, Jinan, Shanghai and Guangzhou.

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

NEI by City (Aug 2020 – Feb 2021)

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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, Nanjing and Shanghai, following by Hefei and Guangzhou.

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（Aug 2020 – Feb 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.

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