

China Human Capital Report Series

**The Brief Report of Human Capital in China
2019**

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Beijing, China

December 2019

(All real values are based on 1985 prices unless otherwise specified. The annual average growth rate calculates the simple growth rate for each year firstly, then averages it to reflect the annual change in growth rate. The age of the mainland's labor force is defined as 16 to 60 for men and 16 to 55 for women. The age of Taiwan's labor force is defined as 16 to 60 for both males and females. The age of Hong Kong's Labor force is defined as 15 to 64 for men and 15 to 59 for women.)

I) Traditional Human Capital Measures

1. In 2017, the average age of the labor force at the national level was 37.8 years. The five provinces with the oldest labor force were Liaoning, Jilin, Heilongjiang, Chongqing, and Hunan, and the five provinces with youngest labor force were Guangdong, Guizhou, Hainan, Xinjiang and Tibet.
2. In 2017, the average years of schooling of the labor force at the national level was 10.2. The five provinces with highest years of schooling were Beijing, Shanghai, Tianjin, Jiangsu and Liaoning, and the five provinces with the lowest years of schooling were Gansu, Yunnan, Guizhou, Qinghai and Tibet.
3. In 2017, the proportion of the labor force with high school education or higher was 37.51%, 20.5% in rural areas and 50.32% in urban areas.
4. In 2017, the proportion of the labor force with college education or above was 17.6%, 5.5% for the rural areas and 26.7% for the urban areas.

II) The J-F based human capital measures

5. The J-F measure of China's total human capital reached RMB 1934.3 trillion in current value in 2017, with RMB 1587.4 trillion (82.1%) in urban and RMB 346.9 trillion (17.9%) in rural areas.
6. Human capital per capita was RMB 1721 thousand in current value in 2017, RMB 2349 thousand for urban residents and 774 thousand for rural residents. Males' average human capital was RMB 2175 thousand and females' was 1206 thousand.
7. In 2017, the five provinces with highest human capital stock were Shandong, Jiangsu, Henan, Guangdong and Zhejiang, and the five provinces with lowest human capital stock were Gansu, Hainan, Ningxia, Qinghai and Tibet.

8. The five provinces with highest human capital per capita were Shanghai, Beijing, Tianjin, Zhejiang and Jiangsu, and the five provinces with lowest level were Heilongjiang, Xinjiang, Tibet, Yunnan, Gansu and Qinghai.
9. The five provinces with highest average labor force human capital per capita were Beijing, Tianjin, Shanghai, Zhejiang and Jiangsu, and the five provinces with the lowest were Guizhou, Yunnan, Gansu, Qinghai and Tibet.
10. China's total real human capital stock in 2017 was 10.4 times its level in 1985, having grown at an average annual rate of 7.7%. The average annual growth rate during the decade 2008-2017 was 7.4%.
11. From 1985 to 2017, rural human capital grew at an average annual rate of 3.7%, and urban human capital grew at 10.3%; while during the decade 2008-2017, the growth rate was 8.4% for urban areas but only 3.7% for rural areas. This decline in the average annual growth of rural human capital largely reflects China's rapid urbanization.
12. Urban human capital surpassed the rural human capital in 1992 and has remained higher since then.
13. Human capital per capita grew from 39,780 yuan to 345,790 yuan in real value, at an average annual rate of 7.1% over the period 1985-2017 and at a rate of 7.1% over the years 2008-2017.
14. The average annual growth rate of human capital per capita during the period of 1985-2017 was 6.4% for urban and 5.4% for rural areas. For the years 2008-2017 the growth rates were 5.7% and 6.2% in urban and rural areas, respectively.

III) Hong Kong and Taiwan

15. In 2017, the average age of labor force was 39.1 years in Hong Kong and 38.2 years in Taiwan.
16. In 2017, the average years of schooling of the labor force were 12.4 years in Hong Kong and 13.6 years in Taiwan.
17. In 2017, the proportion of the labor force with high school education or above was 76.5% in Hong Kong and 87.9% in Taiwan.

18. In 2017, the proportion of the labor force with college education or above was 43.0% in Hong Kong and 54.5% in Taiwan.
19. In Hong Kong, the average annual growth rate of J-F based total human capital between 1985 and 2017 was 4.2%, and for human capital per capita it was 3.6%; while over the years 2008-2017, the rates were 4.0% and 4.2%, respectively.
20. In Taiwan, during 1985-2017, the average annual growth rate of J-F based total human capital was 1.7%, and for human capital per capita it was 1.6%; while over the years 2008-2017, the rates were -1.5% and -0.8%, respectively.

1.1 Average Age of the Labor Force at the Provincial Level

Table 1.1 shows the comparison of average age of the labor force in 2017 among all provinces in China in descending order. In general, the average age of the labor force was between 34 and 40 years in 2017, and the three northeast provinces of China (Liaoning, Jilin and Heilongjiang) ranked at the oldest, while Tibet was the youngest.

Table1.1 Average Age of the Labor Force at Provincial Level (2017)

Unit: Year (of age)

Rank	Province	Average Age		
		Sub-Total	Urban	Rural
1	Liaoning	39.51	39.78	38.95
2	Jilin	39.29	39.74	38.81
3	Heilongjiang	39.28	39.43	39.06
4	Chongqing	39.15	39.54	38.41
5	Hunan	38.57	39.12	37.98
6	Zhejiang	38.48	38.15	39.18
7	Inner Mongolia	38.24	37.98	38.64
8	Shanghai	38.23	38.23	-
9	Sichuan	38.23	38.69	37.77
10	Jiangsu	38.20	38.08	38.45
11	Shandong	38.00	37.76	38.24
12	Hebei	37.95	37.99	37.91
13	Tianjin	37.82	37.75	38.17
14	Hubei	37.80	37.82	37.77
15	Jiangxi	37.75	38.43	37.06
16	Fujian	37.71	37.69	37.74
17	Henan	37.31	37.98	36.72
20	Guangxi	37.22	37.71	36.82
21	Shannxi	37.22	36.94	37.54
22	Gansu	37.21	37.78	36.80
23	Qinghai	37.14	38.6	35.77
24	Ningxia	36.90	38.11	35.43
25	Beijing	36.90	36.77	37.64
26	Anhui	36.83	36.43	37.26
27	Shanxi	36.76	36.94	36.56
28	Yunnan	36.74	37.45	36.20
29	Guangdong	36.38	36.75	35.56
30	Guizhou	36.07	37.65	35.15

Rank	Province	Average Age		
		Sub-Total	Urban	Rural
31	Hainan	36.04	36.74	35.30
32	Xinjiang	35.97	36.79	35.30
33	Tibet	34.38	35.54	34.11
	Mainland	37.80	38.09	37.42

1.2 Education Indicators at the Provincial Level

Table 1.2.1 shows the provincial rankings of average years of schooling of the labor force in 2017. In general, the provinces with better economic development have more schooling; leading examples are Beijing, Shanghai and Tianjin; in contrast, underdeveloped provinces, such as Guizhou, Qinghai and Tibet, rank at the bottom in terms of educational attainment. Average schooling years of the urban labor force exceeds that of the rural labor force in each province, and the urban-rural gap is greater in the less-developed provinces. For example, the urban-rural differential in Tibet was 4.35 years while the gap in Beijing was only 2.79.

Table1.2.1 Average Years of Schooling of the Labor Force at Provincial Level (2017)

Unit: Year

Rank	Province	Average Years of Schooling		
		Sub-total	Urban	Rural
1	Beijing	12.84	13.23	10.44
2	Shanghai	11.86	11.86	-
3	Tianjin	11.04	11.37	9.38
4	Jiangsu	10.81	11.35	9.64
5	Liaoning	10.76	11.63	8.99
6	Shannxi	10.55	11.64	9.34
7	Hunan	10.46	11.36	9.50
8	Hubei	10.37	11.39	9.01
9	Guangdong	10.34	10.76	9.38
10	Shanxi	10.27	11.31	9.06
11	Zhejiang	10.15	10.60	9.23
12	Heilongjiang	10.12	11.22	8.62
13	Jilin	10.12	11.39	8.75
14	Chongqing	10.12	10.79	8.85

Rank	Province	Average Years of Schooling		
		Sub-total	Urban	Rural
15	Hebei	10.11	11.00	9.17
16	Shandong	10.09	11.33	8.84
17	InnerMongolia	10.09	11.03	8.63
18	Hainan	10.06	10.80	9.26
19	Henan	10.01	10.87	9.25
20	Fujian	9.95	10.53	8.87
21	Jiangxi	9.92	10.76	9.07
22	Xinjiang	9.89	11.56	8.50
23	Ningxia	9.71	10.91	8.26
24	Anhui	9.69	10.83	8.46
25	Sichuan	9.69	10.89	8.53
26	Guangxi	9.62	10.75	8.67
27	Gansu	9.43	11.33	8.11
28	Yunnan	8.95	10.41	7.82
29	Guizhou	8.79	10.11	8.02
30	Tibet	8.18	9.93	6.52
31	Qinghai	5.72	9.26	4.91
	Mainland	10.19	11.11	8.96

Table1.2.2 shows the 2017 provincial rankings for the proportion of worker with high school education and above in the total, rural and urban labor forces. Beijing, Shanghai and Tianjin had the highest average years of schooling, while Qinghai and Tibet were at the bottom, as they were in average years of schooling.

Table1.2.2 The Proportion of High School Education and Above of the Labor Force at Provincial Level (2017)

Unit: %

Rank	Province	The proportion of high school education and above		
		Sub-total	Urban	Rural
1	Beijing	71.44	76.28	41.49
2	Shanghai	58.54	58.54	-
3	Tianjin	47.76	53.31	19.84
4	Jiangsu	45.85	53.65	28.85
5	Hunan	42.61	55.98	28.22
6	Shannxi	41.70	56.24	25.33
7	Liaoning	41.26	54.88	13.36
8	Guangdong	40.73	47.32	25.83
9	Hubei	38.60	54.43	17.52
10	Chongqing	38.12	47.70	20.08

Rank	Province	The proportion of high school education and above		
		Sub-total	Urban	Rural
11	Zhejiang	37.30	42.95	25.58
12	InnerMongolia	36.68	50.72	14.93
13	Ningxia	36.60	50.57	19.60
14	Shanxi	36.38	53.33	16.48
15	Fujian	36.05	43.29	22.73
16	Jilin	34.50	54.71	12.62
17	Gansu	34.47	56.18	19.33
18	Hainan	33.97	46.55	20.49
19	Jiangxi	33.89	45.86	21.61
20	Henan	33.75	47.52	21.57
21	Hebei	33.52	47.79	18.24
22	Shandong	33.43	52.73	14.05
23	Heilongjiang	33.38	50.33	10.04
24	Sichuan	33.05	48.34	18.21
25	Xinjiang	32.61	58.01	11.59
26	Anhui	29.77	46.87	11.18
27	Guangxi	28.31	44.55	14.79
28	Qinghai	25.93	41.34	11.37
29	Yunnan	25.66	42.18	13.01
30	Guizhou	23.13	37.71	14.59
31	Tibet	13.01	38.79	7.13
	Mainland	37.51	50.33	20.50

Table 1.2.3 shows the provincial rankings for the proportion of workers with college education and above in the labor force in 2017. The rankings are consistent with the rankings of the proportion of workers with high school education in general. However, some provinces rank lower in their proportions of college graduates than of high-school graduates because of the factors such as quantity and quality of universities in the province. Liaoning is an example.

Table1.2.3 The Proportion of College Education and Above of the Labor Force at Provincial Level (2017)

Rank	Province	The proportion of college education and above		
		Sub-total	Urban	Rural
1	Beijing	50.55	55.95	17.09
2	Shanghai	37.40	37.40	-
3	Tianjin	25.58	29.22	7.29

Unit: %

Rank	Province	The proportion of college education and above		
		Sub-total	Urban	Rural
4	Liaoning	22.90	32.09	4.07
5	Shannxi	22.61	35.34	8.27
6	Jiangsu	22.54	28.80	8.90
7	Zhejiang	19.85	25.16	8.86
8	Ningxia	19.59	30.20	6.68
9	Xinjiang	18.48	36.33	3.71
10	Hubei	18.43	29.14	4.17
11	Fujian	17.41	23.43	6.31
12	InnerMongolia	17.18	25.18	4.77
13	Heilongjiang	16.65	26.51	3.07
14	Gansu	16.39	31.45	5.89
15	Hunan	16.18	26.14	5.47
16	Jilin	16.08	27.21	4.02
17	Chongqing	16.07	22.06	4.78
18	Shandong	15.80	28.88	2.66
19	Shanxi	15.75	26.76	2.83
20	Sichuan	15.19	25.74	4.96
21	Guangdong	15.10	19.56	5.03
22	Hebei	14.57	24.18	4.27
23	Hainan	13.66	20.56	6.27
24	Anhui	13.49	23.56	2.54
25	Jiangxi	13.38	21.57	4.99
26	Qinghai	13.25	22.68	4.34
27	Yunnan	12.64	23.96	3.98
28	Guangxi	11.91	21.98	3.52
29	Henan	11.84	20.53	4.16
30	Guizhou	10.65	21.40	4.36
31	Tibet	6.97	25.21	2.81
	Mainland	17.57	26.69	5.46

2. Cross-province human capital comparison based on J-F method

2.1 Cross-province real human capital comparison

Table 2.1 presents the provincial comparison of real human capital in 1985 prices. Real human capital is created by deflating nominal human capital by a living cost index based on Brandt and Holz (2006). We use their living cost index and update it over time using provincial CPI's to construct a deflator that is comparable across provinces and over time. The ranking of real human capital is similar to the nominal ranking: Shandong has the highest real human capital, followed by Jiangsu; Tibet ranks the lowest.

Table 2.1: Real Human Capital for Provinces

Unit: 0.1 trillion yuan

Rank	Province	Real Human Capital
1	Shandong	291.0
2	Jiangsu	254.0
3	Henan	251.0
4	Guangdong	243.0
5	Zhejiang	221.0
6	Hebei	203.0
7	Anhui	181.0
8	Sichuan	181.0
9	Hubei	151.0
10	Jiangxi	133.0
11	Beijing	132.0
12	Hunan	129.0
13	Fujian	114.0
14	Guangxi	108.0
15	Shanghai	91.9
16	Liaoning	90.3
17	Shannxi	79.6
18	Chongqing	79.5
19	Yunnan	78.8
20	Shanxi	71.9
21	Guizhou	68.6
22	Tianjin	67.6

Rank	Province	Real Human Capital
23	Jilin	61.7
24	Inner Mongolia	61.5
25	Heilongjiang	61.1
26	Xinjiang	46.4
27	Gansu	36.4
28	Hainan	17.2
29	Ningxia	16.0
30	Qinghai	7.7
31	Tibet	5.7

2.2 Cross-province real human capital per capita comparison

Table 2.2 shows the provincial comparison of real human capital per capita. The provincial ranking of real human capital per capita is obviously different from that of total provincial real human capital, with Shanghai, Beijing and Tianjin ranking as the top three and Qinghai at the bottom. The per-capita human capital ranking presents a good picture of the inequality of the development stage of the provinces. The ranking is influenced by education level and population structure. More importantly, at this stage of China's economic development, regional inequality in potential earnings has led to clustering of educated workers in the provinces where their earnings potential is highest.

Table 2.2: Real Human Capital Per Capital for Provinces

Unit: thousand yuan		
Rank	Province	Real Human Capital Per Capita
1	Shanghai	542.95
2	Beijing	530.18
3	Tianjin	529.94
4	Zhejiang	479.32
5	Jiangsu	405.39
6	Shandong	367.01
7	Anhui	356.52
8	Fujian	350.49
9	Jiangxi	342.46
10	Hebei	338.39

Rank	Province	Real Human Capital Per Capita
11	Chongqing	336.79
12	Hubei	327.95
13	Henan	322.60
14	Inner Mongolia	297.22
15	Jilin	293.25
16	Liaoning	280.01
17	Shannxi	278.35
18	Sichuan	276.82
19	Ningxia	269.05
20	Guangxi	269.05
21	Guangdong	259.19
22	Hunan	235.72
23	Shanxi	234.46
24	Guizhou	232.52
25	Xinjiang	218.42
26	Hainan	215.26
27	Heilongjiang	207.16
28	Tibet	195.40
29	Yunnan	192.82
30	Gansu	168.26
31	Qinghai	148.70

2.3 Cross-province real labor force human capital comparison

Provincial real labor force human capital is displayed in table 2.3. Overall, Shandong has the highest real labor force human capital, followed by Guangdong and Jiangsu; Tibet has the least. The provincial rankings by real labor force human capital ranking can differ from their ranking based on total human capital because of the different sizes of the provincial labor forces relative to their populations.

Table 2.3: Real Labor Force Human Capital for Provinces

Unit: 0.1 trillion yuan		
Rank	Province	Real Labor Force Human Capital
1	Shandong	135.0
2	Guangdong	128.0
3	Jiangsu	123.0
4	Henan	112.0

Rank	Province	Real Labor Force Human Capital
5	Zhejiang	110.0
6	Hebei	94.3
7	Beijing	92.5
8	Sichuan	92.0
9	Anhui	86.0
10	Hubei	74.9
11	Hunan	62.2
12	Jiangxi	58.2
13	Fujian	53.4
14	Liaoning	52.6
15	Guangxi	48.1
16	Shanghai	46.3
17	Heilongjiang	43.9
18	Yunnan	42.2
19	Shanxi	42.1
20	Shannxi	40.8
21	Inner Mongolia	38.9
22	Tianjin	37.7
23	Chongqing	35.1
24	Jilin	34.5
25	Guizhou	31.1
26	Xinjiang	24.2
27	Gansu	20.7
28	Hainan	8.2
29	Ningxia	7.7
30	Qinghai	4.1
31	Tibet	2.5

2.4 Cross-province real labor force human capital per capita comparison

Table 2.4 shows the provincial comparison for real labor force human capital per member of the labor force. Average labor force human capital rankings are almost the same as those for real human capital per capita: Beijing remains at the top, Tianjin and Shanghai follow; Tibet remains to be the last.

Table 2.4: Real Labor Force Human Capital Per Capital for Provinces

Unit: thousand yuan		
Rank	Province	Real Labor Force Human Capital Per Capital
1	Beijing	420.16
2	Tianjin	391.72
3	Shanghai	340.37
4	Zhejiang	324.61
5	Jiangsu	274.15
6	Anhui	273.81
7	Shandong	256.98
8	Fujian	239.24
9	Hebei	238.14
10	Inner Mongolia	235.98
11	Henan	234.55
12	Hubei	232.12
13	Jiangxi	231.25
14	Liaoning	230.96
15	Chongqing	217.52
16	Jilin	216.19
17	Guangdong	205.37
18	Sichuan	202.88
19	Heilongjiang	199.94
20	Shanxi	197.71
21	Ningxia	194.47
22	Shannxi	192.46
23	Guangxi	187.13
24	Xinjiang	174.65
25	Hunan	171.31
26	Hainan	169.53
27	Guizhou	158.14
28	Yunnan	148.28
29	Gansu	139.48
30	Qinghai	137.39
31	Tibet	117.80

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