

北京交通大学 毕业生就业质量 年度报告

BEIJING JIAOTONG
UNIVERSITY



1,0.15		02
1.1		03
1.1.1		03
1.1.2		04
1.2		05
1.2.1		05
1.2.2		06
1.2.3		09
1.2.4		14
1.3		15
1.3.1		15
1.3.2		16
1.3.3		17
1.3.4	500	18
1.3.5		19
1.3.6		19
1.3.7		20
1.3.8		20
1.4		21
1.4.1		21
1.4.2		22

1.4.3		22
1.4.4	500	23
1.4.5		25
1.4.6		25
1.5		26
1.5.1		26
1.5.2		27
1.6		27
1.6.1		27
1.6.2		28
0,		29
2.1	2013-2017	30
2.2		30
2.2.1	2013-2017	30
2.2.2	2013-2017	31
2.2.3	2013-2017	32
2.3		33
2.3.1	2013-2017	33
2.3.2	2013-2017	33
1,		34
3.1		35
3.1.1		35
3.1.2		35
3.2		35
3.2.1		35
3.2.2		36
3.3		36
3.3.1		36
3.3.2		37
3.3.3		37
3.3.4		38

3.4		38
3.4.1		38
3.4.2		39
3.5		39
3.5.1		39
3.5.2		40
2,		41
4.1	-	41
4.2	-	41
4.3		41
3,		42
5.1		42
5.2		42
5.3		43
5.4		43

“ ” “ ” “ ”



0./5



2017

2017

2017 10 31

知行



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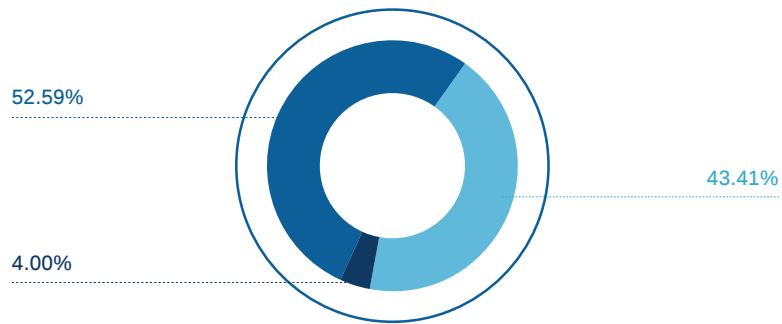
2017

6399

256

2778

3365



1.1

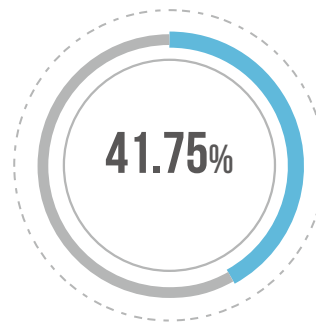
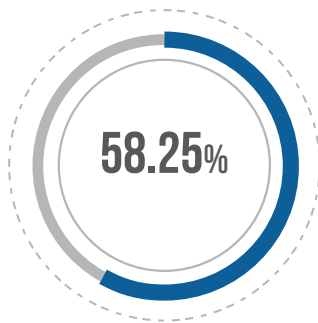
I,I,I

1960

58.25%

1405

41.75%



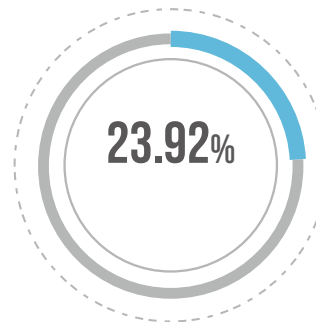
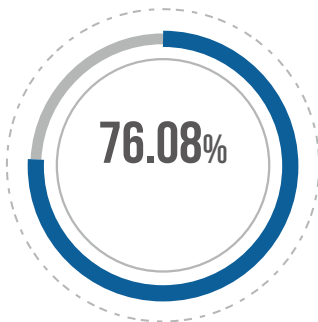
1.2

805

23.92%

2560

76.08%



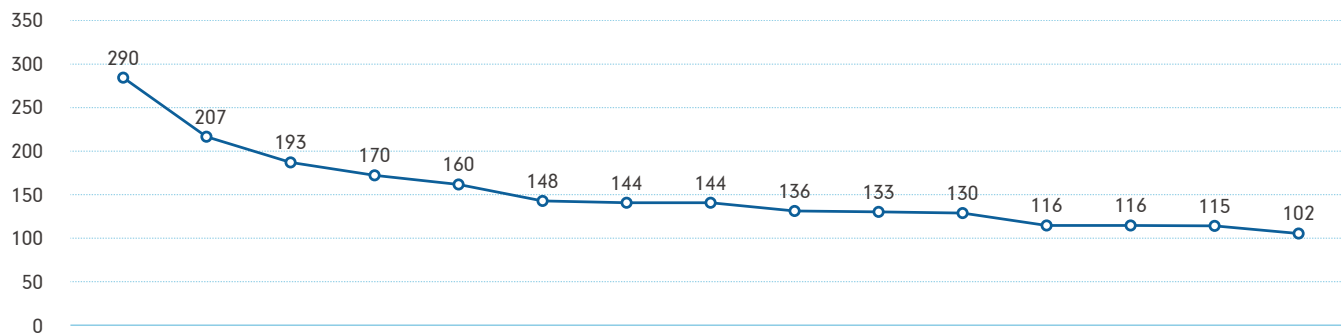
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31

290

207

193



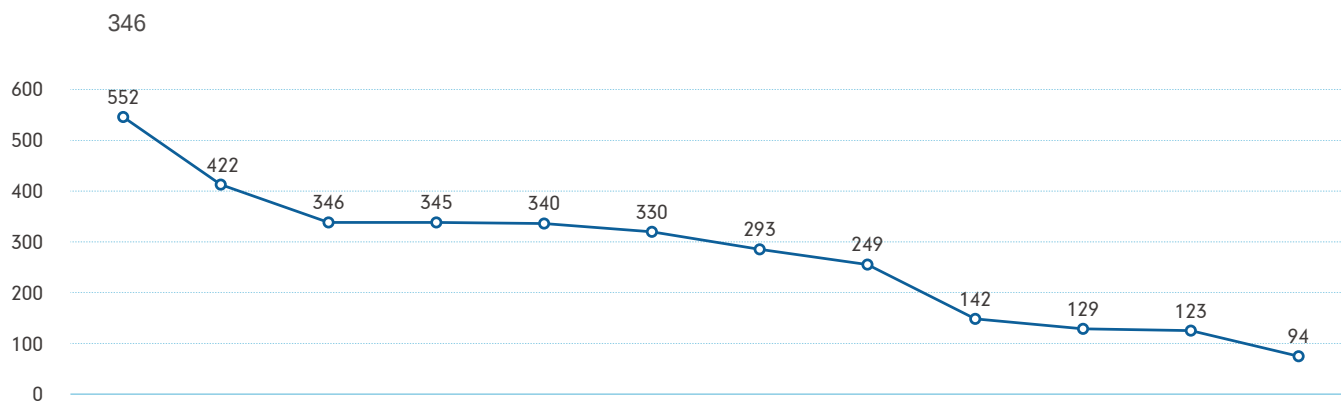
1.4

12

3

552

422



1.5

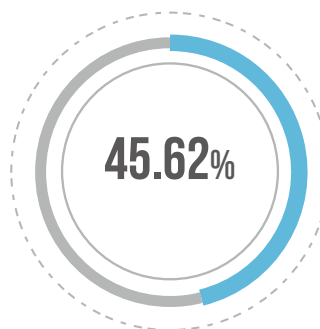
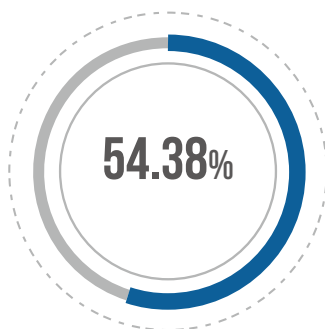
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1650

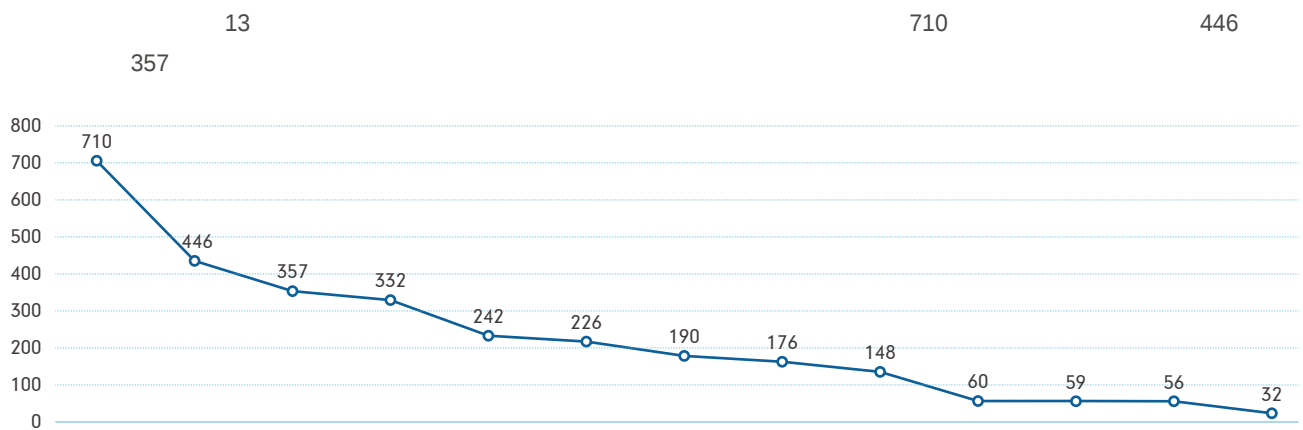
54.38%

1384

45.62%

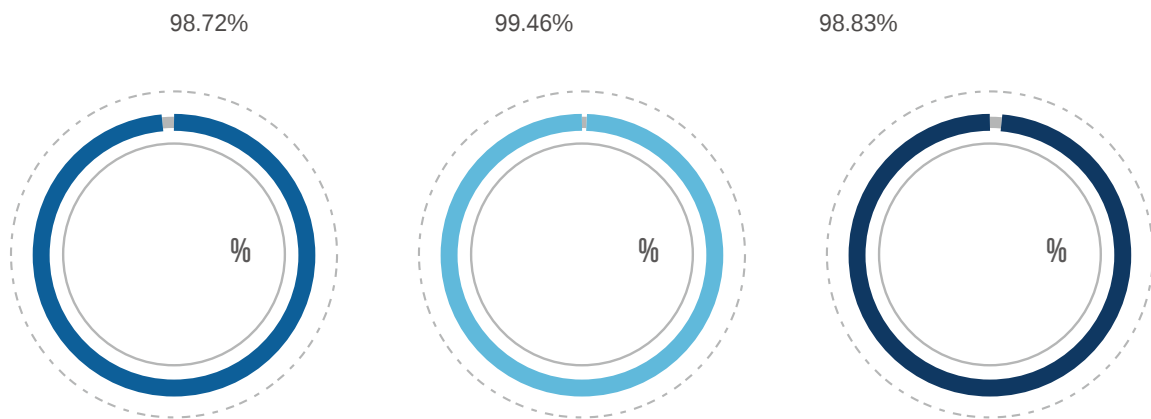


1.6



1.7

I,0



1.8

I,0,I

1.1 2017

	& # '	& # '	& # '	& # '
3365	54.80	20.24	84.19	98.72
2778	3.20	64.15	91.50	99.46
256	26.95	60.94	94.14	98.83

/ = + = / = / + + =
 / = + = + + / = + + =

/,0,0

1.2

		& # '	& # '	& # '	& # '
	69	63.77	15.94	86.96	100.00
	133	60.15	23.31	90.98	100.00
	216	63.43	13.43	84.27	99.07
()	46	65.22	13.04	82.61	100.00
()	52	84.62	1.92	88.46	100.00
	36	47.22	22.22	83.33	100.00
	552	63.77	15.58	86.41	99.64

1.3

		& # '	& # '	& # '	& # '
	97	57.73	14.43	79.38	98.97
()	39	35.90	15.38	56.41	97.44
	37	56.76	8.11	75.68	100.00
	21	42.86	28.57	80.95	100.00
	25	56.00	12.00	76.00	100.00
()	30	60.00	6.67	66.67	100.00
	249	53.01	13.65	73.49	99.20

1.4

		& # '	& # '	& # '	& # '
	20	40.00	15.00	75.00	100.00
	36	52.78	19.44	86.11	97.22
	32	40.63	21.88	84.39	100.00
	25	40.00	36.00	92.00	92.00
	89	74.16	12.36	89.89	100.00
	91	69.23	6.59	86.81	98.90
()	7	85.71	0.00	85.71	100.00
	51	74.51	3.92	90.19	98.04
	48	47.92	25.00	79.17	100.00
()	5	60.00	40.00	100.00	100.00
	18	50.00	22.22	94.44	100.00
	422	61.14	14.93	86.97	98.82

1.5

		& # '	& # '	& # '	& # '
	27	44.44	3.70	77.77	100.00
	67	68.66	20.90	91.05	97.01
	9	66.67	22.22	100.00	100.00
()	52	48.08	46.15	96.15	96.15
()	127	41.73	42.52	88.97	95.28
(,)	9	77.78	11.11	100.00	100.00
()	25	80.00	4.00	92.00	100.00
	30	70.00	13.33	90.00	96.67
	346	54.91	29.19	90.46	96.82

1.6

		& # '	& # '	& # '	& # '
	7	42.86	14.29	57.15	100.00
	33	75.76	9.09	84.85	100.00
	236	42.80	34.32	77.97	97.88
()	31	54.84	35.48	90.32	96.77
()	2	100.00	0.00	100.00	100.00
()	31	45.16	38.71	83.87	100.00
	340	47.65	31.76	80.00	98.24

1.7

		& # '	& # '	& # '	& # '
	56	44.64	28.57	91.07	100.00
	54	55.56	25.93	88.90	100.00
	22	54.55	9.09	86.37	95.45
	120	35.83	50.83	94.16	99.17
()	30	80.00	6.67	96.67	100.00
	63	39.68	42.86	92.06	98.41
	345	46.09	35.36	92.17	99.13

1.8

		& # '	& # '	& # '	& # '
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1.9

		& # '	& # '	& # '	& # '
	43	65.12	9.30	88.37	97.67
()	14	78.57	0.00	85.71	100.00
	72	63.89	8.33	84.72	100.00
	6	50.00	0.00	66.67	83.33
()	46	82.61	6.52	93.48	100.00
()	10	90.00	10.00	100.00	100.00
	87	59.77	6.90	85.06	98.85
()	5	100.00	0.00	100.00	100.00
(,)	7	57.14	0.00	85.71	100.00
()	3	100.00	0.00	100.00	100.00
	293	67.92	6.83	87.37	98.98

1.10

		& # '	& # '	& # '	& # '
50	66.00	8.00	84.00	98.00	
25	48.00	8.00	92.00	96.00	
48	66.67	10.42	91.67	97.92	
123	62.60	8.94	88.62	97.56	

1.11

		& # '	& # '	& # '	& # '
142	52.82	4.23	94.37	100.00	
142	52.82	4.23	94.37	100.00	

1.12

		& # '	& # '	& # '	& # '
24	25.00	4.17	45.84	100.00	
54	61.11	9.26	75.93	98.15	
24	58.33	0.00	62.50	100.00	
27	33.33	0.00	37.03	100.00	
129	48.06	4.65	59.69	99.22	

1.13

	& # '	& # '	& # '	& # '
94	32.98	15.96	53.19	100.00
94	32.98	15.96	53.19	100.00

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1.14

	#	#	#	#	#
40	2.50	62.50	22.50	87.50	100.00
67	5.97	61.19	16.42	83.58	100.00
8	0.00	50.00	0.00	50.00	87.50
77	3.90	85.71	9.09	98.70	100.00
60	5.00	73.33	15.00	93.33	100.00
12	0.00	83.33	8.33	91.67	100.00
128	1.56	75.00	14.06	90.63	100.00
15	6.67	60.00	20.00	86.67	100.00
407	3.44	72.48	14.25	90.17	99.75

1.15

	#	#	#	#	#
26	0.00	65.38	7.69	73.08	100.00
57	1.75	54.39	31.58	87.72	100.00
76	1.32	67.11	21.05	89.47	100.00
7	0.00	28.57	42.86	71.43	100.00
8	0.00	25.00	62.50	87.50	87.50
9	0.00	55.56	44.44	100.00	100.00
28	7.14	35.71	39.29	82.14	100.00
17	0.00	82.35	11.76	94.12	100.00
228	1.75	57.89	26.75	86.40	99.56

1.16

	#	#	#	#	#
9	0.00	66.67	22.22	88.89	100.00
33	3.03	42.42	39.39	81.82	96.97
24	0.00	50.00	50.00	100.00	100.00
13	0.00	69.23	30.77	100.00	100.00
152	1.32	26.97	70.39	97.37	100.00
23	0.00	69.57	26.09	95.65	95.65
4	0.00	50.00	50.00	100.00	100.00
5	0.00	100.00	0.00	100.00	100.00
10	20.00	60.00	20.00	80.00	100.00
49	2.04	57.14	38.78	95.92	100.00
33	0.00	72.73	27.27	100.00	100.00
11	0.00	72.73	27.27	100.00	100.00
48	2.08	50.00	43.75	93.75	100.00
20	0.00	60.00	35.00	95.00	100.00
15	0.00	73.33	26.67	100.00	100.00
7	0.00	28.57	71.43	100.00	100.00
32	0.00	50.00	46.88	96.88	100.00
77	3.90	61.04	32.47	93.51	100.00
4	0.00	25.00	75.00	100.00	100.00
22	0.00	54.55	40.91	95.45	100.00
31	0.00	48.39	51.61	100.00	100.00
27	0.00	77.78	18.52	96.30	100.00
17	0.00	47.06	52.94	100.00	100.00
11	9.09	27.27	63.64	90.91	100.00
677	1.62	50.67	45.05	95.72	99.85

1.17

	#	#	#	#	#
15	0.00	73.33	20.00	93.33	100.00
6	0.00	66.67	16.67	83.33	100.00
5	0.00	60.00	40.00	100.00	100.00
89	2.25	85.39	6.74	94.38	98.88
106	6.60	82.08	4.72	93.40	98.11
40	10.00	77.50	10.00	97.50	100.00
16	0.00	87.50	12.50	100.00	100.00
10	0.00	60.00	30.00	90.00	100.00
287	4.53	80.84	9.06	94.43	98.95

1.18

	#	#	#	#	#
34	11.76	70.59	8.82	91.18	100.00
8	0.00	75.00	0.00	75.00	100.00
10	10.00	50.00	10.00	70.00	90.00
16	0.00	68.75	18.75	87.50	100.00
71	2.82	74.65	2.82	80.28	100.00
18	5.56	77.78	5.56	88.89	100.00
1	0.00	100.00	0.00	100.00	100.00
13	15.38	61.54	7.69	84.62	92.31
1	0.00	100.00	0.00	100.00	100.00
5	0.00	40.00	40.00	80.00	100.00
141	4.96	74.47	9.22	88.65	99.29
318	5.35	72.33	8.18	85.85	99.06

1.19

	#	#	#	#	#
10	0.00	70.00	30.00	100.00	100.00
14	0.00	50.00	42.86	92.86	92.86
23	4.35	91.30	4.35	100.00	100.00
17	5.88	76.47	17.65	100.00	100.00
17	5.88	64.71	11.76	82.35	100.00
11	0.00	72.73	27.27	100.00	100.00
49	2.04	81.63	10.20	93.88	100.00
10	0.00	90.00	10.00	100.00	100.00
10	10.00	80.00	0.00	90.00	100.00
13	7.69	69.23	23.08	100.00	100.00
11	0.00	72.73	27.27	100.00	100.00
8	0.00	100.00	0.00	100.00	100.00
193	3.11	77.20	15.54	95.85	99.48

1.20

	#	#	#	#	#
171	3.51	84.80	9.36	97.66	100.00
171	3.51	84.80	9.36	97.66	100.00

1.21

	#	#	#	#	#
2	0.00	50.00	50.00	100.00	100.00
2	0.00	50.00	50.00	100.00	100.00
4	0.00	25.00	25.00	50.00	50.00
9	0.00	55.56	22.22	77.78	100.00
51	3.92	60.78	17.65	82.35	98.04
13	7.69	15.38	38.46	61.54	100.00
4	0.00	50.00	50.00	100.00	100.00
3	0.00	33.33	66.67	100.00	100.00
3	33.33	0.00	0.00	33.33	66.67
5	20.00	60.00	20.00	100.00	100.00
11	0.00	36.36	36.36	72.73	100.00
2	50.00	0.00	50.00	100.00	100.00
12	0.00	66.67	25.00	91.67	100.00
4	25.00	50.00	25.00	100.00	100.00
4	25.00	50.00	25.00	100.00	100.00
3	0.00	0.00	100.00	100.00	100.00
14	21.43	42.86	28.57	92.86	92.86
146	7.53	47.26	28.08	82.88	96.58

1.22

	#	#	#	#	#
1	0.00	0.00	100.00	100.00	100.00
21	4.76	57.14	38.10	100.00	100.00
6	16.67	66.67	16.67	100.00	100.00
28	7.14	57.14	35.71	100.00	100.00

1.23

	#	#	#	#	#
20	0.00	45.00	25.00	70.00	100.00
12	0.00	83.33	16.67	100.00	100.00
28	0.00	50.00	25.00	75.00	100.00
60	0.00	55.00	23.33	78.33	100.00

1.24

	#	#	#	#	#
148	2.03	53.38	43.92	99.33	100.00
148	2.03	53.38	43.92	99.33	100.00

1.25

	#	#	#	#	#
7	14.29	71.43	0.00	85.72	100.00
4	0.00	50.00	0.00	50.00	100.00
28	0.00	60.71	3.57	64.28	100.00
17	0.00	47.06	11.76	58.82	100.00
3	0.00	0.00	33.33	33.33	100.00
59	1.69	54.24	6.78	62.71	100.00

1.26

	#	#	#	#	#
()	20	5.00	55.00	25.00	85.00
()	17	0.00	47.06	23.53	70.59
	18	0.00	38.89	33.33	72.22
	1	0.00	100.00	0.00	100.00
	56	1.79	48.21	26.79	76.79

1,0,2

1.27

	#	#	#	#
3	0.00	66.67	66.67	100.00
12	16.67	75.00	91.67	100.00
1	0.00	100.00	100.00	100.00
23	26.09	60.87	100.00	100.00
7	28.57	42.86	100.00	100.00
4	25.00	75.00	100.00	100.00
3	0.00	100.00	100.00	100.00
5	20.00	40.00	100.00	100.00
3	33.33	66.67	100.00	100.00
3	33.33	33.33	100.00	100.00
8	12.50	87.50	100.00	100.00
5	20.00	60.00	100.00	100.00
2	50.00	50.00	100.00	100.00
2	50.00	50.00	100.00	100.00
5	20.00	40.00	100.00	100.00
4	25.00	75.00	100.00	100.00
1	100.00	0.00	100.00	100.00
31	48.39	35.48	87.10	96.77
1	0.00	100.00	100.00	100.00
1	100.00	0.00	100.00	100.00
3	33.33	66.67	100.00	100.00
2	50.00	50.00	100.00	100.00
2	0.00	0.00	0.00	100.00
7	0.00	100.00	100.00	100.00
1	100.00	0.00	100.00	100.00
1	0.00	100.00	0.00	100.00
6	66.67	16.67	83.33	100.00
11	36.36	63.64	100.00	100.00
4	50.00	50.00	100.00	100.00
5	20.00	80.00	100.00	100.00
4	25.00	75.00	100.00	100.00

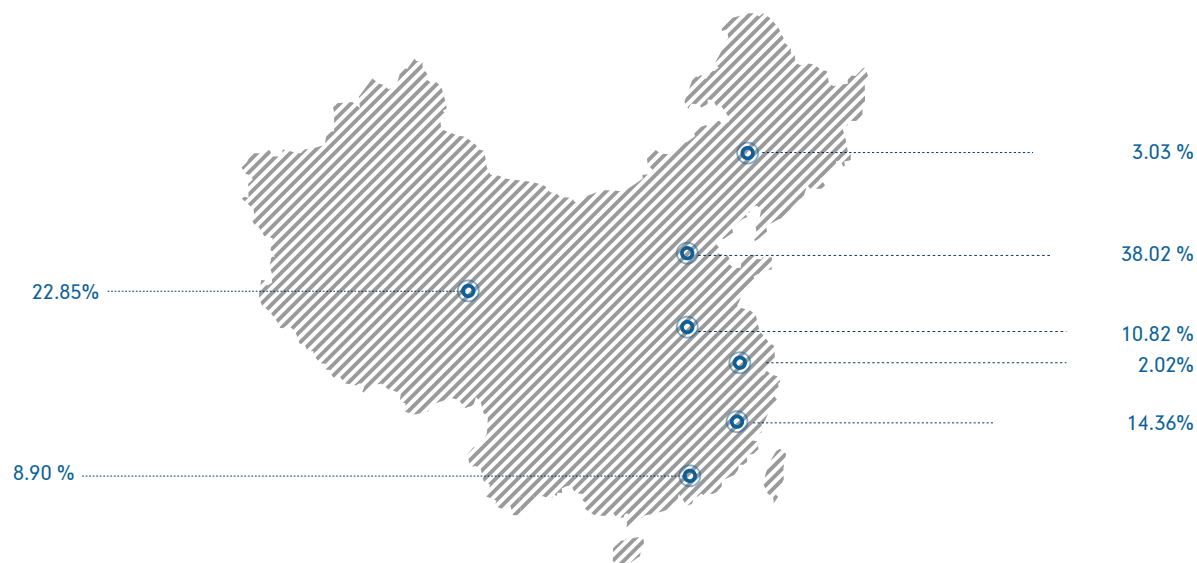
		#	#	#	#
	3	33.33	66.67	100.00	100.00
	1	0.00	100.00	100.00	100.00
	3	66.67	33.33	100.00	100.00
	5	60.00	40.00	100.00	100.00
	1	0.00	100.00	100.00	100.00
	20	35.00	60.00	95.00	100.00
	17	11.76	88.24	100.00	100.00
	2	0.00	100.00	100.00	100.00
	1	0.00	100.00	100.00	100.00
	9	0.00	66.67	100.00	100.00
	10	0.00	70.00	70.00	90.00
	3	33.33	33.33	66.67	100.00
	2	0.00	100.00	100.00	100.00
	1	0.00	100.00	100.00	100.00
	4	25.00	50.00	75.00	75.00
	3	0.00	100.00	100.00	100.00
	1	0.00	100.00	100.00	100.00
	256	26.95	60.94	94.14	98.83

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1.28

	376	20	88	30	226	142	107	989
(%)	38.02	2.02	8.90	3.03	22.85	14.36	10.82	100.00



	415	366	236
(%)	41.96	37.01	23.86

2017 415 41.96% 366 37.01% 236 23.86%

/,1,0

1.30

	520	274	64	48	40	33	4	4	2	989
(%)	52.58	27.70	6.47	4.85	4.04	3.34	0.40	0.40	0.22	100.00

52.58%

/,1,1

1.31

1	124
2	61
3	29
4	23
5	21
6	16
7	16
8	14
9	12
10	11
11	10
12	10
13	9
14	9
15	8
16	8
17	8
18	7
19	7
20	6
21	6
22	6
23	6
24	5
25	5

25

438

44.29%

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3..

1.32

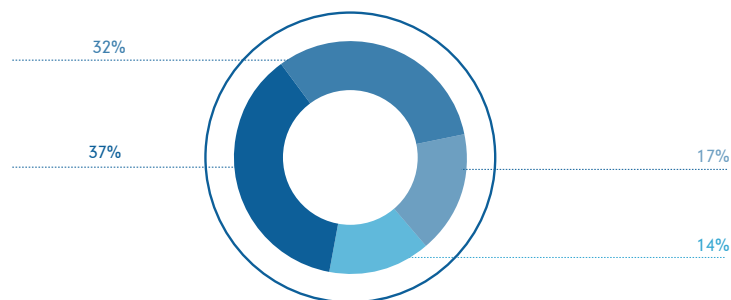
500

1	29	73	1
3	3	75	9
4	4	80	1
5	61	82	1
6	1	83	1
7	4	85	1
8	1	91	1
10	8	92	3
11	6	95	16
13	16	103	1
14	21	109	1
17	3	114	1
18	()	126	1
20	3	137	2
22	10	148	11
26	1	156	1
29	5	175	1
34	10	184	2
37	5	195	2
38	3	220	8
39	1	226	1
40	2	227	1
42	2	231	2
47	7	249	1
52	1	252	1
53	6	259	1
54	3	278	1
59	3	291	1
66	23	298	1
67	1	344	2
71	1	384	1
72	1		
			324

28.31% 500 324 32.76% 280 100 500

/,1,3

2017 1321 711 486 39.26% 69.11% 610 427



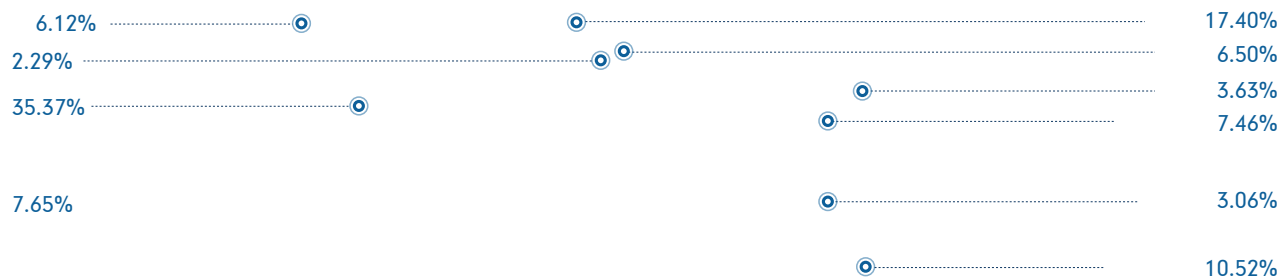
1.10

/,1,4

2017 523 15.54% 185 35.37% 91 17.39% 55 10.52%

249 100 47.61% 1.33

2017QS



1.11

/,1,5

(GB/T 4754-2011)

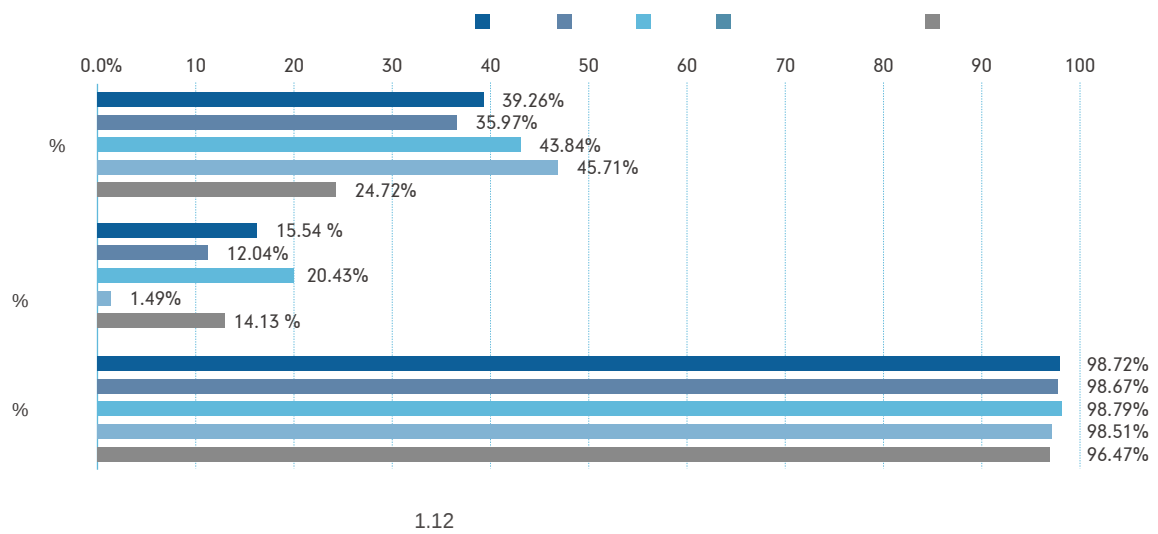
1.34

		# ' &	
	248		25.08
	146		14.76
	116		11.73
	99		10.01
	64		6.47
	54		5.46
	47		4.75
	48		4.85
	40		4.04
	36		3.64
	33		3.34
	16		1.62
	15		1.52
	11		1.11
	7		0.71
	4		0.40
	3		0.30
	2		0.20
	989		100.00

/,1,6

1.35

		# ' &		# ' &		# ' &	
3365	1321	39.26	523	15.54		98.72	
1960	705	35.97	236	12.04		98.67	
1405	616	43.84	287	20.43		98.79	
805	368	45.71	12	1.49		98.51	
453	112	24.72	64	14.13		96.47	

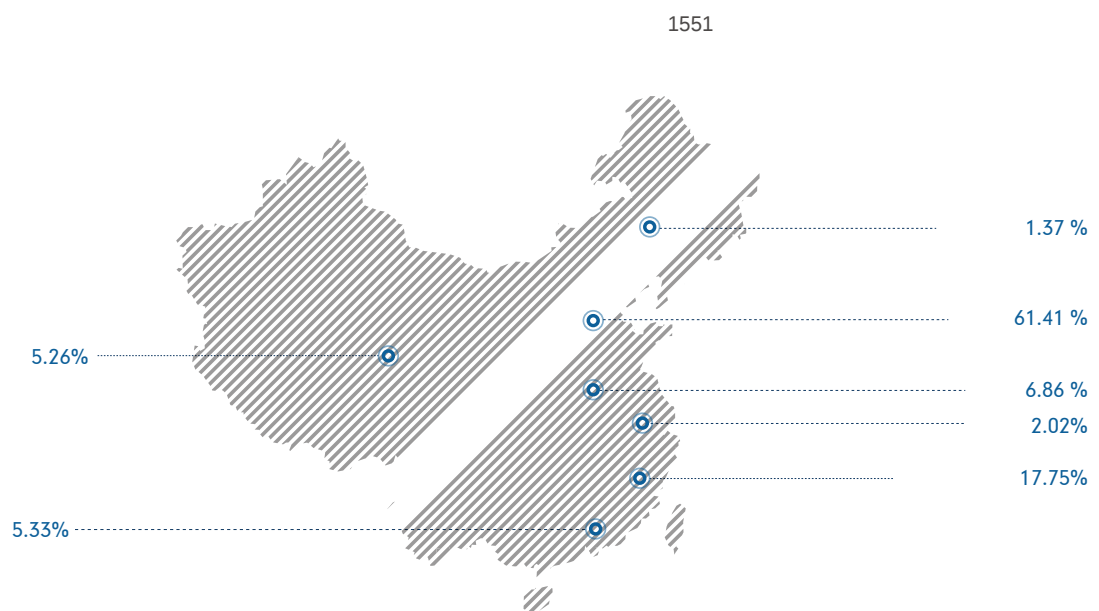


I,2

I,2,I

1.36

	1612	53	140	36	138	466	180	2625
%	61.41	2.02	5.33	1.37	5.26	17.75	6.86	100.00



Category	Value
1.37	1.37

(%)	68.30	16.00	13.26
-----	-------	-------	-------

13.26%

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%	57.10	21.26	6.21	5.87	6.32	2.86	0.04	0.30	0.04	100.00
---	-------	-------	------	------	------	------	------	------	------	--------

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16			26
17			26
18			26
19			25
20			23
21			21
22			21
23			19
24			19
25			18
25	1053	40.11%	

1,2,2

3..

1.40

500

1	94	66	61
2	3	67	1
3	4	68	1
4	26	71	4
5	23	72	1
5	1	73	33
6	7	77	1
7	21	80	36
8	1	82	5
9	1	83	2
10	26	85	1
11	64	90	1
12	()	10	92
13	47	107	1
14	78	109	4
15	6	113	1
16	3	114	1

17		26	121	1
18	()	2	123	1
20		5	124	1
22		45	127	1
23		3	137	16
24		1	147	4
25		18	148	6
26		10	156	7
27	-	1	164	2
29		19	175	4
32		3	178	2
33		3	196	1
34		16	198	2
35		5	204	1
37		21	210	1
39		6	220	27
40		14	221	1
42		6	226	2
43		1	231	1
45		6	249	25
46		2	252	5
47		9	277	4
50		2	291	1
51		7	292	1
52		1	311	1
53		44	336	2
54		2	344	8
55		5	373	3
59		10	379	2
61		1	384	2
62		1	415	1
63		1	431	1
				1042
34.21%	500	1042	39.70%	898
			500	100

I,2,3

(GB/T 4754-2011)

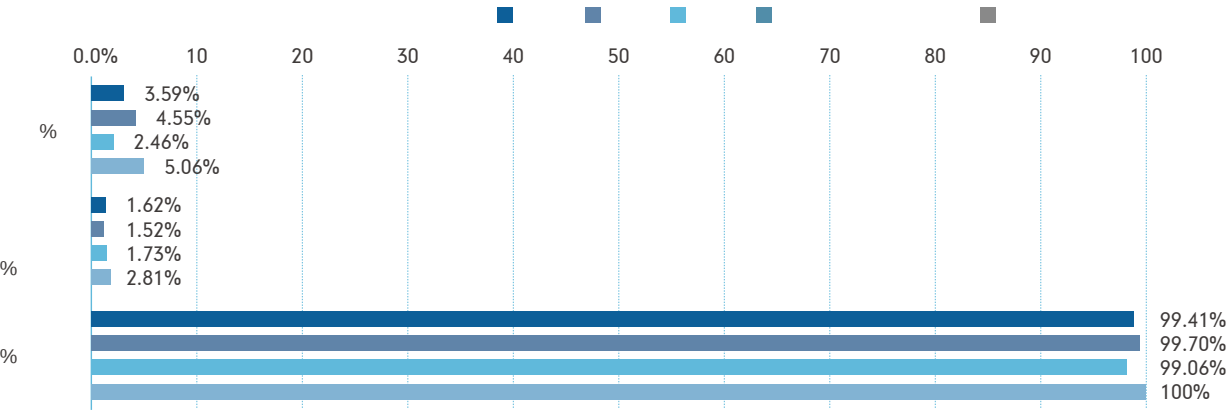
1.42

		#
	481	18.32
	396	15.09
	290	11.05
	287	10.93
	250	9.52
	209	7.96
	163	6.21
	155	5.90
	135	5.14
	104	3.96
	37	1.41
	33	1.26
	31	1.18
	22	0.84
	20	0.76
	6	0.23
	4	0.15
	2	0.08
	2625	100.00

I,2,4

1.43

		& # '		& # '		& # '
	3034	109	3.59	49	1.62	99.41
	1650	75	4.55	25	1.52	99.70
	1384	34	2.46	24	1.73	99.06
	178	9	5.06	5	2.81	100.00



1.14

/,3

/,3,/

1.44 25

1		284
2		123
3		99
4		84
5		84
6		70
7		63
8		56
9		55
10		50
11		43
12		37
13		35
14		34
15		34
16		31
17		30
18		29
19		29
20		26
21		26
22		26
23		25
24		24
25		20

I,3,0

121

		350	146	54	84	48	13
	%	35.39	14.76	5.46	8.49	4.85	1.31
		489	491	296	117	130	153
	%	18.62	18.70	11.27	4.46	4.95	5.83
		839	637	350	201	178	166
	%	23.22	17.63	9.68	5.56	4.93	4.59
2017		839	350		35.39%		489
	18.62%						

I,4

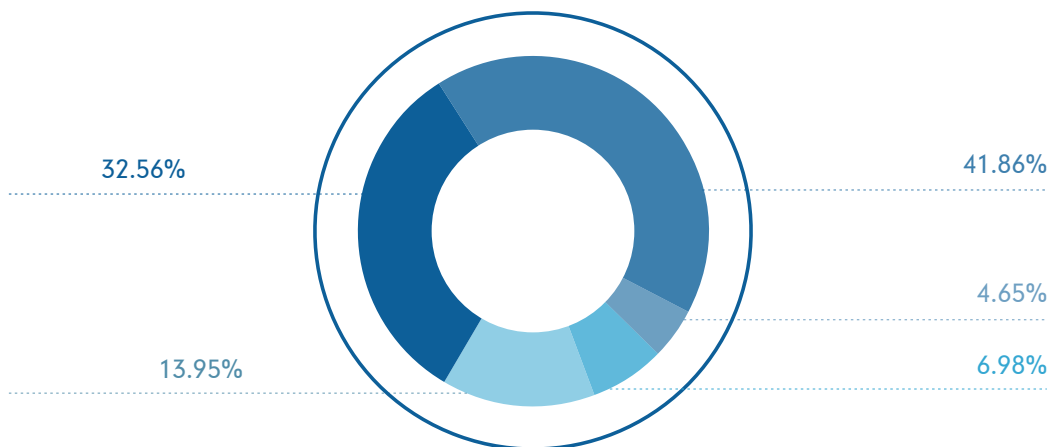
2017 10 31 2017 61 43 18

I,4,I

2017 43 23 53.49% 20
46.51%

1.45

		3	6	14	18	2	43	
		%	6.98	13.95	32.56	41.86	4.65	100.00



1,4,0

2017

5.56%

18

17

94.44%

1

1.46



2

15

1

18

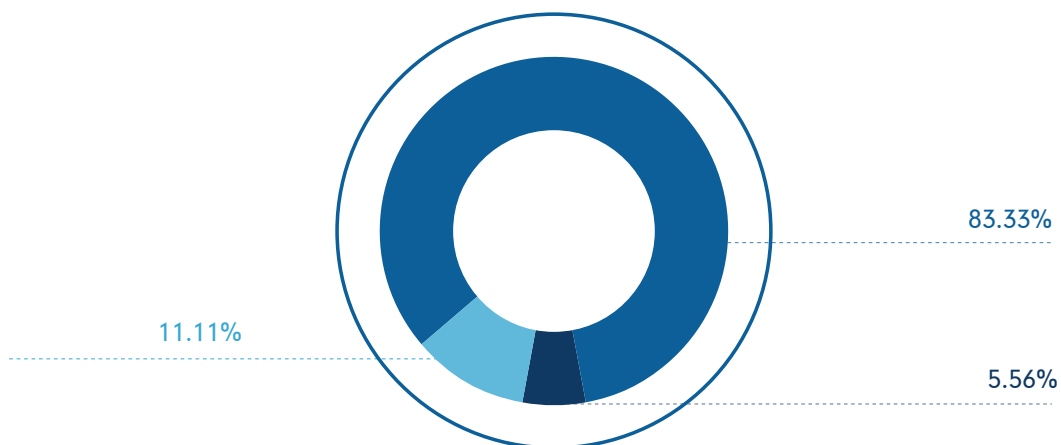
%

11.11

83.33

5.56

100.00



1.16

2013-2017

2013

8 31

2014-2017

10 31



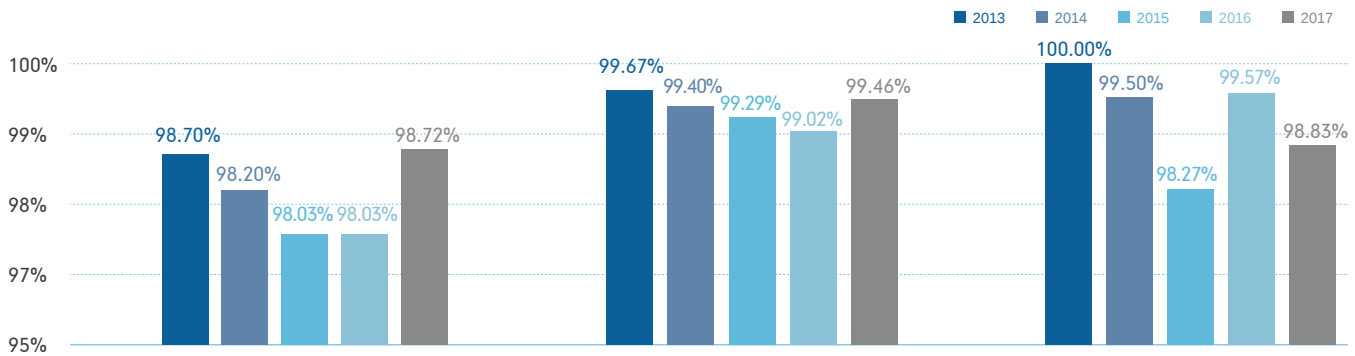
·2013-2017

0, / 0. / 1+0. / 5

98% 99%

2.1 2013-2017

		##'		##'		
2013	3194	98.70	1499	99.67	133	100.00
2014	3401	98.20	2680	99.40	202	99.50
2015	3357	98.03	2663	99.29	173	98.27
2016	3241	98.03	2758	99.02	233	99.57
2017	3365	98.72	2778	99.46	256	98.83



2.1 2013-2017

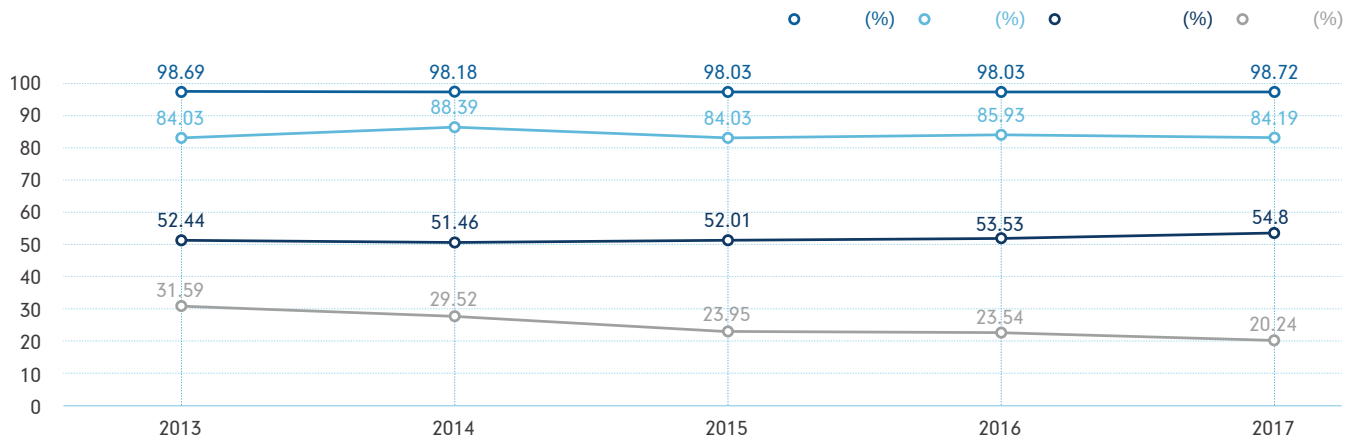
0,0

0,0, / 0. / 1+0. / 5

		2013					
		98%					
		2013	31.59%	2013	52.44%	2017	54.80%
		2017	20.23%				
		2013	+	2014-2017	+	+	2013
		2014-2017	10	31			8 31

2.2 2013-2017

		& # '	& # '	& # '	& # '	& # '
2013	3194	98.69	84.03	31.59	52.44	14.65
2014	3401	98.18	88.39	29.52	51.46	9.79
2015	3357	98.03	84.03	23.95	52.01	13.85
2016	3241	98.03	85.93	23.54	53.53	12.10
2017	3365	98.72	84.19	20.24	54.80	14.53



2.2 2013-2017

0,0,0 0. /1+0. /5

2.3 2013-2017

			& # '	& # '	& # '	& # '	& # '	& # '	& # '
2013	3194	635	19.88	620	19.41	419	13.12	1674	52.41
2014	3401	664	19.52	591	17.38	495	14.55	1750	51.46
2015	3357	674	20.08	591	17.61	481	14.33	1746	52.01
2016	3241	688	21.23	582	17.96	465	14.35	1735	53.53
2017	3365	698	20.74	623	18.51	523	15.54	1844	54.80

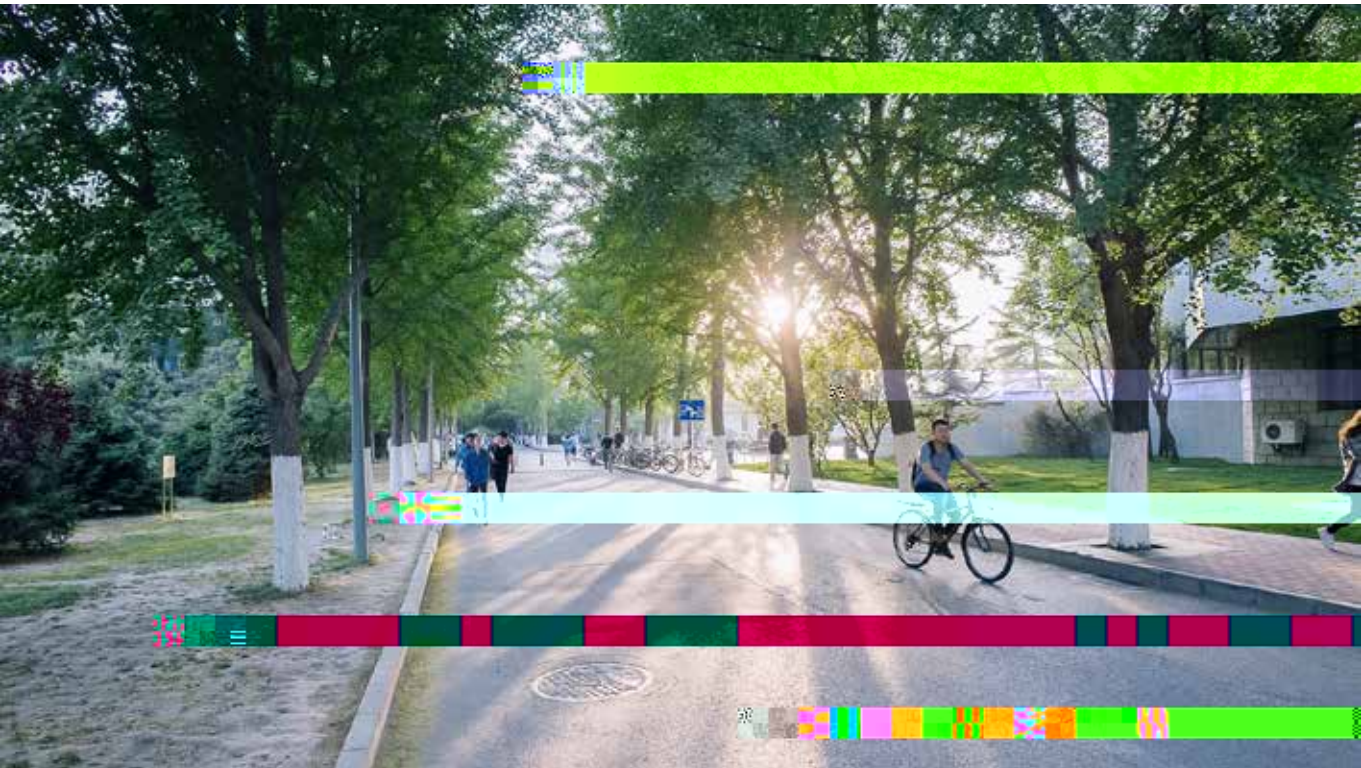
0,0,1 0 . /1+0 . /5

2.4 2013-2017



.....

2016 2017



0,1

0,1, / 0. / 1+0. / 5

2013-2017

2.5 2013-2017

		& # '		& # '
2013	1499	99.67	133	100.00
2014	2680	99.40	202	99.50
2015	2663	99.29	173	98.27
2016	2758	99.02	233	99.57
2017	2778	99.46	256	98.82

0,1,0 0. / 1+0. / 5

2013		741	9	42	16	111	207	76	1202
	(%)	61.65	0.75	3.49	1.33	9.23	17.22	6.33	100.00
2014		1137	25	105	55	139	460	213	2134
	(%)	53.28	1.17	4.92	2.58	6.51	21.56	9.98	100.00
2015		1163	30	112	67	200	482	418	2472
	(%)	47.05	1.21	4.53	2.71	8.09	19.50	16.91	100.00
2016		1584	61	137	42	135	515	163	2637
	(%)	60.07	2.31	5.20	1.59	5.12	19.53	6.18	100.00
2017		1612	53	140	36	138	466	180	2625
	(%)	61.41	2.02	5.33	1.37	5.26	17.75	6.86	100.00

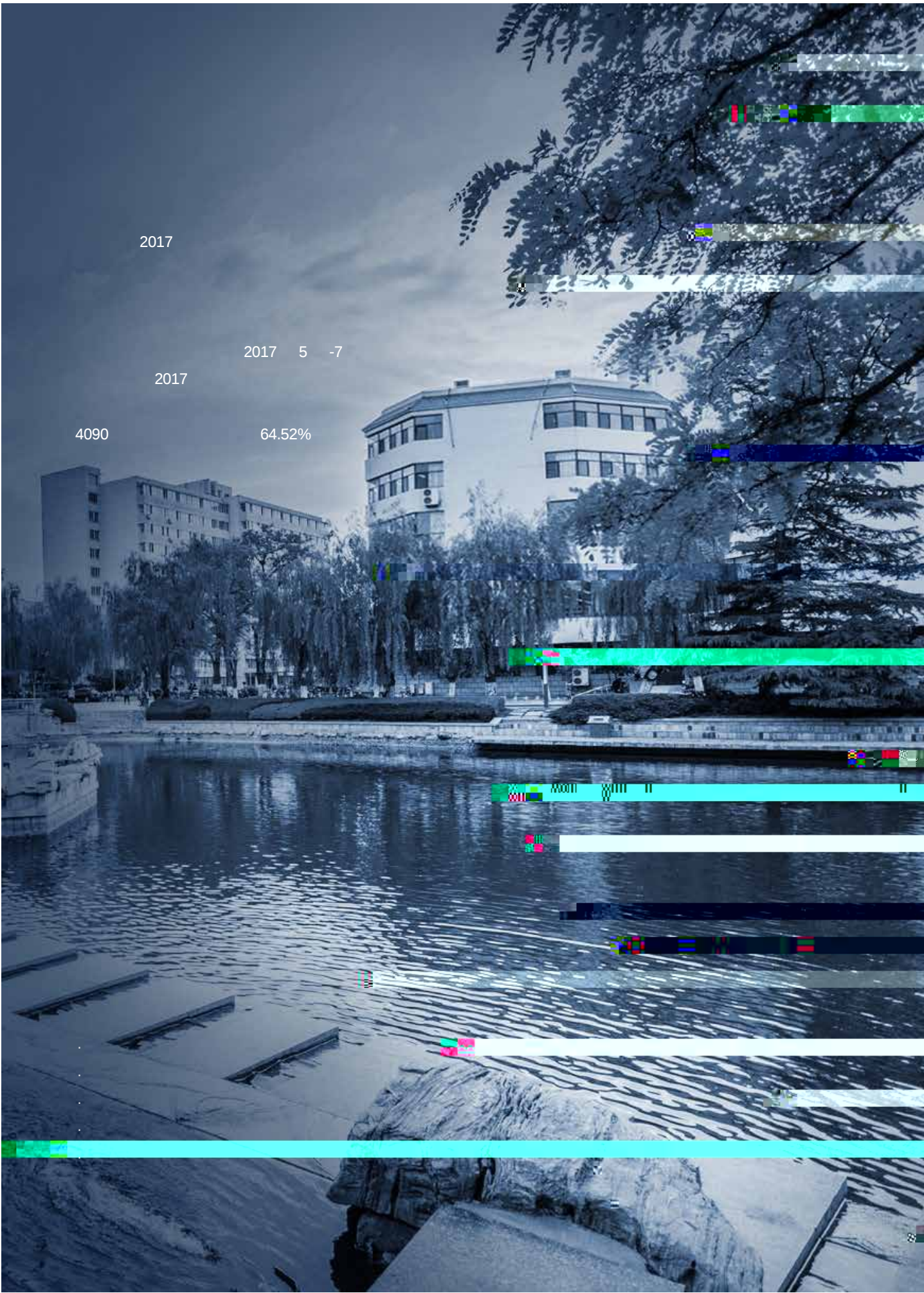
2017

2017 5 -7

2017

4090

64.52%



1, /

1, /, /

3.1
96.60%

1, /, 0

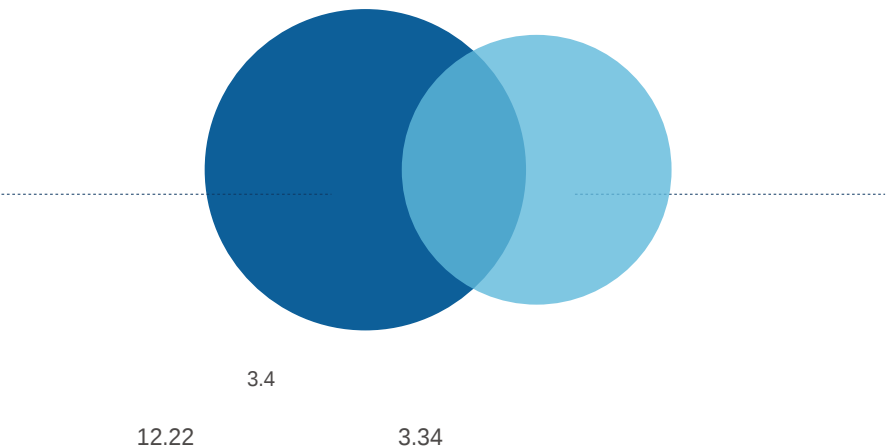
3.2
97.66%

1, 0

1, 0, /

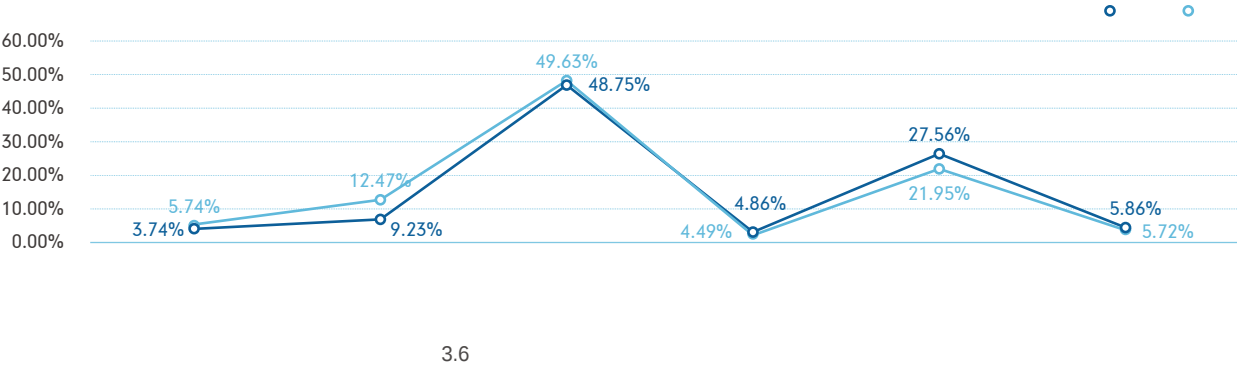
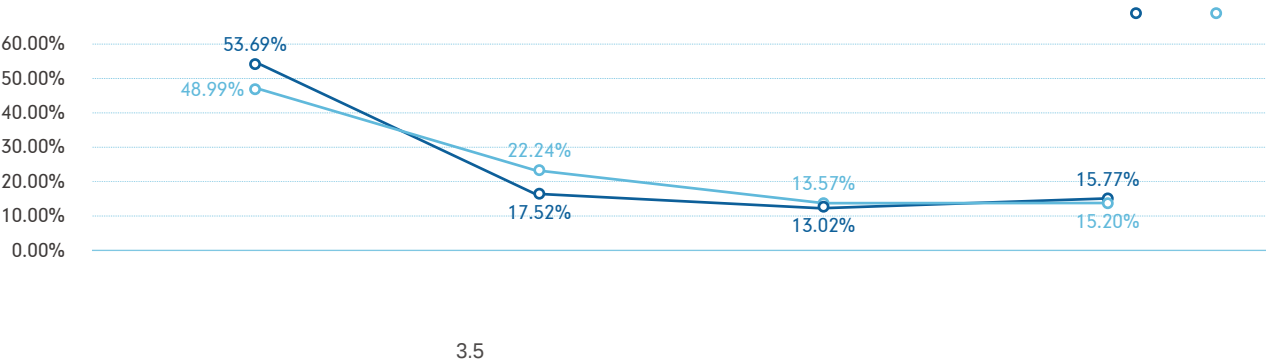
3.3
8.88

1,0,0



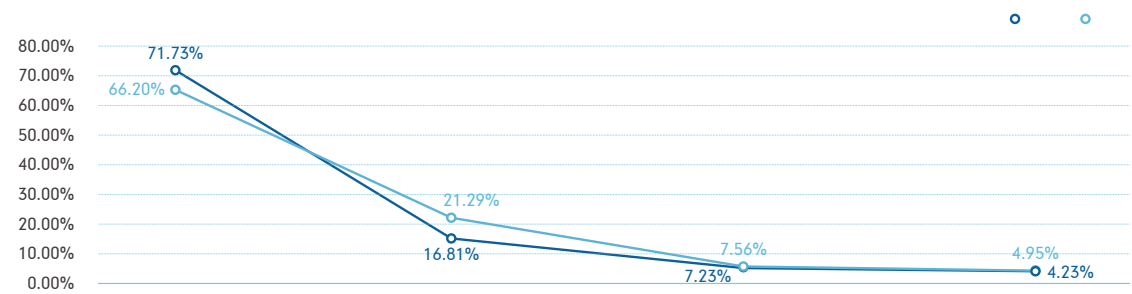
1,1

1,1,/

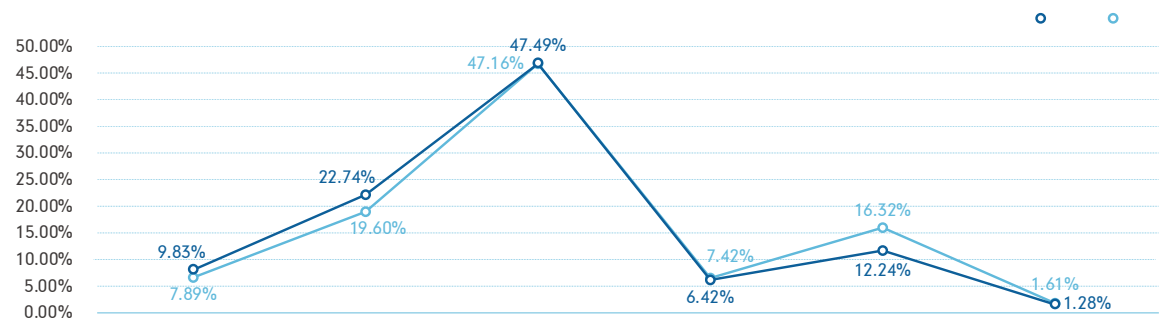


/

1,1,0

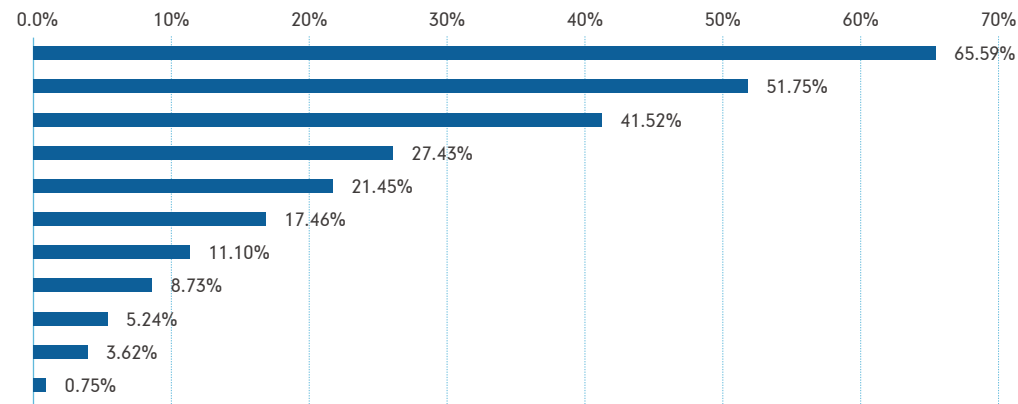


3.7



3.8

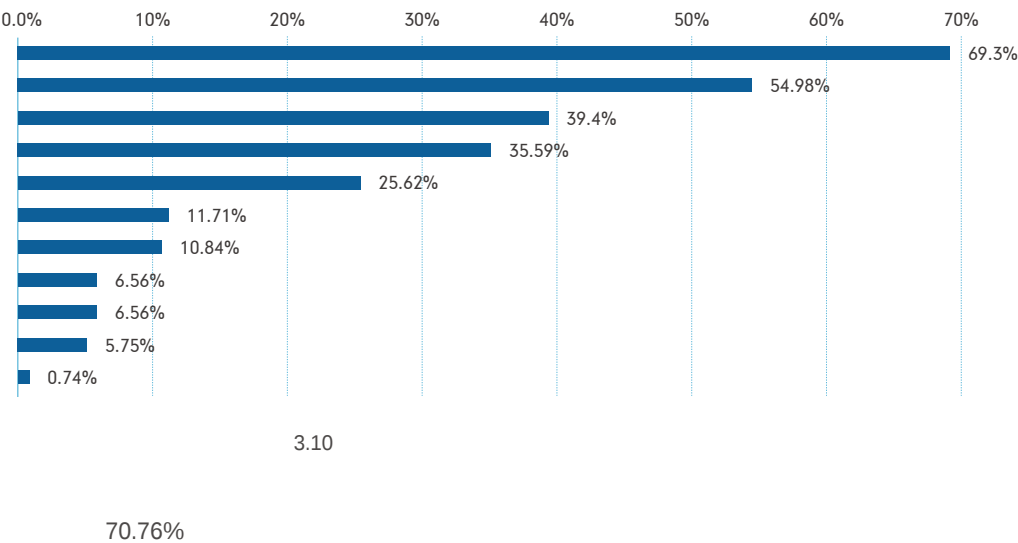
1,1,1



3.9

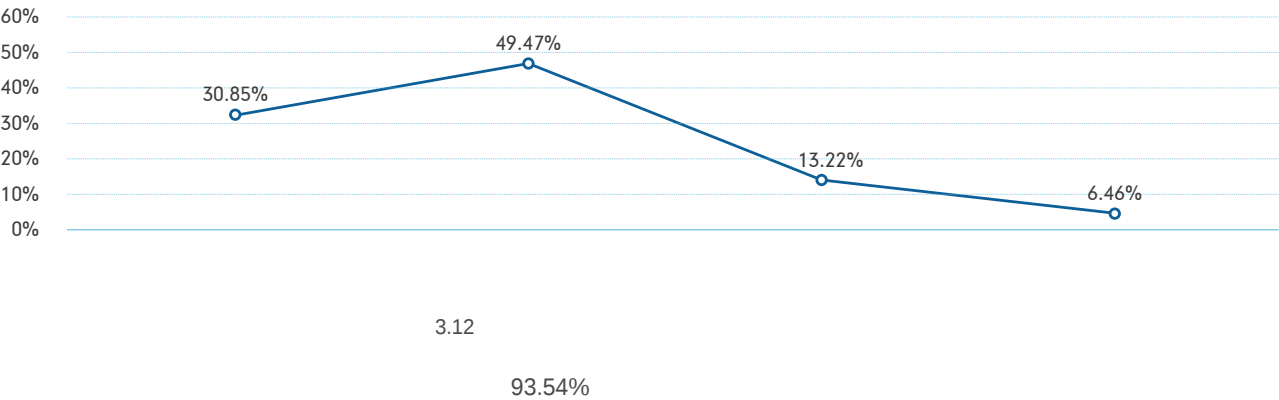
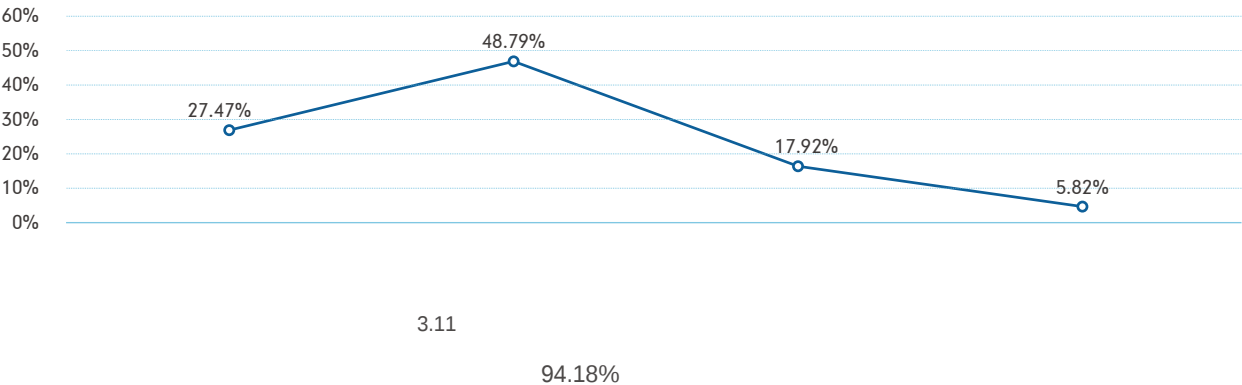
74.74%

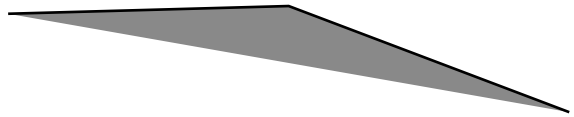
1,1,2



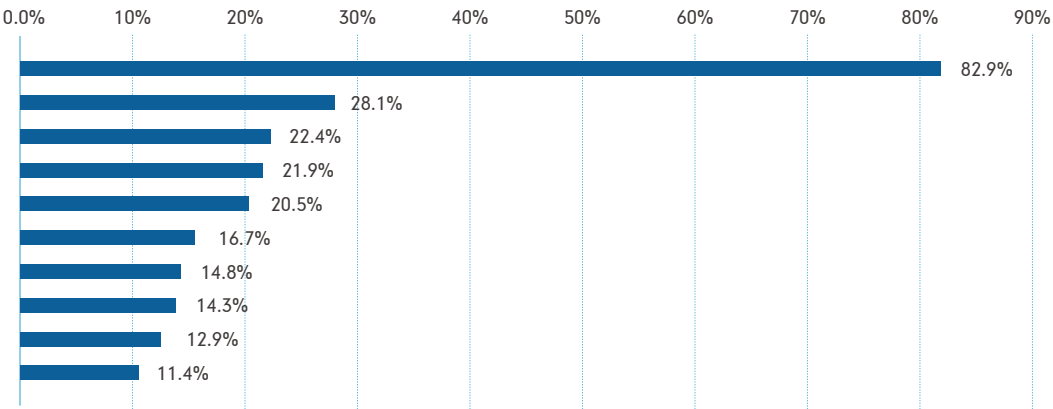
1,2

1,2,/

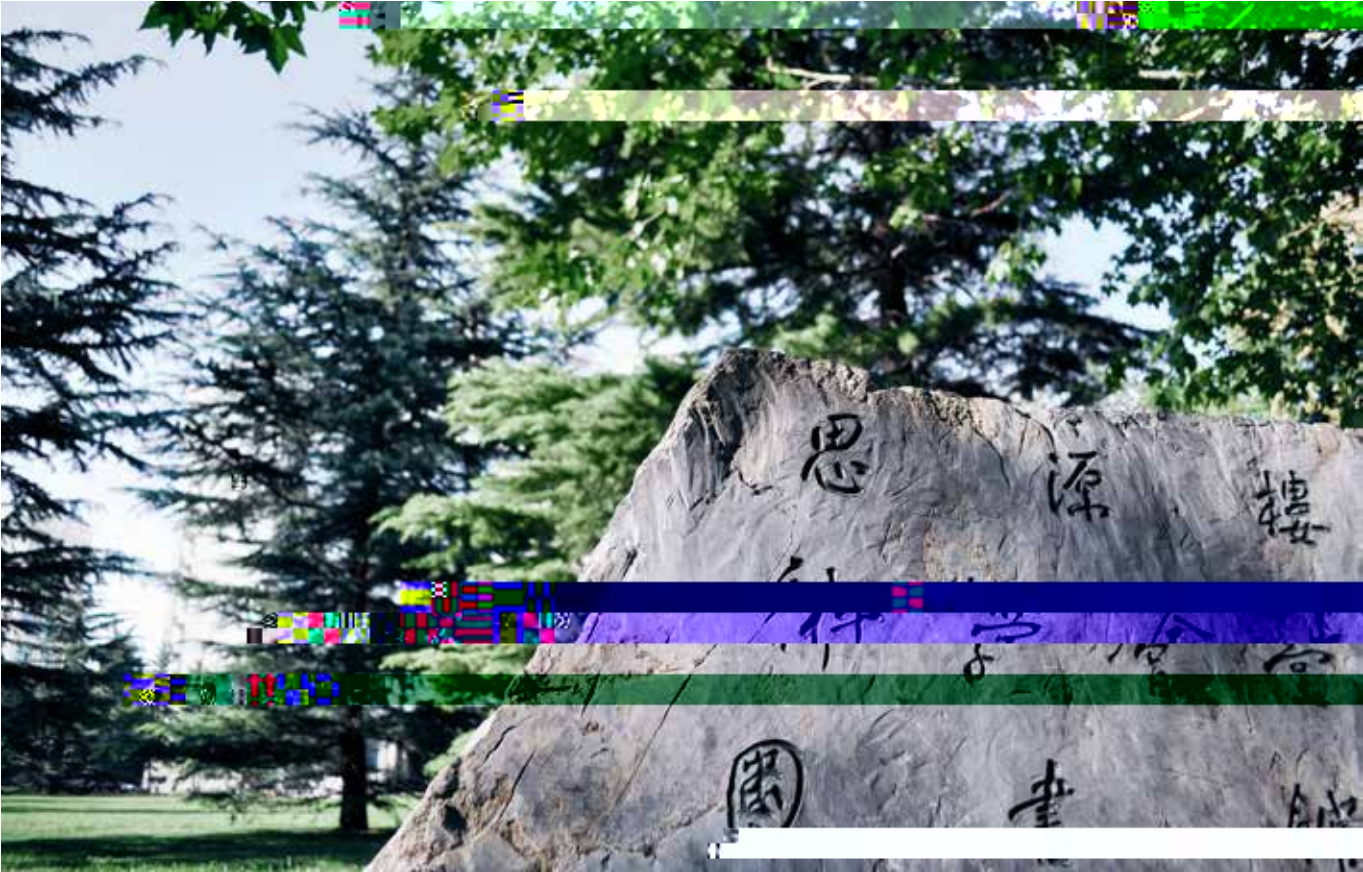




1,3,0



28.1% 22.4% 82.9%





”

”

“

“



2,/ + Q

1

2,0 + Q

2,1 Q

55.4%

1



42

3,1



2017

102

2017

2017

3700

3000

2017

96.63%

97.66%

3,2



2017

2017

;

2017

2017

2013-2017



北京交通大学
BEIJING JIAOTONG UNIVERSITY