

Statistical Analysis of the Competitive Situation of Postgraduate Entrance Examination

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Abstract: This paper makes a statistical analysis of the macro data and micro data of the postgraduate entrance examination. The competition for postgraduate entrance examination will indeed become increasingly fierce, but from the micro level, only about half of the candidates are truly competitive. For each candidate, as long as they choose their own goals, their competitors are not others, but themselves.

Keywords: Postgraduate entrance examination, Competition, Statistical analysis

1. The situation of postgraduate entrance examination

Since 2019, the situation of college students' graduation has become increasingly severe. The postgraduate entrance examination has also become the first choice for many people before graduation. Being admitted as a postgraduate means that you can delay entering the society for a few years, and the gold content of your education can also be greatly improved. Generally speaking, there are two advantages to be admitted as a graduate student. The first is to ease the employment pressure, and the other is to keep the education and value rising.

The number of graduates in 2022 has reached 10.79 million, but due to the recession of the market economy, a large number of people may not find jobs. Therefore, they will choose to continue the postgraduate entrance examination, which will lead to more intense competition for postgraduate entrance examination.

At the macro level, the competition for postgraduate entrance examination is severe. With the increasing number of graduates year by year and the increasing employment pressure, the number of graduate students registered for the examination every year has increased significantly (see Table 1), and the registration rate has also increased from 24% in 2015 to 46% in 2021. Although the number of graduate students is also increasing at the same time, the registration ratio in 2021 is still 7 percentage points lower than that in 2015. Therefore, people generally believe that the competition for postgraduate entrance examination has become more intense, and that it is more difficult to be admitted to graduate school.

Table 1: Statistics of national postgraduate entrance examination data from 2015 to 2021

Years	Graduates (10000)	Candidates (10000)	Registration rate	Enrollment (10000)	Admission ratio	Proportion in the total
2015	681	165	24%	57	35%	8.4%
2016	704	177	25%	59	33%	8.4%
2017	736	201	27%	72	36%	9.8%
2018	753	238	32%	76	32%	10.1%
2019	759	290	38%	81	28%	10.7%
2020	797	341	43%	99	29%	12.4%
2021	827	377	46%	105	28%	12.7%

The situation of postgraduate entrance examination has become severe for the following reasons.

The international situation is turbulent, the world economy is in a downturn, and the outbreak of the COVID-19 has made the economy even worse, making it difficult to study abroad. [1]The number of college graduates is increasing, and the employment pressure is increasing. For many candidates, taking the postgraduate entrance examination is a helpless option. Therefore, the number of candidates increases

year by year, giving people a feeling of popularity.

Another phenomenon of fierce competition for postgraduate entrance examination is that the number of applicants for key universities is extremely hot, but ordinary universities are scarce. However, due to the enrollment policy restrictions, the enrollment quota of key universities is limited. This structural difference will intensify competition.

In order to ensure the quality of students, key universities are more welcome to escort excellent graduates. Therefore, key universities are more and more keen to hold summer camps, which is essentially to grab high-quality students.[2] Correspondingly, more and more places are given to escort students in the graduate enrollment plan, and the unified examination students will feel more intense competition.

However, although the competition for postgraduate entrance examination is increasingly fierce, the expansion of postgraduate enrollment has played a mitigating role to a certain extent. As shown in Table 1, the proportion of the number of graduates admitted to graduate school each year to the total number of graduates is gradually increasing, indicating that a larger proportion of graduates are going to graduate school, which also means that the absolute number of graduate students is increasing, which will cause the academic qualifications of the job market to be included in the examination paper in the future, and in turn further aggravate the competition situation of postgraduate school entrance examination.

2. Micro data analysis

2.1. Comparison of postgraduate entrance examination data of three graduation classes

Table 2: Comparison of postgraduate entrance examination data of three graduation classes

Class	Undergraduate students	Candidates	Line passing	Proportion in the total	Number of people completed	Actual line passing rate
1	115	84 (73%)	41 (49%)	36%	72	57%
2	25	16 (68%)	7 (44%)	28%	13	54%
3	22	15 (68%)	6 (40%)	27%	8	75%

We counted the data of the postgraduate entrance examination of three graduation classes, hoping to observe the situation of the postgraduate entrance examination more specifically from a micro perspective. Table 2 shows the comparison of postgraduate entrance examination data of three graduating classes of physics major. Class 1 is a physics major of an ordinary normal university, 115 people, 84 people apply for the exam, 41 people are admitted, of which 29 people go to key universities. Class 2 and class 3 are two classes of physics majors in a local comprehensive university. Class 2 has 25 people, 17 people apply for the exam, and 7 people pass the exam, of which 5 people go to key universities. Class 3 has 22 people, 15 people apply for the exam, and 6 people pass the exam, of which 3 people go to key universities. On the surface, the data of these three classes support the conclusion that the postgraduate entrance examination is highly competitive. It should be noted that although the registration rate is very high, about 70%, the proportion of people who really stick to it is not so high. If only the number of people who actually take the exam is considered, the actual online rate of postgraduate entrance examination is very high, and these three classes reach 57%, 54% and 75% respectively. This means that as long as you sign up and review carefully until the end, you are likely to succeed. Moreover, on average, more than two-thirds of the people admitted to graduate school in these three classes go to key universities. This further shows that if you just want to go to graduate school and have no requirements for school level, it is relatively easy. [3]The competition for postgraduate entrance examination is mainly reflected in that most people want to enter key universities. So the real competition for postgraduate entrance examination is that most candidates have applied to a few universities in the top ranking, and the examination questions of these universities are also more difficult.

2.2. Statistics of enrollment data of Physics College of a key university

Table 3: Statistics of enrollment data of Physics College of a key university

Candidates	Actual number of examinees	Cross the national line	Actual line passing rate	Cross the calibration line	Actual ratio	Strength examinee pass rate
203	166	102 (50%)	61%	78 (38%)	47%	76%

Let's look at the postgraduate entrance examination from another angle, that is, the enrollment data of universities. Table 3 shows the enrollment data of the school of physics of a key university in a certain year. This year, 203 people applied for the exam, 33 missed the exam, 4 gave up halfway, that is, 37 gave up the exam, and only 166 people insisted in the end. There are 13 people whose scores in at least one single subject are lower than 30%, 26 people whose scores in at least one single subject are lower than 40%, only 102 people whose scores in the postgraduate entrance examination pass the national line, and only 78 people who pass the score line of this school.

Generally speaking, as long as we review carefully, it is not difficult to cross the national line. We can think that the candidates who pass the national line are the real candidates with strength. In this way, the passing rate of strong candidates can reach 76%, that is to say, as long as you carefully prepare for the exam, you can probably be admitted to key universities. From this perspective, the postgraduate entrance examination is not as difficult as commonly believed.

According to the above data analysis, we can see that although there are a large number of postgraduate candidates every year, the competition for postgraduate entrance examination is very fierce at the macro level, but from the micro level, on average, one fifth of the candidates will abandon the examination, and only about half of the candidates who really review carefully and are competitive. Only half of the candidates are fresh students. Fresh students can concentrate on review and are in an advantageous position in the competition. For candidates, they only need to prepare for the exam carefully, and they can probably be admitted to graduate school. In other words, for each candidate, their competitors are not others, but themselves[4].

3. Suggestions on postgraduate entrance examination

(1) The registration area should avoid Shanghai and Beijing as far as possible, and should be mainly in the western and central regions, with Sichuan, Shaanxi and Chongqing as the focus. Strong candidates can consider first-class universities in provinces and cities outside Beijing and Shanghai, but most candidates should choose better universities with less competition and easy professional courses.

(2) The online rate of interdisciplinary, especially interdisciplinary non natural science majors, is low, so it should be avoided as far as possible. If you really want to interdisciplinary, you should strengthen your English and political strength, and ensure smooth information. You can consider western schools.

(3) Candidates with good English and majors are far ahead in the success rate of postgraduate entrance examination; Candidates with poor foundation can succeed as long as they choose a good school and major, have smooth information, and review in place before the exam.

(4) All candidates should objectively estimate their own advantages and disadvantages, reasonably determine the objectives of the postgraduate entrance examination, comprehensively collect the postgraduate entrance examination materials, and systematically and deeply review. Success will come naturally. Junior students should lay a good foundation for English and professional courses, and all courses should be treated well.

(5) In order to improve the quality of student sources, some recruitment units have expanded the proportion of recommended students, which will also reduce the success rate of candidates, so it is necessary to make clear before the examination. Although some universities have announced a large number of enrollment, they also have a large number of recommended students, and the actual number of external enrollment may be very small. Some research institutions even only recruit recommended students.

(6) The mathematics of the national unified examination is relatively difficult, and the candidates with poor mathematics should try to avoid it. Generally, the difficulty of Math 1 is higher than that of Math 2, so if you can choose Math 2, don't choose Math 1.

From preparing for the examination to the second round of the postgraduate examination, it takes at least half a year, and more than a year. Due to the high pressure, most candidates go all out and have to give up formal professional courses and sacrifice the time of graduation thesis one year before graduation, which greatly affects the normal study in the last year of the university and impacts the normal undergraduate teaching time and reduces the quality of undergraduate talent training. Therefore, from a higher level, it is suggested that the preliminary examination should be unified nationwide and standardized. The examination results should be valid within three years in the first and second half of each year. In this way, the pressure of the preliminary examination can be greatly reduced, and there is

no need to waste too much time on the preliminary examination. Expand the autonomy of colleges and universities to recruit students. Candidates apply for the intended schools and tutors according to the preliminary examination results. The secondary examination is controlled by the colleges and universities themselves, and professional tests and interviews are carried out in the secondary examination. Such reform can help young people not to get caught up in the excessive consumption of preparing for exams, and enable young talents to play a greater role in scientific research or work posts.

4. Summary

With the rapid increase in the number of candidates for the postgraduate entrance examination, and the desire of candidates for high-quality postgraduate education resources, the competition for postgraduate entrance examination is growing. In particular, most candidates are concentrated in key universities, making the competition more intense. However, in fact, many examinees blindly apply for the exam, and their motivation is not strong until the end. Therefore, a large number of examinees will abandon the exam, or review the results are not good. This part of examinees is not competitive. This means that as long as you sign up and carefully review until the end, you are likely to succeed. If you just want to go to graduate school, it will be easier if there is no requirement for the school level. As far as the examinees are concerned, they can probably be admitted to the postgraduate exam only if they prepare for the exam carefully. It is true that the competition is becoming more and more fierce at the macro level, but it is not so at the micro level. As long as you choose a goal suitable for yourself, you will win if you persist in the end.

It is suggested that a standardized national unified preliminary examination should be held in the first and second half of each year, and the results should be valid for three years. Candidates should apply to the intended schools and tutors according to the preliminary examination results. Colleges and universities should organize professional tests and interviews independently, and make the admission results public. This can greatly reduce the pressure of the initial examination and avoid the waste of young talents.

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