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Research topic:

The Reform of the Humanities-sciences Division in 1999

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1. Introduction

Humanities-Sciences division is under the system of the national college entrance examination. When high schools organize students, they have humanities and sciences two different types of specific classes with two teaching methods. Students can choose to join in the humanities or sciences classes according to their interests. The humanities classes mainly study humanities and social courses, while the science classes mainly study nature science. High school humanitiessciences division is a form of education system that meets the needs of the national college entrance examination. This report mainly focuses on the reform of humanities-sciences division after the Great Culture Revolution, especially the reform in 1999 which had made the historical breakthrough. After this round of the reform, both the number of the students who attended the national college entrance examination and admitted rate has increased by a large extend. The report mainly describes the background of the policy, the pre- and post-policy, the implementation process and the experimental unit of the policy, the related data, the current research results of the humanities-sciences division at home and board and the conclusion.

1.1 Background of the Policy

The 1977 has witnessed the re-establishment of the national college entrance examination system. In the past ten years before 1977, Chinese education business stagnated. China needed numerous talents specialize in various areas in this time period. At the end of the 1968, 131 of 171 Beijing senior academic researchers in the Chinese Academy of Sciences was suspended and investigated. 229 senior academic researchers was torture to death. From the 1966 to 1976, the

National Education Institution didn't hold the college entrance examinations. The statistics of the nationwide census in 1982 shows that over 230,000,000 people are illiterate or semiliterate. Under the system of the national college entrance examination, Chinese humanities-sciences division system has been developed and become the normal education system in high school. However, the humanities-sciences division also has some demerits which show up in the 21 century. Under the new curriculum reform, the topic on whether to continue the sciences-humanities division has been extensive discussed.¹ After the 2014, Chinese Education Ministry has layout related policy to cancel the humanities-sciences division gradually.

In particularly, the Ministry of Education issued the "*Opinions on the further reform of the national college entrance examination enrollment system*" to all the provinces, autonomous regions, municipalities, Education Department, Committee of Education, Committee of the college admissions, Committee of Education of Guangdong province, colleges and universities in 1999. During this time, the number of right-age students who were eager to attend the national college entrance examination increased in a large extend (The detailed statistics show in the third part of the report). In addition, the Chinese higher education resources can't satisfied the increasing need of residents. The statistics of National Bureau of Statistics shows that among investment intents of the residents in 1997, "deposit" ranked No. 1, "education of children" ranked No. 2, while among the objections of the "deposit", "education of children" also ranked

¹ New curriculum division: The so-called new curriculum reform is papered in the context of social changes in the environment. It is target to the knowledge economy era, the new changes in the information society and China's basic education reform. The new curriculum reform is to equip students with the desire, interest and methods to study when the knowledge increases and renews in the unimaginable speed. The new curriculum focuses on reforming the curriculum objectives, curriculum structure, course content, curriculum implementation, curriculum evaluation and curriculum management, rather than just the textbooks as the public understand. The purpose is to build a basic education curriculum system that meets the requirements of quality education in the 21st century.

No. 1. On the contrary, 10% of the elementary school graduates, 50% of the secondary school graduates and 75% of the high school graduates can not be admitted by the higher level study institutions annually.² As a positive respond of this contradiction, the Ministry of Education decided to extend the enrollment of the national college examination. It also made the high school students consider to take the national college examination as their first choice. Facing the rapid development of the science and technology and the emergence of knowledge economy in the 21 century, urgent need to the increase the contribution of education during the implement of the strategy of rejuvenating the country through science and education, the subjects in the national college entrance examination revised again.³ However, the formal "3+2 model" didn't include the Biology and Geography, which made the knowledge structure of students didn't comprehensive and can't stimulate the creative ability of students.⁴ This round of reform emphasized the inspection of the ability and the comprehensive quality, encouraged the conditional provincial governments to make the divergent forms of national college entrance examination reform experiment, gave more autonomous choose rights to colleges and students; gradually established the more scientific, impartial national college enrollment system with more choices.

² Hao, Ruiting. "National college entrance examination reform and enrollment extension." social sciences wideangle, 10, 1999, 15-16.

^{3 &}quot;The education events in 1999." The ministry of education of the People's Republic of China portal. 02, 1999. Accessed 02, 1999. http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/moe_163/200408/3460.html.

⁴ Liu, Xiaolin. "The review of the national college entrance reform in 1999." The report of the examination and enrollment: national college entrance examination edition, 5, no. (2010): 22-23.

2. Policy description

2.1 The policy in 1999 (3+X model)

In 1999, the Ministry of Education issued the "*Opinions on the further reform of the national college entrance examination enrollment system*" in the People's Republic of China, in the same year the Guangdong Province implemented it as the experiment unit and all other regions in China implemented in 2002. "3" means Chinese, Mathematics and English. "X" means that universities and colleges chose one or several subjects from Physics, Chemistry, Biology, Politics, History, Geography and the comprehensive subjects according to their own level and characteristics. The synthesis subjects can be divided into the humanities synthesis, sciences synthesis, humanities and sciences synthesis, as well as specialist synthesis. The "3+X model" can be divided as follow:

3+humanities synthesis/sciences synthesis

"3" means Chinese, Mathematics and English. Humanities synthesis included Politics, History and Geography. Sciences synthesis included Physics, Chemistry and Biology. Apart from Guangdong, Henan and Shanghai, all other regions in China applied this system.

3+humanities and sciences synthesis+X

"3" means Chinese, Mathematics and English. Humanities and sciences synthesis included Politics, History, Geography, Physics, Chemistry and Biology. "X" means that students can chose any one or several of the subjects of these six subjects. Henan, Guangdong and Shanghai applied this system.

2.2 The pre- and post-policy

Humanity synthesis and science synthesis

The 1977 has witnessed the re-establishment of the national college entrance examination system. In 1977, it was divided into two categories which are the humanities synthesis and the sciences synthesis. The subjects in the humanities included Politics, Chinese, Mathematics, as well as history and geography. The subjects in the sciences included Politics, Chinese, Mathematics, as well as physics and chemistry. The students who applied for the foreign language major need to take another foreign language examination. The unified national college entrance examination system and the specialized subjects division direction can satisfied the urgent need of the talents.

Six humanities, seven sciences

In 1981, the subjects in the humanities included Politics, Chinese, Mathematics, History, Geography and English. The subjects in the sciences included Politics, Chinese, Mathematics, Physics, Chemistry, Biology and English. The 10% of score the English examination score was included in the total score of the national college entrance examination in 1979, compared with 30% in 1980, 50% in 1981, 70% in 1982 and 100% in 1983.⁵ The increased percentage of the English score met with the significant attention of English communication ability. Adding Biology and Geography into the sciences synthesis and the humanities synthesis made the knowledge structure of the students much more comprehensive.

3+2 model

In the July 1992, former National Committee of the Education issued "Opinions about the subjects establishment of the general high school graduation examination", which was implemented since 1993. The subjects of humanities included Chinese, Mathematics, History, Politics and English; the subjects of sciences included Chinese, Mathematics, Physics, Chemistry and English. The formal "Six humanities, seven sciences" lead to some bad phenomena such that the enrollment rate became the only evaluation requirement of the education institutions, educators and students. Some students even paid too much attention to some certain subjects. To save this problem, the education level examination system was established in 1989. All the subjects which students studied in the high school period was included in the education level examination. Then the subjects in the national college entrance examination were simplified. From 1992 to 1994, Hunan, Yunnan and Hainan Provinces divided the subjects into four different categories: 1. Politics, Chinese, History, Chinese; 2. Mathematics, Chinese, Physics, English; 3. Mathematics, Chemistry, Biology, English; 4. Mathematics, Chinese, Geography, English.

^{5 &}quot;Opinions on the further reform of the national college entrance examination enrollment system." Subject education, 4, no. 1002-5308(1999)04-0001-02 (1999): 1-2.

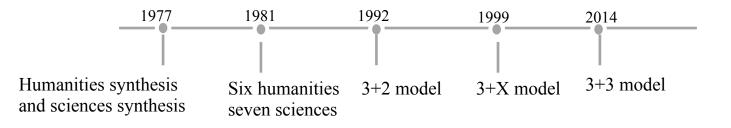
However, this system is so individual that it was canceled in a short period. Then the "3+2 Model" emphasized the similarity of the students and the fundamental knowledge of study.

3+3 model

In 2014, the State Council issued the "*Opinions on the further deepen the reform of the examination enrollment system*", in order to solve the problem of the unbalanced development resulted from the humanities and sciences division system, to facility the comprehensive development of students and to provide students with more choices. From 2017 all regions in China will implement this issue gradually. The unified subjects included Chinese, Mathematics and English. The humanities-sciences division will be canceled. The selective subjects mean that students can select three subjects from the Politics, History, Geography, Physics, Chemistry and Biology six subjects according to their own interests.⁶

2.3 Timeline





⁶ "Opinions on the further deepen the reform of the examination enrollment system." The ministry of education of People's Republic of China portal. 09, 2014. Accessed 09, 2014. http://www.moe.edu.cn/publicfiles/business/ htmlfiles/moe/moe_1778/201409/174543.html.

Table 1. The subjects of the national college entrance examination under the humanities-sciences division system

Time period	Model	Sciences	Humanities
1977~1981	Humanities synthesis and sciences synthesis	Politics, Chinese, Mathematics, as well as physics and chemistry	Politics, Chinese, Mathematics, as well as history and geography
1981~1992	Six humanities seven sciences	Politics, Chinese, Mathematics, Physics, Chemistry, Biology and English	Politics, Chinese, Mathematics, History, Geography and English
1992~1999	3+2 model	Chinese, Mathematics, Physics, Chemistry, English	Chinese, Mathematics, History, Politics and English
1999~2014	3+X model	 3+humanities synthesis/sciences synthesis 3+humanities and sciences synthesis + X 	
2014~current	3+3 model	The unified subjects included Chinese, Math and English. The humanities-sciences division will be canceled. The selective subjects mean that students can select three subjects from the Politics, History, Geography, Physics, Chemistry and Biology six subjects according to their own interests	

2.4 The implementation process

In 1999, Guangdong province implemented the "3+X model" and further improved it in the next few years. In 2000, Jilin, Shanxi, Jiangsu, Zhejiang four provinces (autonomous regions and

municipalities) began to implement this reform. In 2001, Tianjin, Neimenggu, Liaoning, Heilongjiang, Shanghai, Anhui, Fujian, Henan, Hubei, Hunan, Sichuan, Shaanxi thirteen provinces (autonomous regions and municipalities) began to implement this reform. In 2002, all the regions in China implemented this policy.

2.5 The experimental unit (Guangdong Province) *First stage (1999-2000): 3+qualifying limit*

In 1999, the total score of the national college entrance examination includes Chinese, Mathematics and English. And students can choose one subjects from Politics, History, Geography, Physics, Chemistry and Biology as the enrollment qualifying limit. In 2000, Guangdong province added the humanities and sciences synthesis as another qualifying limit. This model just lasted for two years because it lead to students tend to go overboard on one or some subjects.

Second stage (2001-2006): 3+humanities and sciences synthesis+X

From 2001 to 2006, Guangdong province include the score of Chinese, Mathematics and English, humanities and sciences synthesis and one or several subjects from Politics, History, Geography, Physics, Chemistry, Biology foreign language reexamine, undergraduate of music, undergraduate of art and undergraduate of physical into the total score of the national college entrance examination.

Third stage (2007–2009): 3+humanities synthesis/sciences synthesis+X

In 2007, Guangdong province canceled the humanities and sciences synthesis and began the humanities- sciences division system. But students should also select one or several subjects from the Politics, History, Geography, Physics, Chemistry, Biology foreign language reexamine, undergraduate of music, undergraduate of art and undergraduate of physical.

Fourth stage (2010-2014): 3+humanities synthesis/sciences synthesis

In 2014, Guangdong Province canceled the most contradicted system and applied the normal humanities-sciences division system. Students didn't need to choose one or several subjects from the Politics, History, Geography, Physics, Chemistry, Biology foreign language reexamine, undergraduate of music, undergraduate of art and undergraduate of physical.

3. Data and Statistical Descriptive Analysis

3.1 Data and Statistical resource

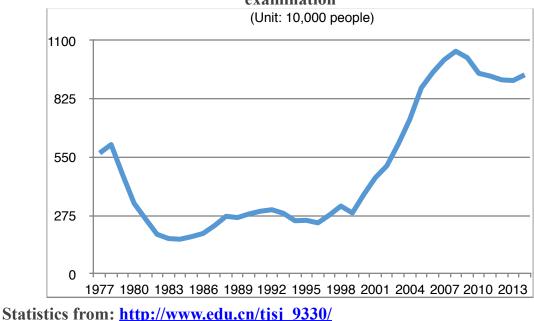
All the data sources are from the website of the Ministry of Education of the People's Republic of China (http://www.moe.edu.cn) and China Education and Research Network (http://www.edu.cn).

3.2 Data and Statistical analysis

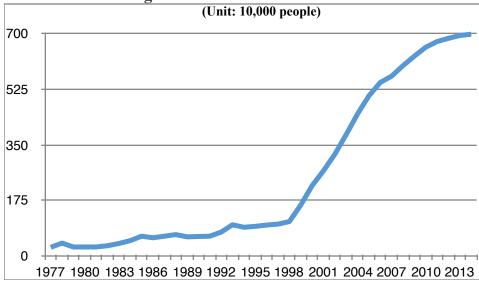
After the conference of national education work in 1999, the Ministry of Education put out the higher education enrollment extension plan, that is, the number of students who admitted by the universities or colleges increased to 1,530,000 in 1999 from 1,080,000 in 1998. After 1999, the number of the students who attended the national college entrance examination has rapidly increased for 10 years. And the enrollment rate was improved in a large extant in the same year.

In addition, the number of students who was admitted by the universities and colleges has been increased constantly since 1999. The detailed statistics are as follow:

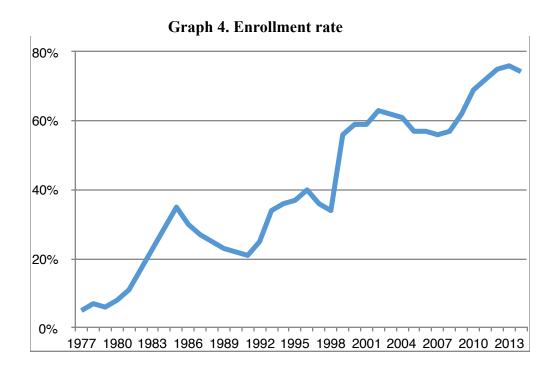
Graph 2. The number of students who attended the national college entrance examination



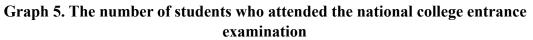
Graph 3. The number of students who was admitted through the national college entrance examination

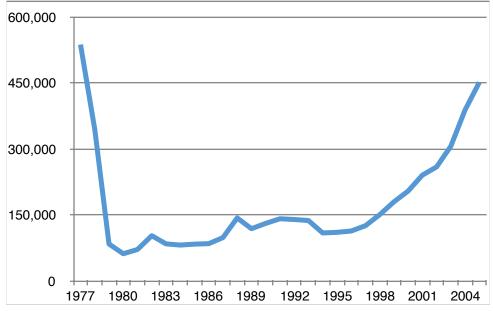


Statistics from: <u>http://www.edu.cn/tjsj_9330/</u>

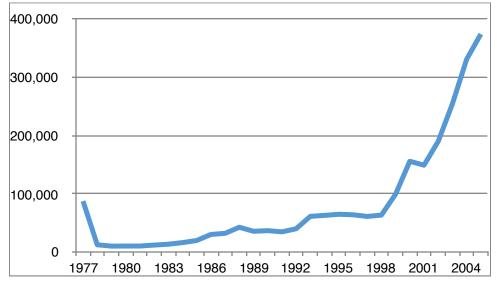


Statistics from: <u>http://www.edu.cn/tjsj_9330/</u>



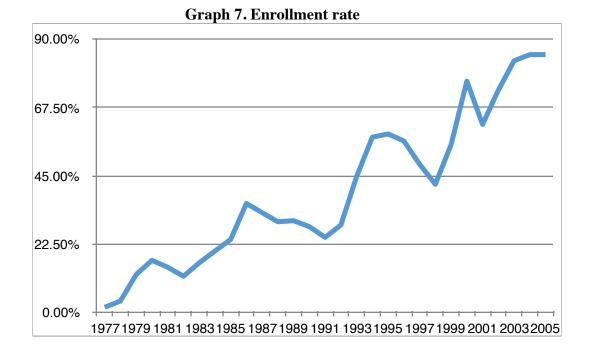


Statistics from: http://www.edu.cn/tjsj_9330/



Graph 6. The number of students who was admitted through the national college entrance examination

Statistics from: http://www.edu.cn/tjsj 9330/



In addition, investment of education has increased rapidly during the humanities-sciences division in 1999. The educational funds expenditure of the universities and colleges from 1998 to 2001 are as follow:

		I		8
Year	1998	1999	2000	2001
The number of				
students (Unit:	361	432	586	758
10,000 people)				
Educational				
funds				
expenditure	545	704	904	1167
(Unit:				
100,000,000				
RMB)				
Educational				
funds				
expenditure per	9422	9768	10787	10786
student (Unit:				
RMB)				
Statistics from: <u>http://www.edu.cn/tjsj_9330/</u>				

Table 2. The educational funds expenditure of the universities and colleges

4. Literature Review

Since 1977, China widely implemented the high school humanities-sciences division. However, the subjects establishment of the national entrance examination have been reformed for the several times. The study of high school humanities-sciences division makes contribution to the reform of the national college entrance examination, the sustainable development of high school education and comprehensive development of the human beings.

The root of the humanities-sciences devision is to meet the need of the national college entrance examination. High schools base on the demands of utilitarianism and pursue the rate of enrollment desperately, which makes the high school education departure from its original intention of the of satisfying the comprehensive development of students. In addition, the humanities-sciences division can't satisfy the curriculum culture of the new curriculum development anymore.⁷ The primary goal of the high school education is not to transport excellent candidates to the universities or colleges, but to cultivate the qualified citizens for the community, to cultivate the sound personality, developed both physically and mentally. In order to achieve this goal, the curriculum should combine the humanities and sciences. In the process of the material selection and teaching, we can also help students to cultivate the science literacy.

The so-called examination-oriented education is depart from the development of the society and economy and is aim to the entrance examination. It violates the the regulation of education. No one could deny that the fundamental education is descend to the examination-oriented education. The main reason is that the fundamental education is main to cope with the Chinese, math and English in the national entrance examination. However, these three subjects is depart from the development of the society and the need of human beings and become the examination-oriented subjects. The humanities-sciences division is just the "result" of the causal chain. Only if we reform the examination-oriented education and national college entrance examination which is

⁷ Zhao, Yuanmei. "The discussion and the research of the high school humanities-sciences division." no. (2012):

⁸ Li, Qun. "Reflecting the Difference between Domestic and Foreign Separation of Liberal Arts & Science Teaching in Senior High Schools." Journal of Hefei Normal University, 5, 28, no. 1674-2273(2010)05-0099-04 (2010): 99-102.

the "reason", the discussion of the humanities-sciences division would be meaningful. If the evaluation system doesn't reform, the abolishment of the humanities-sciences division cannot achieve the desired results. Therefore, we need to replace the single-standard educational evaluation by the multiple-standard education system. In the studying process, we can apply the combination of the compulsory and elective courses method and the credit system rather than a single standard with a rigid indicator.⁹ At present, the evaluation of the education quality of a secondary school always bases on the rate of the national college entrance examination (top line evaluation), which is contradict with the education objection. However, the bottom line evaluation system should be universally accessible and generally appropriate. In other word, the educators and students can make effort to achieve this goal with the basic educational resources.¹⁰ We can not attribute all the education problems to the education itself, not alone the humanities-sciences division. In a word, facing the problem that whether the humanities-sciences division should continue, what we need is the gradual change of the system rather than the sudden reform of the system.¹¹

5. Conclusion

According to the "3+2 model", students didn't need to take the Geography, Biology examination. As a result, students lack of geography and biology knowledge and the colleges which are

⁹ Deng, Huisong. "View the Problem of Disjoin the Learning of Arts and Science in Our Country from the Education Value System." Science Education, 5, 3, no. (2009): 1-3.

¹⁰ Li, Qun. "Reflecting the Difference between Domestic and Foreign Separation of Liberal Arts & Science Teaching in Senior High Schools." Journal of Hefei Normal University, 5, 28, no. 1674-2273(2010)05-0099-04 (2010): 99-102.

¹¹ Tang, Ying. "The value defense of the high school humanities-sciences division system." *Journal of Tonghua Normal University*, 10, 32, no. 1008-7974(2011)10-0093-03 (2011): 93-95.

specialize in the Agriculture, Forestry and Medicine had the difficulty in enrolling students. Compared with "3+2 model", the "3+X" model is much more diversified, selective, comprehensive and open. Students can select the subjects and major according to their interests and basic knowledge. Some unpopular majors can also attract students. However, it did bad to students to select the major and balanced develop , universities to select specialized talents. The phenomena that the examination-oriented education make student the "test machine" didn't change.

The experimental unit Guangdong Province had different score level for three compulsory subjects and the selective subjects. It benefited the the universities and colleges to select the talents. This reform plan made the universities and colleges can admit the students who had the solid foundation of the basic knowledge and were good at related subjects. It benefited the students both from the cultivation in the universities and the development after they graduated. It paid attention to students comprehensive quality and special personality development. Students who had the good grade can choose several subjects which can help them have more opportunities to choose the major, while other students can select just one subjects.

According to the Martin Trow's theory, the popularization of the higher education will lead to the method of admission of the higher education. 1999 has witnessed the first time enrollment extension of the national college entrance examination. The number of students who attended the national college entrance examination exceeded 100,000 students. In the mean time, the "3+X model" has been applied. The reform of the national college entrance examination provided the guarantee for the enrollment extension of the national college entrance examination.

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Appendix:

Table 3. The students'	number of the national college entrance examination
from 1977 to 2014 ¹²	

Year	The number of	The number of	Enrollment rate
	students who attended	students who has been	
	the national college	admitted by the	
	entrance examination	national college	
	(Unit: 10,000 people)	entrance examination	
		(Unit: 10,000 people)	
1977	570	27	5%
1978	610	40.2	7%
1979	468	28	6%
1980	333	28	8%
1981	259	28	11%
1982	187	32	17%
1983	167	39	23%

¹² Statistics from: http://www.edu.cn/tjsj_9330/

1984	164	48	29%
1985	176	62	35%
1986	191	57	30%
1987	228	62	27%
1988	272	67	25%
1989	266	60	23%
1990	283	61	22%
1991	296	62	21%
1992	303	75	25%
1993	286	98	34%
1994	251	90	36%
1995	253	93	37%
1996	241	97	40%
1997	278	100	36%
1998	320	108	34%
1999	288	160	56%
2000	375	221	59%
2001	454	268	59%
2002	510	320	63%
2003	613	382	62%
2004	729	447	61%
2005	877	504	57%
2006	950	546	57%
2007	1010	566	56%
2008	1050	599	57%
2009	1020	629	62%
2010	946	657	69%
2011	933	675	72%
2012	915	685	75%

2013	912	694	76%
2014	939	698	74.30%

Table 3. The students' number of the national college entrance examinationfrom 1977 to 2014 in Guangdong Province¹³

Year	The number of	The number of	Enrollment rate
	students who attended	students who was	
	the national college	admitted through the	
	entrance examination	national college	
		entrance examination	
1977	537,281	87,527	1.63%
1978	244,524	12,793	3.71%
1979	84,070	10,461	12.44%
1980	61,930	10,609	17.13%
1981	71,538	10,634	14.86%
1982	102,907	12,218	11.87%
1983	84,349	13,728	16.28%
1984	81,617	16,459	20.17%
1985	83,736	20,092	23.99%
1986	84,801	30,410	35.86%
1987	98,589	32,367	32.83%
1988	143,219	42,739	29.84%
1989	118,862	35,867	30.18%
1990	130,835	36,923	28.22%
1991	141,368	34,899	24.69%
1992	139,713	40,185	28.76%
1993	137,402	61,464	44.73%

13 Statistics from: http://www.edu.cn/tjsj_9330/

1994	109,170	63,025	57.73%
1995	110,528	64,966	58.78%
1996	113,522	64,102	56.47%
1997	125,565	61,289	48.81%
1998	150,470	63,503	42.20%
1999	179,772	99,326	55.23%
2000	204,354	155,675	76.18%
2001	240,354	148,976	61.92%
2002	259,242	189,780	73.21%
2003	306,421	253,952	82.88%
2004	388,801	330,208	84.93%
2005	451,468	373,431	82.71%