

# Distribution of Korean family names

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## Abstract

The family name distribution in Korea is investigated in comparison with previous studies in other countries. In Korea, both the family name and its birthplace, where the ancestor of the family originated, are commonly used to distinguish one family name from the others. The family name distributions with and without the information of the regional origins are analyzed by using different data sets of various sizes, and compared with previous studies performed in other countries. The growth rate of the family is empirically obtained. Contrary to commonly used assumptions, the growth rate is found to be higher for the smaller family. © 2004 Elsevier B.V. All rights reserved.

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## 1. Introduction

Different from other countries, Korea is known to have relatively small number of family names. For example, the nationwide survey in 2000 has shown that the population of the family name Kim is about 10 million, which means that about one among five Koreans is Kim. In general, the family names have been devised to distinguish one family from the other. Accordingly, if the number of family names is too small, or family sizes are too big, the distinction with other families becomes very

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inefficient. From this reasoning, it is natural that Koreans have developed an additional way to give a kind of sub-system by using the information of the birthplace of the family name, i.e., where the ancestor of the family came from. For example, one of the authors of the present paper has the family name Kim from Gimhae, a region in southern Korea. The family name Kim in the 2000 survey has been found to have 348 different regional origins. Almost all Koreans know the regional origins of their family names from their birth and the state keeps this information in the population register.

In Korean culture, having an unfamiliar family name is not common at all, and most people hesitate to invent new names. For 15 years from 1985 to 2000 (Table 1), the number  $N_f$  of family names in Korea increased only by 11 ( $11/277 \approx 4\%$  increase). In contrast, the number  $N_r$  of the family names with regional origins (e.g., Kim from Gimhae is taken to be different from Kim from Gyeongju), is increased in the same period by 829 ( $829/3359 = 25\%$  increase) (see Table 1). Consequently, this shows that most Koreans consider inventing new family names as taboo, while branching out by using new regional origins (but with the same family name) is totally acceptable in Korean culture.

In this work, we study the distributions of the Korean family names with and without regional origins. From the above observations, one expects that the distributions look very different with and without the regional origins, and that the former distribution is similar to other countries, where having new family names is not a taboo as in Korea.

The data sets analyzed in this work are as follows (Table 1): Korea85 and Korea00 are for the total population of Korea in the years 1985 and 2000, which were downloaded from Korean National Statistical Office [1]. The set Ajou03 is from the list of registered students in Ajou University in 2003, and the other sets Seongnam98, Osan04, and Hwaseong04 are extracted from telephone books published in the corresponding cities at years 1998, 2004, and 2004, respectively. We have information of the regional origins only in Korea85 and Korea00. Throughout the paper,  $N$  is the size of populations,  $N_r$  and  $N_f$  are the numbers of family names with and without regional origins, respectively.

Table 1

Data set	$N$	$N_f$	$N_r$
Korea00	45,985,289	288	4,188
Korea85	40,419,652	277	3,359
Seongnam98	248,460	161	—
Osan04	19,632	114	—
Ajou03	9,802	109	—
Hwaseong04	3,952	87	—

Date sets: Korea00 and Korea85 are for the total populations in Korea in the years 2000 and 1985 [1]. Seongnam98, Osan04, and Hwaseong04 are extracted from telephone books, and Ajou03 is obtained from the list of registered students in Ajou University.  $N_r$  and  $N_f$  are numbers of family names with and without the regional origins, and  $N$  is the population.

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