Has a young person the same voting right as an old person?
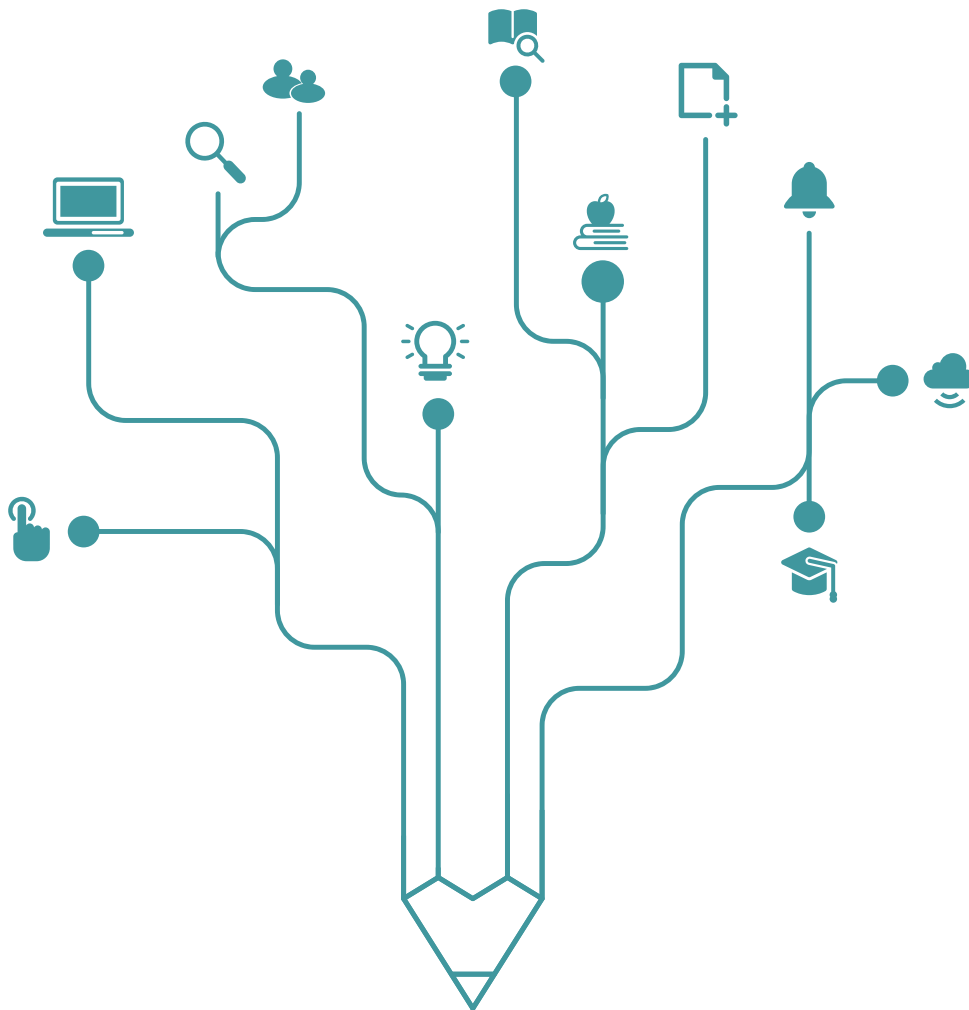
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Has a young person the same voting right as an old person?

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1. Introduction

If there is no difference in political opinion among generation, it could not be a critical issue. But there is generational gap in many political issues. It is important to make each generation to be empowered at the election. It is well known that voices of young generations are less important comparing to its mass. There are three reasons. At first, the turnout of young voters is lower than that of the elderly. Secondly, the population size of the old generation is growing and that of the young generation is shrinking. The third reason has not been well reported. It is related with the deviation of vote value coming from different size of electoral district.

In a democratic society, every adult citizen is entitled to a vote. However, the value of each vote can be weighted differently. In the case of parliamentary elections, political representatives are elected by electoral district. If the population size of each electoral district is different, the value of one vote will not have the same value. This means that a voter in a smaller electoral district would have a voting right with a greater influence compared to one in a district of larger population.

Now what would happen if the population age structure were different by electoral district? What if the young are the majority citizens in a larger electoral district and the elderly in a smaller electoral district? In such a case, the violation of one-person one-vote parity, resulted from the population deviation between the two electoral districts, can be translated into the malapportionment of the vote-value by age. To sum up, an aged person's vote can have much more value than a young person's

Figure 1. Hypothetical case of differences between the population and age composition of electoral districts.
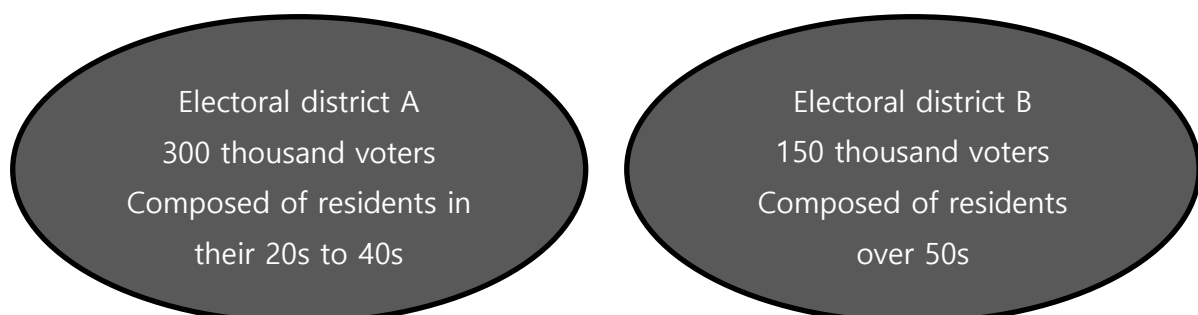
Electoral district A	Electoral district B
300 thousand voters	150 thousand voters
Composed of residents in their 20s to 40s	Composed of residents over 50s

Figure 1 shows a hypothetical situation where the population deviation between electoral districts turns into the vote-value deviation by age. As electoral district A and B have 300 thousand and 150 thousand voters respectively, the voter difference between the two electoral districts comes to 2:1. Regardless, if one representative is to be elected in each electoral district equally, one voter in electoral district A would have only half the influence compared to one voter in electoral district B. Now suppose that electoral district A is composed of residents in their 20s to 40s, and electoral district B is composed of only the over-50s. Then it can be deduced that one vote of the over-50s and two votes of the 20s-40s have the same value. Of course, figure 1 is an imaginary case. In reality, electoral districts consist of a variety of generations. But it is also true that voters in urban electoral districts are younger than voters in rural electoral districts in general. What if the average population size in urban electoral district is bigger than that of rural electoral district?

Table 1. Top and bottom 5 electoral districts by the number of voters based on the 21st general election

Rank	Electoral district	Number of voters
1st	Donghae-si, Taebaek-si, Samcheok-si & Jeongseon-gun, Gangwon Province	246,667
2nd		239,817
3rd	Gwanak-gu 1st, Seoul-si	236,907
4th	Bupyeong-gu 1st, Incheon-si	232,773
5th	Goyang-si 1st, Gyeonggi Province	232,364
	Miryang-si, Uiryeong-gun, Haman-gun & Changnyeong-gun, South Gyeongsang Province	

1st	Yeosu-si 2nd, South Jeolla Province	117,761
2nd	Nam-gu 2nd, Busan-si	118,196
3rd	Sejong-si 2nd	118,843
4th	Yeoncheon-gun, Dongducheon-si, Gyeonggi Province	120,216
5th	Gimcheon-si, North Gyeongsang Province	120,497

Source: Based on the resident registration data of late January 2019, The Ministry of Interior and Safety

Note: *Si* can be understood as the unit of city, and *gun* is similar to the U.S. unit of county. *Gu* is equivalent to district or boroughs, and most cities are divided into *gu.* A *gun* is more rural and less populated than a *gu.*

Table 1 shows the top and bottom 5 electoral districts by the number of voters in the 21st general election, South Korea. The election took place in April 2020, but the voting population calculated for the electoral demarcation held on January 31st 2019. The electoral district with the largest number of voters at that time was Donghae-si, Taebaek-si, Samcheok-si and Jeongseon-gun in Gangwon province with 246,667 voters. The smallest was Yeosu-si 2nd in South Jeolla province with only 117,761 voters. Although the population deviation between electoral districts is limited to 2:1, this is based on the total population including minors. So the population deviation could go above 2:1 if considering only the voting-age population. Larger electoral districts are generally present in the metropolitan areas, but in case of large-sized electoral districts outside the metropolitan areas, the number of voters can get bigger if a district is composed of several cities and counties. That is the case of the electoral district Donghae-si, Taebaek-si, Samcheok-si and Jeongseon-gun. On the contrary, there are some cases where a metropolitan electoral district becomes smaller than the average as it gets divided into two new ones. For instance, the 3rd smallest electoral district in the country in the 20th general election was Yeonsu-gu 2nd in Incheon-si, yet it was a large-sized electoral district called Yeonsu-gu in the previous 19th general election. However, in the electoral demarcation process of the 20th general election, Yeonsu-gu was divided into 2 electoral districts as it exceeded the upper limit of the population proportion, eventually becoming minimum-scale electoral districts.

Table 2. Top and bottom 5 electoral districts by the average voter age, based on the 21st general election

Rank	Electoral District	Average age
1st	Gunwi-gun, Uiseong-gun, Cheongsong-gun & Yeongdeok-gun, North Gyeongsang Province	58.4
2nd	Goheung-gun, Boseong-gun, Jangheung-gun & Gangjin-gun, South Jeolla Province	57.6
3rd	Sancheong-gun, Hamyang-gun, Geochang-gun & Hapcheon-gun, South Gyeongsang Province	56.3
4th	Haenam-gun, Wando-gun & Jindo-gun, South Jeolla Province	55.8
5th	Boeun-gun, Okcheon-gun, Yeongdong-gun & Goesan-gun, North Chungcheong Province	55.5
1st	Hwaseong-si 2nd, Gyeonggi Province	41.4
2nd	Gwangsan-gun 2nd, Gwangju-si	42.6
3rd	Cheonan-si 2nd, South Chungcheong Province	42.9
4th	Suwon-si 4th, Gyeonggi Province	42.9
5th	Suwon-si 5th, Gyeonggi Province	43.2

Source: Based on the January 2019 resident registration data, The Ministry of Interior and Safety

Table 2 shows the top and bottom 5 electoral districts by the average age of voters in the 21st general election. The oldest average age can be found at the district named 'Gunwi-gun, Uiseong-gun, Cheongsong-gun, and Yeongdeok-gun', composed of 4 guns in North Gyeongsang province with the average age of 58.4. From the 2nd to the 5th electoral districts were all *gun* areas. Contrastively, the youngest electoral district was Hwaseong-si 2nd with the average of only 41.4. Also, the following 2nd to 5th electoral districts were all city areas. The age deviation between the oldest and youngest electoral districts was 17.

From table 1 and 2, we can conjecture the general pattern that electoral districts in the metropolitan areas have larger and younger population, and non-metropolitan electoral

districts are populated by smaller and older groups. This therefore leaves a concern that the population deviation between electoral districts can be translated into the vote-value deviation between age groups.

This paper will test the issue of unequal vote weight by age group at the elections between 2012 and 2022 in South Korea. There were 6 parliamentary elections – 3 national assembly elections in 2012, 2016, and 2020 and 3 local elections in 2014, 2018, and 2022. In the case of local election, metropolitan or provincial council election will be analyzed.

2.   The vote parity principle and vote-value deviation by age

Election is a crucial system that constitutes the root of representative democracy. The 4 principles of the contemporary democracy that concerns the vote parity is "equal election"[1]. This is not limited to the rule of one-person one-vote for one eligible voter. The actual vote-value should be equal beyond the typical equality of vote. That is, the degree of contributing to the election outcome should also be equal in selecting a representative. In this aspect, the issue of the population deviation between electoral districts was pointed out as a factor that violates the equal election principle (Kang, 2015; Shin, 2012; Lee, 2011). The Constitutional Court accepted that "vote-value equality based on the population proportion principle in electoral demarcation is a constitutional decree" and highlighted its significance stating that "it is a fundamental and primary criterion compared to other elements". Accordingly, the electoral demarcation that violates the vote-value equality without a reasonable cause was ruled unconstitutional (Constitutional Court, Decision of Oct. 25, 2001, Case No. 2000 Ma 92).

Table 3. Electoral redistricting standard for electoral district in general elections and population deviation

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[1] The 4 principles of election are universal election, equal election, direct election, and secret election.

| General election (year)	Upper and lower limits of demarcating local electoral districts (upper limit, lower limit)	Maximum permissible population deviation
15th (1996)	300 thousand, 7.5 thousand	4.4:1
16th (2000)	350 thousand, 9 thousand	3.88:1
17th (2004)	315 thousand, 10.5 thousand	2.8:1
18th (2008)	312 thousand, 10.4 thousand	3.0:1
19th (2012)	314.06 thousand, 10.3469 thousand	3.0:1
20th (2016)	278.982 thousand, 14.74 thousand	1.99:1
21st (2020)	277.912 thousand, 13.9027 thousand	2.00:1

Before the 1987 democratization, only the one-person one-vote principle was considered without reflecting the weight (Kang, 2015). Until the 1998 general election, electoral districts were demarcated so that one representative is elected per each 200 thousand population approximately. The first time that the population deviation was suggested as a standard was the 15th general election in 1996. As shown in Table 3, the upper limit of electoral district population was 300 thousand and the lower limit remained at 7.5 thousand, allowing the population deviation at 4.4:1 maximum. Subsequently, the standard of the electoral district demarcation was set to gradually decrease the population deviation. In such a process, the Constitutional Court of Korea played a decisive role. In the late 1995, the Constitutional Court ruled an electoral demarcation case of excessive population deviation unconstitutional, and it was put forward on a majority opinion that the population deviation should be within 4:1 (Constitutional Court, Decision of Dec. 27, 1995, Case No. 95 Ma 224).

In 2001, the Constitutional Court reversed its stance and adjudicated that the existing 4:1 population deviation standard is incompatible with the constitution, deciding that the vote-value equality that the constitution upholds is protected if and only if the population deviation is set within 3:1 (Constitutional Court, Decision of Oct. 25, 2001, Case No. 2000 Ma 92). As a consequence, the electoral demarcation standard was changed so the population deviation is within 3:1 from the 17th general election. The most recent

Constitutional Court precedent was in 2014, and the existing 3:1 standard was again ruled as a constitutional discordance, arguing that the population deviation should be within 2:1. This conforms much more strictly to the vote parity principle (Constitutional Court, Decision of Oct. 30, 2014, Case No. 2014 Ma 53). As a result, local electoral districts were adjusted in the 20th general election so the population deviation reaches within 2:1 maximum.

The vote parity principle has been reinforcing gradually, yet the general elections still allow the population deviation at most 2:1. This is because population proportion is not considered as a principle of the electoral demarcation. The Constitutional Court has adjudicated that the extreme population deviation between city and rural areas, which resulted from the regional representativeness of municipal representatives, and urban concentration, should also be considered (Constitutional Court, Decision of Mar. 29, 2007, Case No. 2005 Ma 985; Constitutional Court, Decision of Mar. 29, 2007, Case No. 2006 Ma 11).

Figure 2. The Voter Sizes and Average Age at the National Assembly Election
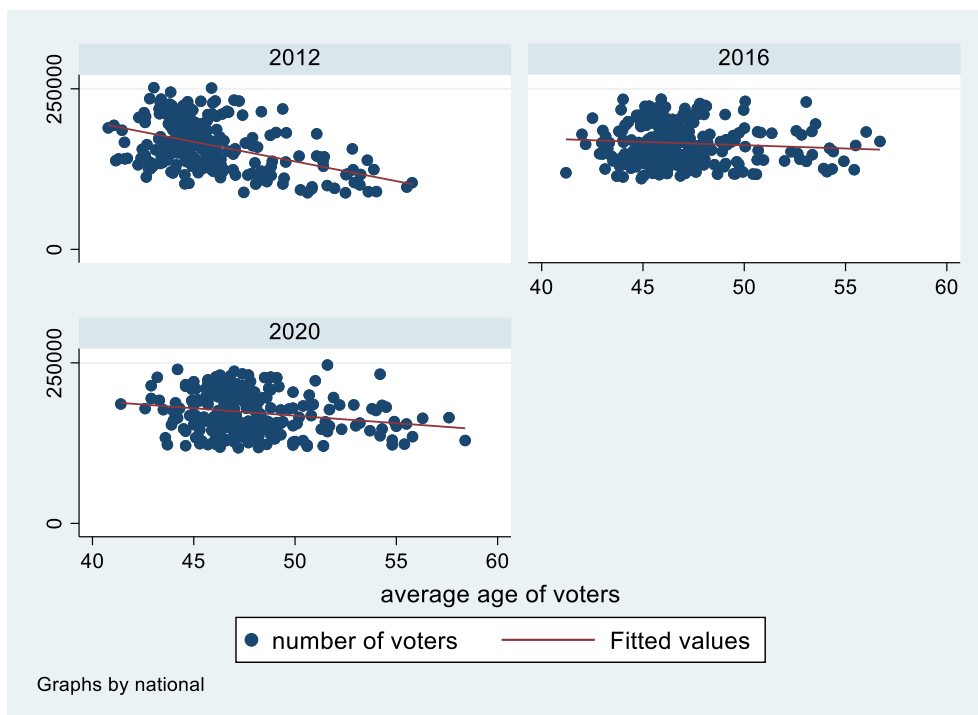
3. Analytical Results

Figure 2 shows the scatter plots using number of voters and average age of each district at the national assembly elections. The relationship was negative in 2022. But in 2016 and 2020 the negative relationship became weaker and less clear. It may be related with the change of rules reflecting the Constitutional Court verdict.

The metropolitan or provincial council elections shows differently. There are several characteristics. At first almost all relationships are negative, which means small districts are more likely to be older. Secondly, At the provincial councils, the negative relationships are stronger. At the metropolitan councils the relationship become weaker. At some metropolitan councils the relationships are even positive but those are not statistically significant. It implies that the voting value could be significantly different especially in the case of provincial council elections.

Table 4. Correlation between voter size and average age at the metropolitan or provincial elections in 2014, 2018, and 2022

	2014		2018		2022	
Seoul	-0.368	***	-0.188	†	-0.241	*
Busan	-0.482	**	-0.437	**	-0.283	†
Daegu	-0.542	**	-0.369	†	-0.222	
Gwangju	-0.820	***	-0.449	*	-0.468	*
Inchenon	-0.466	**	-0.020		-0.376	*
Daejeon	0.230		-0.284		-0.444	†
Ulsan	0.235		0.173		0.063	
Sejong	-0.248		0.191		-0.343	
Gyeonggi-do	-0.402	***	-0.276	**	-0.190	*
Gangwon-do	-0.627	***	-0.529	**	-0.571	***
Chungcheongbuk-do	-0.608	***	-0.667	***	-0.623	***
Chungcheongnam-do	-0.759	***	-0.571	***	-0.567	***
Jeollabuk-do	-0.805	***	-0.675	***	-0.502	**

Jeollanam-do	-0.652	***	-0.619	***	-0.416	**
Gyeongsangbuk-do	-0.707	***	-0.753	***	-0.443	***
Gyeongsangnam-do	-0.688	***	-0.656	***	-0.639	***
Jeju-do	-0.515	**	-0.447	*	-0.552	**

† p<0.1, * p<0.05, ** p<0.01, *** p<0.001

Figure 3 shows the voting value gap when the lowest level is set to 100% at the national assembly election. The lowest points are found at age 32 in 2012 election, age 27 in 2016 election and age39 in 2020 election. The biggest gaps are 8.3% at age 81 in 2012 election, 1.75% at age 85 in 2016 election and 2.68 % at age 85 in 2020. The similar results are shown at table 5 which use 10 age intervals. Age 70s combines all age groups at age 70 and over. The biggest voting values are at the oldest group – 70s. But comparing to 2012, 2016 and 2020 shows that the differences decrease sizably.

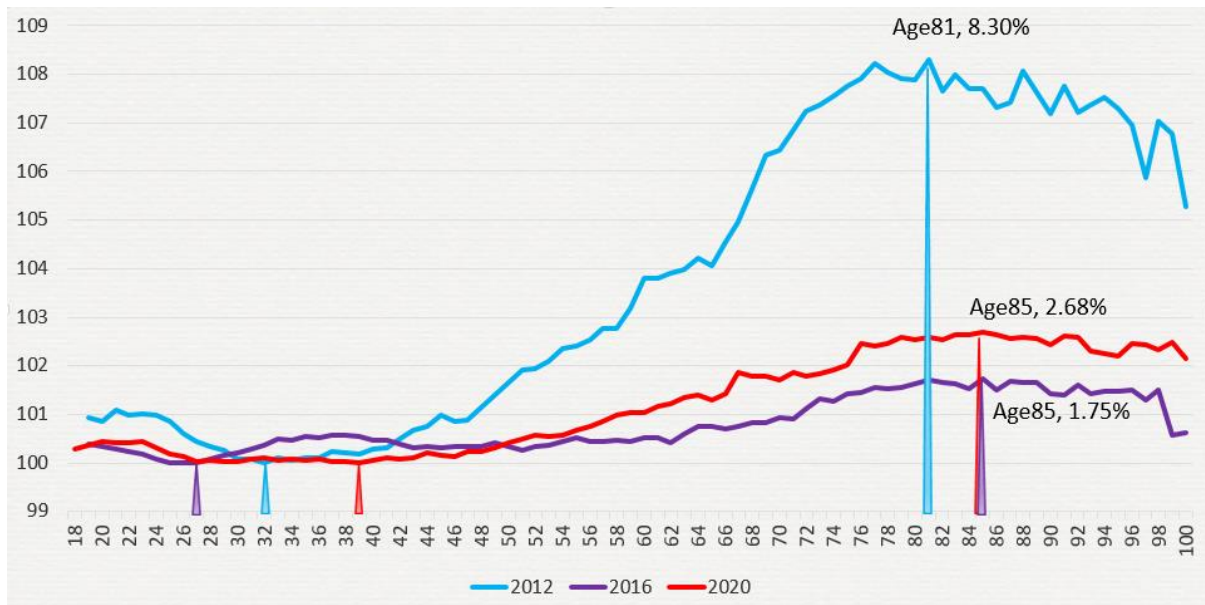Figure 3. Voting Value Gap at the National Assembly Election, 2012, 2016, and 2020

Table 5. Voting Value Gap at the National Assembly Elections, 2012, 2016, and 2020

	Year	20s	30s	40s	50s	60s	70s

19th Election	2012	100.61	100.00	100.64	102.16	104.37	107.38
20th Election	2016	100.00	100.30	100.20	100.24	100.48	101.21
21st Election	2020	100.21	100.00	100.12	100.64	101.33	102.19

Figure 6 shows the voting value gap at the local council elections. Old generations have bigger impacts in their voting rights. But the gaps at metropolitan councils are relatively small. The exception is the Sejong city council election. Its biggest gap is only 4.2% in 2014. But in 2022 it rises to 24.4%. I

In general, provincial council elections shows bigger gap than at metropolitan councils. Even though the gap is slightly reducing, in 2022 it ranges from 2.7%(Gyeongggi-do) to 17.2%(Chungcheongnam-do)

Figure 6. Voting Value Gap at the Metropolitan and Provincial Council Elections, 2014, 2018, and 2022.

2014 Local Election

2018 Local Election

2022 Local Election

4. Discussion

The violation of the vote-value parity among the districts does not make an extreme value gap in the age groups. Various age groups are still mixed with senior citizens in urban areas and young people in rural areas. There are small constituencies in large cities and large constituencies in rural areas in the process of consolidation and division of electoral districts.

When the population deviation among district is allowed to 3:1, the gap is at most 8.3%. But the difference in the vote-value at the national assembly election has greatly reduced as the population deviation was set to 2:1 by Connotational Court.

Is the issue of the age-specific vote parity in the National Assembly election a past concern? The answer is yes but tentative one. The unequal value in 2020 is greater than in 2016. If the population aging deepens and the urban and rural gap widens in the future, the voting value gap may get wider in the future.

The contemporary issues can be found at provincial council elections. The gaps are bigger than 20% in 2014 and 2018. In 2022, the gap decreases to 12~17% at Chungcheng, Jeolla and Gyeongsang province. It comes from the fact that there are sizable differences in the degree of aging and district population size. It implies that young generations who reside in provinces have more difficulty in reflecting their opinion at the local council elections. Unlike the national assembly elections, the local council elections still allow population deviation among district to 3:1. In principle, the equal vote right needs to be observed

<References>

Kang Woojin. 2015. "Politics of Redistricting Process: Main Issues and Tasks" Korean Journal of Legislative Studies. Vol21(2):5-32

Sin Jin. 2012. "Korea's Precincts and Political Equality : One Person ? One vote ? One Value" Korean Journal of Political Science. Vol19(3): 49-70

Lee Sanghack. 2011. "National Assembly Electoral Apportionment and Political Gini Coefficient in Korea"

LEE SANGHACK, Seongkyu Lee. 2015. "Unequal Votes in Democracy: Electoral Mal-Apportionment in National Assembly Election of Korea" .Journal of Parliamentary Research. Vol10(2): 5-24.
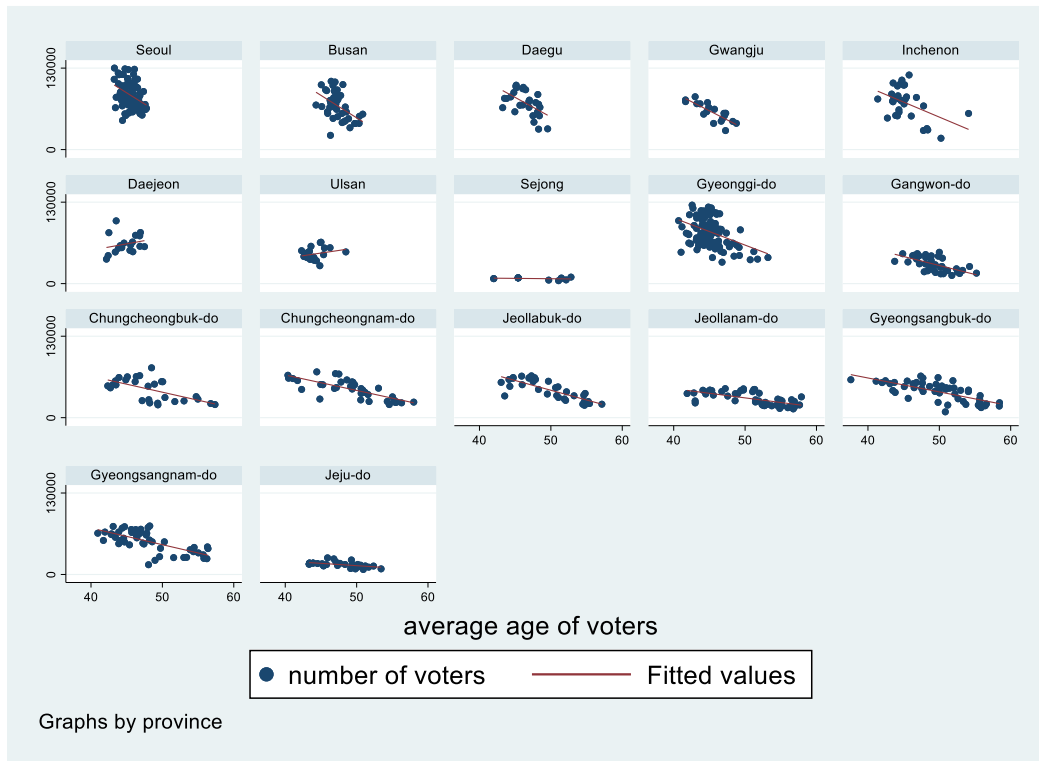
Constitutional Court, Decision of Oct. 25, 2001, Case No. 2000 Ma 92

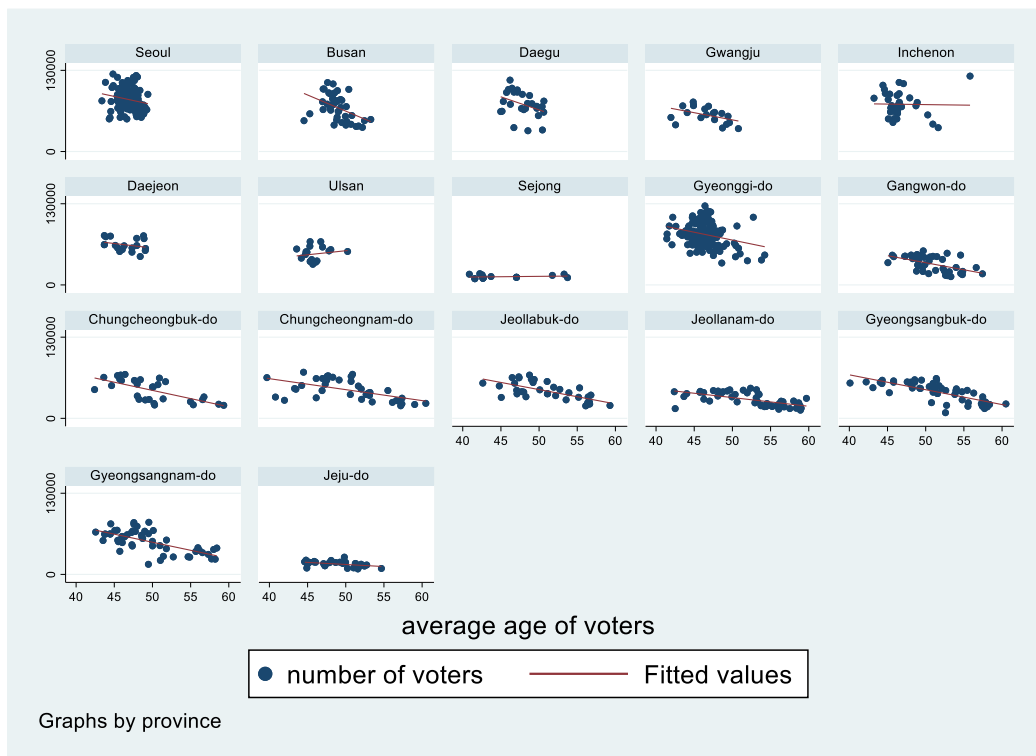Constitutional Court, Decision of Oct. 30, 2014, Case No. 2014 Ma 53

Constitutional Court, Decision of Mar. 29, 2007, Case No. 2005 Ma 985

Constitutional Court, Decision of Mar. 29, 2007, Case No. 2006 Ma 11

2014 Metropolitan and Provincial Council Election

average age of voters

● number of voters ——— Fitted values

Graphs by province

2018 Metropolitan and Provincial Council Election

average age of voters

● number of voters ——— Fitted values

Graphs by province

2022 Metropolitan and Provincial Council Election

Graphs by province