

Register based census 2015

Statistics Korea



1. Obtain admin. data
2. Codify admin. data
3. Standardize admin. data address
4. Register-based census items
5. Supplement population coverage
6. Supplement household coverage
7. Supplement housing coverage

1. Obtain admin. data

Action plan

- Build sharing / cooperating relations with data supply
- Obtain newest data required for register-based census every Nov. 1st
 - admin data required for register-based census : 25 types from 12 agencies*

Required data

Admin. data	Supply agency	Purpose of use	First acquired
Resident register	Ministry of Government administration and Home Affairs	Generate population & household	'10. 4
Foreign register	Ministry of Justice	Generate population (foreigner)	'10. 5
Entry & Exit data	Ministry of Justice	Identify residents residing abroad	'11. 2
Family relation register	Supreme Court of Korea	Supplement & Generate household	'11. 3(Once)
Building register	Ministry of Land, Infrastructure and Transport	Supplement housing	'09. 4
Publicly announced housing price	Ministry of Land, Infrastructure and Transport	Generate housing	'10. 7

2

2. Codify admin. data



Encrypted replacement number	Virtual number
MC0GCCqGSib3DQIJAYEAbDSAY.....Cw+3Li4ENiRKJhDHsZXXXXX=	1234567
MC0GCCqGSib3DQIJAYEAu36el/W.....DKJhI8pUqcN2SeRaXXXXX=	2345678
MC0GCCqGSib3DQIJAYEAselHV37.....ghViiONXgzIQdw8GXXXXX=	3456789

● Encrypt by converting module

- Use CI converting module to have resident register & foreigner register encrypted and converted into replacement number

● Replacement of virtual number

Replace 64 digits encrypted replacement number to virtual number for convenience

● Delete resident register, foreigner register number

- Assign virtual number to acquired admin. data and delete resident register and foreigner register number immediately *can not recovered

3

3. Standardize address in admin. data

Action plan

- Standardize management of similar items and classification
- Secure link key across admin. data

Standardization

- Standardize address system among admin data

Address in admin data						
시도	시군구	Legal dong	Street-name address	Building name	동명	호명
전라남도	영광군	대마면 원흥리	영대로5길 33-1	에다인APT	104동	101호

↓

Standardized address								
Govtmt dong code	Street-name code	Building main #	Building -sub #	Building name	동	층구분	층	호
3644011	468704694264	00033	00001	에다인아파트	000104	20	1	000101

- Standardize management method on type of living quarter, gender, date of birth and etc.
- Secure link key (population: identification number, housing: standardized address)

4

4. Items supplied by 2015 Register-based Census

Items	2010 Census	2015 Register-based Census	Admin. data				Note
			Resident register	Family relation register	Foreigner register	Publicly announced building & housing price	
Population	Name	●	●	●		●	
	Gender	●	●	●		●	
	Age	●	●	●		●	
	Relation to head of household	●	●	●			
	Educational attainment	●	○				College register
	Marital status	●	○		▲		Civil marriage
	Nationality	●	●		●	●	
	Date of arrival	○	○		▲	●	
	Place of birth	○	○		▲		
	Residence 1 year ago	○	○	▲			
	Residence 5 year ago	○	○	▲			
	Date of marriage	○	○		▲		
	Children ever born	○	○		▲		
Family clan	-	●		●			
Household	Household items	●	●	●			
	Number of rooms in use	○	○				
	Building and floor of residence	●	○	▲			▲
	Type of dwelling facility	●	○				
	Housing tenure	●	○				
Housing	House ownership in other place of residence	○	○				▲
	Residence period	○	○	▲			
	Type of living quarters	●	●				●
	Residential gross area	●	●				●
	Year structure built	●	●				●
Total complete enumeration variables	Lot area	○	○				●
	Number of rooms	●	○				●
	Number of dwelling facilities	●	○				●

● 2010/2015 Complete enumeration variables, ○ 2010/2015 sample variables

5

[Appendix] 2015 Population and Housing Census survey items

Coverage of Population and Housing Census items by year

	'15(items)	'10	'05	'00	'95	'90
Total	56	50	44	50	28	45
Complete enumeration variables	12	19	21	20	17	33
Sample variables	44	31	23	30	11	12

☞ 3 si, do items included in sample variables from '05 and '10

Complete enumeration variables 2010 => Sample variables 2015	Educational attainment, martial status, number of rooms in use, building and floor of residence, type of dwelling facility, house ownership in other place of residence, housing tenure, Total number of rooms, number of dwelling facilities
Sample variables 2010 => Complete enumeration variables 2015	Lot area
Complete enumeration variables 2015 (new)	Family clan (complete enumeration in 2000)

* Items not supplied by register-based census will be found in sample survey from 20% of population

6

5. Supplement population coverage

Population status quo (based on Nov 1st 2010)

Difference from estimated population : 1.9 million → 0.16 million (Unit : persons)

	Admin data(A)	Register-based census(B)	Estimated population (C)	Census(D)	Difference			
					(A-C)	(A-B)	(B-D)	(B-C)
Total population	5,145	4,967	4,951	4,858	194	178	109	16
Korean	5,047	4,873	4,853	4,799	194	174	74	20
Foreigner	98	94	98	59	-	4	35	-4

Why there is difference and how to supplement it

Resident register population includes persons residing abroad on purpose of

education and employment (1.71mil)

☞ Supplement with entry & exit data

● Difference occurs due to delayed birth and death registration

☞ Include birth[20 k] and death [50 k] after 3 month of reference point

Exclude registered foreigner residing abroad (130 k),

Include undocumented foreigners (90 k)

7

6. Supplement household coverage

General household status quo (Unit : household, %)
 Difference from estimated household : 2.39 million → 0.28 million

	Resident register(A)	Component ratio	Register-based census (B)	Component ratio	Estimated household (C)	Component ratio	Census (D)	Component ratio	Difference		
									(A-C)	(A-B)	(B-C)
Total	1,985	100.0	1,774	100.0	1,746	100.0	1,734	100.0	239	211	28
1-person household	662	33.3	442	24.9	422	24.2	414	23.9	240	220	20
2-person household	378	19.1	415	23.4	426	24.4	421	24.3	-48	-37	-11
3-person household	365	18.4	378	22.0	372	21.3	370	21.3	-7	-13	6
4-person household	423	21.3	389	22.3	388	22.2	390	22.5	35	34	1
5-person household	157	7.9	150	9.2	138	7.9	140	8.1	19	7	12

Household split does not reflect actual household (i.e. housing pre-sale, schooling)

Integrate households using family relation data, resident register (Unit : 10,000 households)

Total household supplement	Persons residing abroad (entry & exit data)	Special EMD	Institutional (facility) Household separation (Census)	Family with same address (family relation register)	Spouses living nearby district (family relation register)	Non blood related households in multi-unit dwelling (resident register)
211	69	16	24	60	19	23

8

Concepts: 가구 household and 세대 generation

Household is a mild term for generation with no conceptual difference. Although they belong in one household, household-split by generation occurs due to personal and special purposes

Household	Generation
Domestic unit of 1 and more persons sharing livelihood such as cooking and sleeping (Population and Census rule article 2, definition)	주거 및 A group of unit sharing livelihood (Resident registration Affair Manual)

Illustration of household supplement

< 1 household with 3 generation in identical address : 3 generation as husband, spouse + children, parents >

Family relation register					Resident register 「generation」				
	Name	Gender	Age	Relation to head of household	Resident data Name	Head of household	Relation to head of household	Note	Number of generation
1 household	이승*	1	41	Head of household	이승*	이승*	Head of household	1-person generation	1st
	임선*	2	38	Spouse to head of household	임선*	임선*	Head of household	-	2nd
	이지*	1	9	Child	이지*	임선*	Child		
	이여*	2	8	Child	이여*	임선*	Child		
	박정*	2	60	Parent to spouse	박정*	박정*	Head of household	1-person household	3rd

7. Housing coverage supplement

Number of housing by types

(Unit : 10 thousand, %)

	Number of housing	Detached housing	General detached	Multi-family	Dwelling with shop	Apartment	Row house	Apartment units in a private house	Non-residential
Publicly announced housing price(A)	1,461 (100.0)	385 (26.3)	300 (20.5)	54 (3.7)	31 (2.1)	847 (58.0)	46 (3.2)	150 (10.3)	32 (2.2)
Register-based census (B)	1,473 (100.0)	388 (28.0)	303 (23.0)	54 (2.3)	31 (2.6)	856 (56.7)	46 (3.3)	150 (9.7)	32 (2.3)
Population and housing census(C)	1,468 (100.0)	409 (27.9)	285 (19.4)	89 (6.0)	36 (2.4)	858 (58.4)	54 (3.7)	131 (9.0)	16 (1.1)
Difference(A-C)	-7	-24	15	-35	-5	-11	-8	19	16
Difference(B-C)	5	-21	18	-34	-5	-2	-7	19	16

Supplement housing by using admin. data



- Official residence, rental APT : 50 k
- Soldier, employee APT : 7 k

• About 100k illegal housings are estimated as not counted.

At Household and Housing Preliminary Enumeration in 2011, they will be checked and supplemented

10

Thank you.