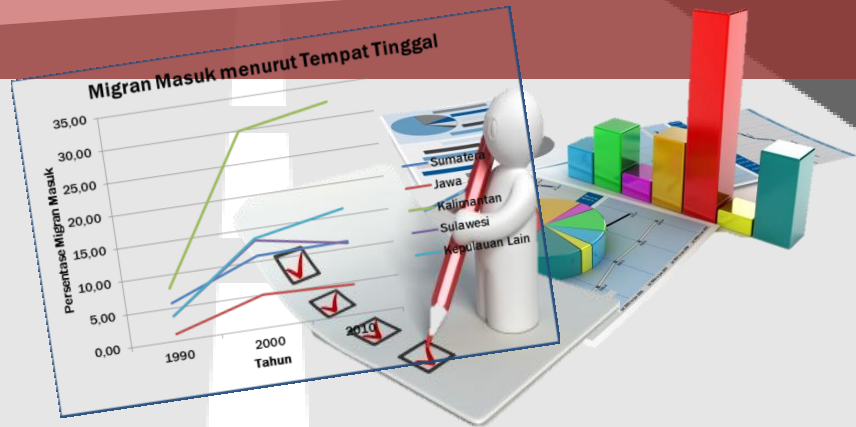


# Migration Data for Assumption for the Population Projection



# Demographic Parameters Assumption for the Population Projection (1)



- ✓ Population projection depends on 3 demographic parameters:
  - ✓ Fertility
  - ✓ Mortality
  - ✓ Migration
- ✓ For national level, there should be a figure for “net international migration”
- ✓ Net international migration is expressed in 1000 population
- ✓ The figure could be “-...”, “0” or “+...”, depends on the pattern of international migration of each country

# Demographic Parameters Assumption for the Population Projection (2)



- ✓ The “-...” figure indicates more emigrants than immigrants in the country (sending migrants)
  - ✓ The “+...” figure indicates more immigrants than emigrants in the country (receiving migrants)
  - ✓ “0” figure indicates immigrants = emigrants
- ✓ **What about Iran?**

# Assumption of International Migration



- ✓ Previously, the assumption of international migration for Indonesia was 0 for net migration
- ✓ Now, it is debatable
- ✓ Indonesia is known as “sending migrants” → international working migrants
- ✓ So, there should be “-...” figure for the net international migration



## **Result of the study from 2015 Intercensal Survey**

## Absence household member and live in overseas from January 2010 up to enumeration time by age group and sex (emigrants)



Age Group	Males	Females	Total
(1)	(2)	(3)	(4)
5-9	815	595	1,410
10-14	2,151	1,529	3,680
15-19	51,036	46,544	97,580
20-24	119,642	103,629	223,271
25-29	117,841	114,631	232,472
30-34	104,537	113,254	217,791
35-39	73,654	94,171	167,825
40-44	56,445	58,384	114,829
45-49	30,207	25,357	55,564
50-54	14,642	7,487	22,129
55-59	7,233	821	8,054
60-64	1,788	809	2,597
65-69	584	139	723
70-74	58	60	118
75+	220	912	1,132
Total	580,853	568,322	1,149,175

# Immigrants by Age Group and Sex (period 2010-2015)



Age Group	Males	Females	Total
(1)	(2)	(3)	(4)
5-9	9,717	7,583	17,300
10-14	3,816	4,582	8,398
15-19	3,383	3,272	6,655
20-24	30,558	25,645	56,203
25-29	51,226	49,584	100,810
30-34	49,328	51,874	101,202
35-39	43,617	42,735	86,352
40-44	31,514	33,742	65,256
45-49	20,634	18,959	39,593
50-54	9,019	8,145	17,164
55-59	4,428	3,425	7,853
60-64	3,168	913	4,081
65-69	505	943	1,448
70-74	148	509	657
75+	266	169	435
Total	261,327	252,080	513,407

# Net Internacional Migrants (2010 - 2015)



Age Group	Males	Females	Males+Females
(1)	(2)	(3)	(4)
5-9	8.902	6.988	15.890
10-14	1.665	3.053	4.718
15-19	-47.653	-43.272	-90.925
20-24	-89.084	-77.984	-167.068
25-29	-66.615	-65.047	-131.662
30-34	-55.209	-61.380	-116.589
35-39	-30.037	-51.436	-81.473
40-44	-24.931	-24.642	-49.573
45-49	-9.573	-6.398	-15.971
50-54	-5.623	658	-4.965
55-59	-2.805	2.604	-201
60-64	1.380	104	1.484
65-69	-79	804	725
70-74	90	449	539
75+	46	-743	-697
Total	-319.526	-316.242	-635.768



# Emigrants, Immigrants and Net International Migrants per Year by Age Group and Sex



Age Group	Emigrants per year			Immigrants per year			Net Migrants per year		
	Males	Females	Males + Females	Males	Females	Males + Females	Males	Females	Males + Females
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
5-9	150	110	260	1,642	1,282	2,924	1,492	1,172	2,664
10-14	397	282	679	645	774	1,419	248	492	740
15-19	9,422	8,593	18,015	572	553	1,125	-8,850	-8,040	-16,890
20-24	22,088	19,132	41,219	5,165	4,334	9,499	-16,923	-14,798	-31,720
25-29	21,755	21,163	42,918	8,658	8,380	17,038	-13,097	-12,783	-25,880
30-34	19,299	20,908	40,208	8,337	8,767	17,105	-10,962	-12,141	-23,103
35-39	13,598	17,385	30,983	7,372	7,223	14,595	-6,226	-10,162	-16,388
40-44	10,421	10,779	21,199	5,326	5,703	11,029	-5,095	-5,076	-10,170
45-49	5,577	4,681	10,258	3,487	3,204	6,692	-2,090	-1,477	-3,566
50-54	2,703	1,382	4,085	1,524	1,377	2,901	-1,179	-5	-1,184
55-59	1,335	152	1,487	748	579	1,327	-587	427	-160
60-64	330	149	479	535	154	690	205	5	211
65-69	108	26	133	85	159	245	-23	133	112
70-74	11	11	22	25	86	111	14	75	89
75+	41	168	209	45	29	74	4	-139	-135
Total	107,234	104,921	212,155	44,168	42,605	86,773	-63,066	-62,316	-125,382

# ASNMR (Age Specific Net Migration Rate) Internacional by Age Group and Sex



Age Group	Net Migration Rate		
	Males	Females	Males and Females
(1)	(2)	(3)	(4)
5-9	0.024	0.02	0.022
10-14	0.004	0.009	0.006
15-19	-0.164	-0.156	-0.16
20-24	-0.318	-0.287	-0.303
25-29	-0.247	-0.241	-0.244
30-34	-0.216	-0.238	-0.227
35-39	-0.125	-0.202	-0.164
40-44	-0.112	-0.113	-0.113
45-49	-0.051	-0.036	-0.043
50-54	-0.036	-0.00015	-0.018
55-59	-0.02	0.015	-0.003
60-64	0.01	0.00024	0.005
65-69	-0.002	0.01	0.004
70-74	0.002	0.007	0.005
75+	0.00045	-0.011	-0.006
Total	-0.541	-0.538	-0.54

# International Migration Assumption from Secondary Data



- ✓ From BNP2TKI (National Agency for the Placement and Protection of Indonesian Workers) → migrant workers as a proxy of emigrants
- ✓ Ministry of Law and Human Right: Directorate General of Immigration → foreign workers as a proxy of immigrants

# Secondary data



- ✓ Average per year emigrants, from a data series from 2012 – 2015 are 428,096 migrants
- ✓ Average per year immigrants, from a data series from 2013 -2014 are 77,106 migrants
- ✓ Estimated Net International Migration is:  
$$((77,106 - 428,096)/231,396,200)*1000 =$$
  
–1.5 migrants per 1.000 population
- ✓ Limitation: Data obtained only for total
- ✓ Confidential reason
- ✓ Using U/R Projection, this total can be splitted into detail (by age group and sex)

# Assumption for Internal Migration



- ✓ Type of migration used is recent migration
- ✓ Migration which is calculated based on the difference of place of current residence and place of residence 5 years ago
- ✓ This type of migration represents the current movement
- ✓ There is trend for recent migration

# Calculation Method



- ✓ *Age Specific Net Migration Rate (ASNMR) → by sex*
- ✓ Net migration rate is calculated by age group for each sex
- ✓ ASNMR is calculated for average per year

## Data needed



- ✓ Recent in-migration inter province by age group and sex
- ✓ Recent out-migration inter province by age group and sex
- ✓ Mid population by the period 2010-2015 by age group and sex

# ASNMR age 5-9 to age 75+



- ✓ ASNMR for population 5+ years of age, male/female is calculated using this formula:

$$\text{ASNMR}_i = \text{In}_i - \text{Out}_i / ( 5 \times P_{i \text{ mid } 10-15} ) \times 1.000$$

$\text{In}_i$  = Recent in-migration age group i

$\text{Out}_i$  = Recent out-migration age group i

$P_{i \text{ mid } 10-15}$  = Population age group i in the mid 2010-2015.



## ASNMR umur 0-4



- ✓ Whereas ASNMR for population 0-4 years is calculated using the formula (migration pattern of population 0-4 are assumed to follow their mothers pattern):

$$ASNMR_{0-4}P = \frac{0,25 \times M_{15-49}P \times \left(\frac{100}{205}\right)}{5 \times P_{0-4}P_{\text{mid } 05-10}} \times 1000$$

$$ASNMR_{0-4}L = \frac{0,25 \times M_{15-49}P \times \left(\frac{105}{205}\right)}{5 \times P_{0-4}L_{\text{mid } 05-10}} \times 1000$$

# ASNMR age 0-4 *(...continue)*



- ✓  $ASNMR_{0-4}^P$  = ASNMR females 0-4 year
- ✓  $ASNMR_{0-4}^L$  = ASNMR males 0-4 year
- ✓  $M_{15-49}^P$  = Net recent female migrants 15-49 years  
SUPAS 2015
- ✓  $P_{0-4}^P_{mid\ 05-10}$  = Female population 0-4 year, mid 2010-2015
- ✓  $P_{0-4}^L_{mid\ 05-10}$  = Male population 0-4 year, mid 2010-2015

# ASNMR Males DI Yogyakarta



Age Group	Recent In-Migrants	Recent Out-Migrants	Recent Net Migrants	Total Population	NET MIGRATION RATE
(1)	(2)	(3)	(4)	(5)	(6)
0-4	-	-	-	140,100	17.63
5-9	5,486	1,983	3,503	137,100	5.11
10-14	3,606	757	2,849	134,600	4.23
15-19	15,582	1,700	13,882	134,700	20.61
20-24	36,304	12,623	23,681	156,700	30.22
25-29	12,523	10,707	1,816	157,900	2.30
30-34	10,236	5,727	4,509	138,600	6.51
35-39	6,325	5,318	1,007	131,600	1.53
40-44	2,888	1,430	1,458	129,800	2.25
45-49	1,952	1,553	399	125,800	0.63
50-54	1,442	1,362	80	113,200	0.14
55-59	1,153	143	1,010	96,700	2.09
60-64	861	390	471	74,300	1.27
65-69	264	68	196	52,400	0.75
70-74	792	27	765	39,500	3.87
75+	132	19	113	55,800	0.41

# ASNMR Females DI Yogyakarta



Age Group	Recent In-Migrants	Recent Out-Migrants	Recent Net Migrants	Total Population	NET MIGRATION RATE
(1)	(2)	(3)	(4)	(5)	(6)
0-4	-	-	-	134,100	17.54
5-9	3,847	1,859	1,988	129,600	3.07
10-14	3,140	973	2,167	127,900	3.39
15-19	18,263	2,358	15,905	130,400	24.39
20-24	38,815	9,385	29,430	152,700	38.55
25-29	17,977	13,738	4,239	150,500	5.63
30-34	10,450	5,183	5,267	137,400	7.67
35-39	6,021	3,031	2,990	134,300	4.45
40-44	2,386	1,219	1,167	134,300	1.74
45-49	2,523	1,434	1,089	133,400	1.63
50-54	1,177	423	754	122,900	1.23
55-59	888	343	545	102,700	1.06
60-64	1,945	255	1,690	78,500	4.31
65-69	229	258	-29	61,200	-0.09
70-74	497	481	16	50,000	0.06
75+	553	168	385	80,500	0.96

Thank you

