

MIGSUB

Version 5.20

Step-By-Step Guide

- (1) MIGSUB requires or allows user inputs in five workbook sheets. In the Setup sheet (Figure 1), enter country name and a year descriptor (either the year of the most recent census or the range years from most recent census to end of projection horizon) in cell A4, number of subareas for which data will be provided (cell B9), subarea label (cell B10), the most recent census date (decimal date) and male and female population totals for that date (line 11), and a prior census date and associated male and female populations (line 12).

Figure 1. SETUP Sheet

	A	B	C	D	E	F
3	Table					
4	COUNTRY					
5	Subarea Migration Projection					
6	A. Projection specifications					
7			Population		Net International Migrants	
8	Item	Value	Male	Female	Male	Female
9	Number of subareas	13				
10	Subarea label	District				
11	Recent census date	2010.40	22,554	22,367		
12	Prior census date	2000.30	18,999	18,755		
13	Time reference of mig question	5.00				
14	Midpoint of the migration period	2007.90				
15	Start year of projection	2010.50			-200	-150
16	End year of projection	2030.50			-600	-750
17	Projection interval	5.00				
18						
19	Sources:					

- (2) Enter the time reference (X years) of the migration question (cell B13). This refers to the time (in years) before the census for which the prior residence is being requested (e.g., "Residence 5 years ago," or "Residence 1 year ago").
- (3) On lines 15 and 16 enter start year and end year for the projection as well as assumed total net international migrants by sex for those years. In cell B17 enter the projection interval (whether output should be produced for each year, for every fifth year, or for some other interval).
- (4) Press the "Set up workbook" button to format the other input sheets and the output sheets of the workbook.

- (5) The second input sheet in MIGSUB is the POP sheet (Figure 2). Optionally, enter projected male and female populations for the base year of the projection and for subsequent years at intervals specified in cell B17 of the SETUP sheet, beginning with line 20. If the user does not choose to enter values, MIGSUB will calculate them by extrapolation of census populations from sheet SETUP. MIGSUB calculates average annual growth rate between the two censuses by sex as well as the midpoint of the migration reference period (the most recent census minus half the time reference X).

Figure 2. POP Sheet

	A	B	C	D
3	Table			
4	Country: YEARS			
5	Subarea Migration Projection			
6	B. Estimated and Projected Total Population by Sex			
7	Item and dates	Male	Female	Both sexes
8	Census population			
9	(all ages)			
10	2000.30	18,999	18,755	37,754
11	2010.40	22,554	22,367	44,921
12	Average annual growth rate			
13	2000-2010			
14		1.70%	1.74%	1.72%
15	Total population at midpoint of migration period			
16	2007.90			
17		21,616	21,413	43,029
18	Total projected population			
19	2010.50			
20		22,592	22,406	44,998
21	2015.50			
22		24,595	24,447	49,042
23	2020.50			
24		26,774	26,675	53,449
25	2025.50			
26		29,147	29,105	58,252
27	2030.50			
28		31,730	31,756	63,486

- (6) The third input sheet in MIGSUB is the INTERNATIONAL sheet (Figure 3). Again, optionally, enter assumed total male and female net international migrants for each year listed on rows 14 and above. If the user does not choose to enter values, MIGSUB will calculate net migrants by extrapolation of migrants from lines 10 and 11.

Figure 3. INTERNATIONAL Sheet

	A	B	C	D
3	Table			
4	Country: YEARS			
5	Subarea Migration Projection			
6	C. Estimated and Projected Total Net International Migrants by Sex			
7	Item and dates	Male	Female	Both sexes
8				
9	Total net international migration			
10	2010.50	-200	-150	-350
11	2030.50	-600	-750	-1,350
12				
13	Interpolated total net international migration			
14	2010.50	-200	-150	-350
15	2015.50	-300	-300	-600
16	2020.50	-400	-450	-850
17	2025.50	-500	-600	-1,100
18	2030.50	-600	-750	-1,350

- (7) The fourth input sheet is the INPUT sheet (Figure 4). Enter male and female population ages X+ enumerated in the more recent of the two censuses specified.
- Residents of each subarea by residence X years prior to the census (column B).
 - Residents of each subarea at the time of the census itself (column C).
 - Residents who were non-migrants (residents ages X+ who were in the same subnational area at the time of the census and X years before the census, column D).

Figure 4. INPUT Sheet

	A	B	C	D	E	F	G
3	Table						
4	Country: YEARS					Project total migrants	
5	Subarea Migration Projection						
6	D. District Totals by Sex and Implied Annual Migrants						
7		Resident population ages 5+ in 2010.4 and in the country 5 years before the census			Migrants from 2005.4 to 2010.4		
8	Area	Residence 5 years before the census	Enumerated in the census	Non-migrants	In	Out	Net
9							
10	MALES	13,600	13,600	13,000	600	600	0
11	District 1	1,000	1,100	1,000	100	0	100
12	District 2	1,100	1,000	1,000	0	100	-100
13	District 3	1,000	1,100	1,000	100	0	100
14	District 4	1,100	1,000	1,000	0	100	-100
15	District 5	1,000	1,100	1,000	100	0	100
16	District 6	1,100	1,000	1,000	0	100	-100
17	District 7	1,000	1,100	1,000	100	0	100
18	District 8	1,100	1,000	1,000	0	100	-100
19	District 9	1,000	1,100	1,000	100	0	100
20	District 10	1,100	1,000	1,000	0	100	-100
21	District 11	1,000	1,100	1,000	100	0	100
22	District 12	1,100	1,000	1,000	0	100	-100
23	District 13	1,000	1,000	1,000	0	0	0
24							
25	FEMALES	13,570	13,570	13,000	570	570	0
26	District 1	1,000	1,095	1,000	95	0	95
27	District 2	1,095	1,000	1,000	0	95	-95
28	District 3	1,000	1,095	1,000	95	0	95
29	District 4	1,095	1,000	1,000	0	95	-95
30	District 5	1,000	1,095	1,000	95	0	95
31	District 6	1,095	1,000	1,000	0	95	-95
32	District 7	1,000	1,095	1,000	95	0	95
33	District 8	1,095	1,000	1,000	0	95	-95
34	District 9	1,000	1,095	1,000	95	0	95
35	District 10	1,095	1,000	1,000	0	95	-95
36	District 11	1,000	1,095	1,000	95	0	95
37	District 12	1,095	1,000	1,000	0	95	-95
38	District 13	1,000	1,000	1,000	0	0	0
39							
40							

- (8) After filling in the data, press the “Project total migrants” button. This will fill default values into and switch to the INTERNAL sheet.

- (9) The fifth and final input sheet is the INTERNAL sheet (Figure 5). Enter estimated percent of migrants that are under age X at the census date (row 8). Enter assumed percent increase in internal migration rate per year from base year to the end of the projection horizon (row 14).

Figure 5. INTERNAL Sheet

	A	B	C	D	E
3	Table				
4	Country: YEARS			Project by subarea	
5	Subarea Migration Projection				
6	E. Projected Total Internal In-migrants and In-migration Rates by Sex				
7	Item and dates	Male	Female	Both sexes	Sex ratio (M/F)
8	Percent of migrants in the last 5 year(s) that are under age 5 at the census date	7.03%	7.38%	7.20%	
9					
10	Missing child migrants	45	45	90	1.000
11					
12	Adjustment factor for internal migrants	1.076	1.080	1.078	
13					
14	Annual growth rate of the internal migration rate	0.00%	0.00%	0.00%	
15					
16	Internal in-migration rates (per 1,000 population)				
17	2007.90	5.97	5.74	5.86	
18	2010.50	5.97	5.74	5.60	
19	2015.50	5.97	5.74	5.38	
20	2020.50	5.97	5.74	5.37	
21	2025.50	5.97	5.74	5.37	
22	2030.50	5.97	5.74	5.37	

Navigation: SETUP < POP < INTERNATIONAL < INPUT < **INTERNAL** < PROJ-MALE < PROJ-FEMALE

- (10) Press the “Project by subarea” button.
- (11) MIGSUB uses the pattern established in sheet INPUT and the growth rates of population, internal migration rate, and international migration to calculate:
- Internal in-migration
 - Internal out-migration
 - Net internal migration
 - Net international migration, and
 - Net migration (total migration)
- for each subarea, desired year in the projection horizon, by sex. Results are shown in sheets PROJ-MALE and PROJ-FEMALE.