Demography Special Lecture (7)   29th May 2014 **(Some corrections done on 30th May 2014)**
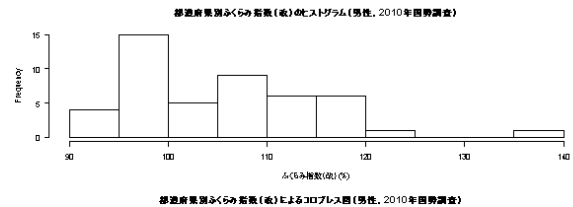**Migration**

Formal demographic analysis for migration is not fully explored yet.
Migration is the social component of population change. Very important especially in developed countries.
Definitions of commonly used **terms** are important (special attention to be paid for defining "a migrant").
Typical characteristics of migrants are also given here.

1. The importance of migration
   $P(t+1) - P(t)$ = Births – Deaths + In – Out (Population change = Natural increase + Net migration)
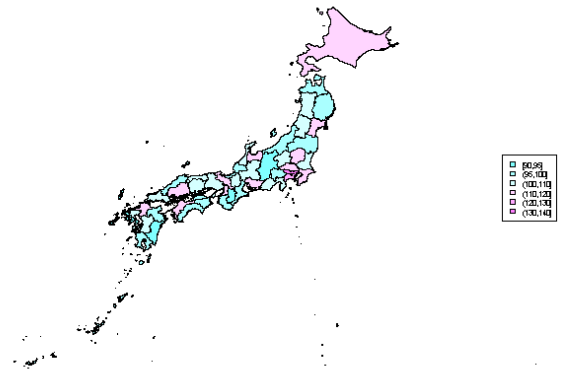2. Basic measures and concepts of migration
   1. Who is migrant?
      -> Definitions are different by country
   2. Emigrants and immigrants
      (for international migration)
   3. Inmigrants and outmigrants
      (for internal migration)
   4. Return migrants
   5. Lifetime migrants
   6. Gross and net migration
3. The collection of migration data
   1. Data from residence registry of japan (available from URL below)
      http://minato.sip21c.org/demograpy-special/japan-migration-2013.txt
      http://minato.sip21c.org/demograpy-special/inmig-outmig-2013.R
   2. Census data also provides the change of residence from the previous census.
   3. (cf.) Census population structure may also suggest the migration status.
      Comparison of the shape of population pyramids among prefectures suggests the migration status (try,
      http://minato.sip21c.org/demography-special/compare-pyramids-among-pref.R)
      The *fukurami-shisuu* (population expanding index = PEI, by Dr. Toshio Kuroda) shows the extent of in-migration at prefecture level.
      *** Original definition**
        PEI = [Population aged 15-34] / { [Population aged 5-14]+[Population aged 35-44]} x 100
      *** New definition (modification is suggested by Minato Nakazawa, July 2, 2011)**
        PEI = [Population aged 20-39] / { [Population aged 10-19]+[Population aged 40-49]} x 100
      It's interesting to see the relationship with youth **population** (YP: nensho-jinko-**kouzou-keisuu**)
      YP = [Population aged 0-14] / [Total population]
      The position of Nagano prefecture suggests 20-39 population's outmigration due to few universities within the prefecture and their U-turn for marriage and reproduction.
      (try, **http://minato.sip21c.org/demography-special/relations-PEI-YP.R**)
      For youth population's international comparison, see
      http://world.bymap.org/YoungPopulation.html
4. The analysis of migration data
   1. Internal migration flow matrix (see, Table 7.1)
5. The characteristics of migrants
   1. PEI focuses on **the ages** of migrants
   2. Males tend to dominate labor migration flows
   3. Unmarried tend to move more than the married
   4. Fitter, highly educated, richer, more ambitious people tend to move more
   5. Refugees don't have common features of migrants