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ABOUT MORTALITY DATA FOR TAIWAN

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GENERAL

The Republic of China (ROC), which is commonly referred to as "Taiwan", includes the island of Taiwan (also known as Formosa) and several smaller islands. Uncertainties remain about the political status of this area, which is also claimed as a territory of the People's Republic of China (PRC) based in Beijing. We take no position with regard to these political issues but rather seek merely to document the demographic history of the population residing in this area.

Source of Data

Death and birth counts come from the official statistics published in *Taiwan-Fukien Demographic Fact Book* (since 1992, deaths are available online from www.moi.gov.tw and births from www.ris.gov.tw). This publication was originally entitled *Taiwan Demographic Fact Book*, but the name was changed in 1974 when it was combined with *The Statistical Report on Household Registration for Taiwan-Fukien Area.* The costs of publishing this fact book are shared by the Ministry of Interior (MOI), Taiwan Provincial Government, Taipei Municipal Government and Kaohsiung Municipal Government (Ministry of Interior, 1994). Population counts are based on published census counts and official population estimates (available in computerized data files from www.ris.gov.tw).

Specific Episodes in Taiwan's Demographic History

Between 1945 and 2014, the population of Taiwan increased from 6.5 million to some 23.4 million, with a 2.3 percent average annual rate of growth. In the years following World War II, there was an increase in the population of Taiwan mainly due to the influx of population from mainland China. Since then, the population has steadily increased, with low international migration rates (Selya, 2004), although at a slower rate each year. As successive censuses indicate, the average annual growth rate decreased from 3.7% during 1956-1966 to 2.1% during 1975-1980 (Census Office of the Executive Yuan, 1982). By 1992, growth fell below 1 percent. During this period, Taiwan changed structurally from a young society to an aging society. As early as 1956, the proportion of the population below age five began to shrink. The increase in the elderly population was particularly rapid after the 1960s (Selya, 2004).

One important factor to note in Taiwan demographic history is the abnormally elevated sex ratio (defined as the ratio of men to women). For older cohorts, this phenomenon results from the selective migration of males when Kuomintang (Nationalist) military and civilian supporters arrived in Taiwan after 1949. More recently, there also appears to have been an upward trend in the sex ratios of newborns (Selya, 2004). In a broader East Asian context, elevated sex ratios at birth have been attributed

to son preference and a rapid decline in fertility leading to selective abortion (Gu and Roy, 1995).

TERRITORIAL COVERAGE

The Human Mortality Database covers the "Taiwan Area" for 1966-1991 and the "Taiwan-Fukien Area" since 1992. The territory we refer to as the "Taiwan Area" includes the island of Taiwan and sixty-three islands in the Penghu group, known as the Pescadores. The "Taiwan-Fukien Area" includes that same territory as well as Kinmen county (Quemoy) and Lienchiang county (the Matsu islands), which comprise a series of offshore islands next to Fukien province in mainland China. Prior to 1992, death counts are available for the Taiwan-Fukien Area, but with less detailed information regarding age than for the Taiwan Area. For this reason, we opted to include the Fukien offshore islands only since 1992. The raw data for the HMD are restricted to the Taiwan Area before 1992 and the Taiwan-Fukien Area since then; we make adjustments for this territorial change per the *Methods Protocol*. Official population estimates for December 31, 1991, indicate that the population of Fukien province (i.e., Kinmen and Lienchiang counties) was 48,989, which represented only 0.24% of the total population of Taiwan-Fukien Area (20,605,831). Thus, the effect of this territorial change on mortality estimates is likely to be minor.

DEATH COUNT DATA

Coverage and Completeness

Death registration covers ROC (Taiwanese) citizens with household registration records. The vital statistics system ceased operations during World War II. Birth registration was interrupted for the five years from 1944 to 1948 and death registration from 1944 to 1949. After WWII, the completeness and quality of death records fluctuated and death counts were available only by age group. Starting in 1975, deaths were reported by single year of age and the reliability of the data began to improve.

Specific Details

From 1952 to the 1970s, the crude death rate in Taiwan declined at an average rate of 1.35 percent per year with the exception of 1957, when an influenza epidemic increased mortality. In the 1970s and early 1980s, the crude death rate appears to have stagnated or even reversed (Selya, 2004), but even during the 1950s and 1960s, the age-specific death rates for older Taiwanese males were abnormally high relative to females. This sex gap results partly from a strong cohort effect reflecting heightened exposure and susceptibility of older men to tuberculosis (Goldman, 1980). The sex difference is also observed in life expectancy at various ages. In the 1950s, years lived between ages 0 and 40 years was 0.34 years longer for Taiwanese men than for women, whereas life expectancy at age 40 years was 0.66 years shorter for men than for women (Selya, 2004). Other unexpected patterns in life expectancies for women and men have also been observed in recent years (Seyla, 2004).

Infant mortality rates started declining before WWII, but HMD users should be aware that there was systematic under-registration of infant deaths, especially neonatal deaths, from the 1940s until well into the 1970s (Sullivan, 1973). Even in the 1990s,

there is some evidence of under-registration of infant deaths (Chen et al., 1998). The low infant mortality rates in Taiwan, even during the periods of Japanese control and retrocession to China (October 25, 1945) at the end of WWII, have also been attributed to the practice of a twenty-eight-day postpartum confinement, which restricted a new mother's interaction with environments which could expose a newborn child to infectious diseases (Seyla, 2004), although it is difficult to determine the effect of that practice on registration of infant deaths (i.e., it is possible that infant deaths were under-registered).

1975 - 1978 Death Counts: For this four-year period, death counts are taken from the Department of Health (DOH) statistics instead of the MOI. The death counts in the latter publication exhibited some data quality issues (see the "Data Quality Issues" section below for more details).

POPULATION COUNT DATA

Coverage and completeness

Data on the population of Taiwan prior to the 20th century are limited. Enumeration of the Taiwanese population occurred irregularly (only to supply the immediate and practical needs of the local administration), and the records lacked reliability even as regards the simple enumeration of all inhabitants (Domschke and Goyer, 1986).
In the 35 years from 1905 to 1940, five population censuses and two provisional household censuses were carried out in Taiwan. The first, in 1905, was entitled "Provisional Household Census." The collection of official demographic statistics for Taiwan was under Japanese administration. The census of 1905 covered both *de facto* and *de jure* populations, and it was the first time a modern census was conducted in the country. All the censuses administered by Japan maintained high standards of completeness, consistency and accuracy (Census Office of the Executive Yuan, 1982).

There was a 16-year gap between the last pre-WWII census (1940) and the first post-WWII census (1956). After World War II and Taiwan's retrocession to China, the first population census of the Taiwan and Fukien Offshore Islands was realised on September 16, 1956, and the second on December 16, 1966. However, the 1956 Census excluded men aged 20-24 years serving in the armed forces (Census Office of the Executive Yuan, 1982). For this reason and because of implausible trends in old-age mortality (see "Data Quality Issues"), we begin the HMD mortality series in 1970.

Two micro-censuses were conducted based on a 5% sample survey on December 16 of 1970 and 1975 (Census Office of the Executive Yuan, 1982). The next two censuses were conducted on December 28, 1980, and December 16, 1990. All of these censuses were conducted by the Ministry of Interior and the Directorate General of Budget, Accounting and Statistics (DGBAS) of Executive Yuan. The more recent 2000 and 2010 censuses were conducted solely by DGBAS. The 2010 census was a Register and Sample-assisted operation. A total of 16% enumeration areas were sampled. Each household in these areas was visited and each of their members counted (National Statistics, 2016).

After WWII, most of the published census data covered the *de jure* (resident) population, and all census data used in the HMD are considered to be of good quality (Domschke and Goyer, 1986). The official population estimates cover ROC (Taiwanese) citizens with household registration records.

Specific Details

1956 & 1966 Census Counts: Between WWII and 1970, the censuses collected data only within the Taiwan Province because of military reasons (military confrontation with Mainland China still existed in Fukien Province during that period).

1970 & 1975 Micro-census Counts: The micro-census of 1970 complied with the United Nations' recommendation to take a census in that year, but it was based on a 5 percent sample survey. Similarly, a 5% sample survey was conducted in 1975. The accuracy of the data in both micro-censuses is considered very high (Domschke and Goyer, 1986).

1980 Census Count: The census of 1980 was intended for 1976 but was delayed four years "in order to match the world-wide practice of taking censuses in A.D. years ending in zero to facilitate comparison and analysis of the census data" (Domschke and Goyer, 1986, p. 846-847).

BIRTH COUNT DATA

Coverage and completeness

Birth registration covers ROC (Taiwanese) citizens with household registration records.[See NOTE under "DEATH COUNT DATA"] However, prior to 2000, a newborn was assigned Taiwanese nationality only if the father was Taiwanese (e.g., a baby born to a Taiwanese mother and non-Taiwanese father was not counted in vital statistics); since 2000, newborns have been recognized as Taiwanese nationals if either parent was a national of the ROC and thus, counted in vital statistics (Che & Kostova, 2020, Section 4.2, pp. 7-8).[1]

[1] Chen & Kostova (2020) do not provide any citation, but we found the following information online (The UN Refugee Agency, 2020):

> "Until February 2000, the acquisition of Taiwanese citizenship by descent was only possible in cases where the child's father was a citizen or where the father was unknown or stateless but the mother was a Taiwanese national (United Status. 2001. *Citizenship Laws of the World*. Office of Personnel Management Investigations Services, p. 193 [Accessed 17 February 2004]). In January 2000, the Law was amended to allow the "transmission of citizenship through either parent" (US Department of State. 2003 (March 31). *Country Reports on Human Rights Practices for 2002,* Sec. 5 [Accessed 17 February 2004) so long as the child had not reached his or her twentieth birthday (Lin, Joyce. 2000 (March 31). No More `Roundabout,' Law Recognizes Foreign Fathers, *Taipei Journal* [Accessed 17 February 2004])."

Infant births and infant deaths are required to be registered within 15 days by the family. Consistent with the WHO definition of a “live birth”, all live births are registered as such, irrespective of gestational age or vital status at the time of registration; if the newborn dies at any time following birth, both the live birth and the infant death are registered (Ministry of Interior, 1982). The infant vital statistics are compiled by the Department of Health of the Executive Yuan from two different sources: live birth records are collected by the Household Registration System managed by the Ministry of the Interior, while data on infant deaths are obtained from the Vital Registration System. As shown by Chen et al. (1998), there seems to be underreporting of infant deaths, particularly those occurring during the first 28 days of life (i.e., neonatal deaths). Given that the registration of births and infant deaths in Taiwan is the responsibility of the parents, both series could suffer from underreporting. Even though this under-reporting would have to be systematically and evenly distributed temporally and spatially to be undetected (Selya, 2004), the reader should be aware that international comparisons could be affected by this drawback of the data.

Birth counts by month are available only by date of registration (not by date of occurrence). Thus, we do not use those data for the HMD.

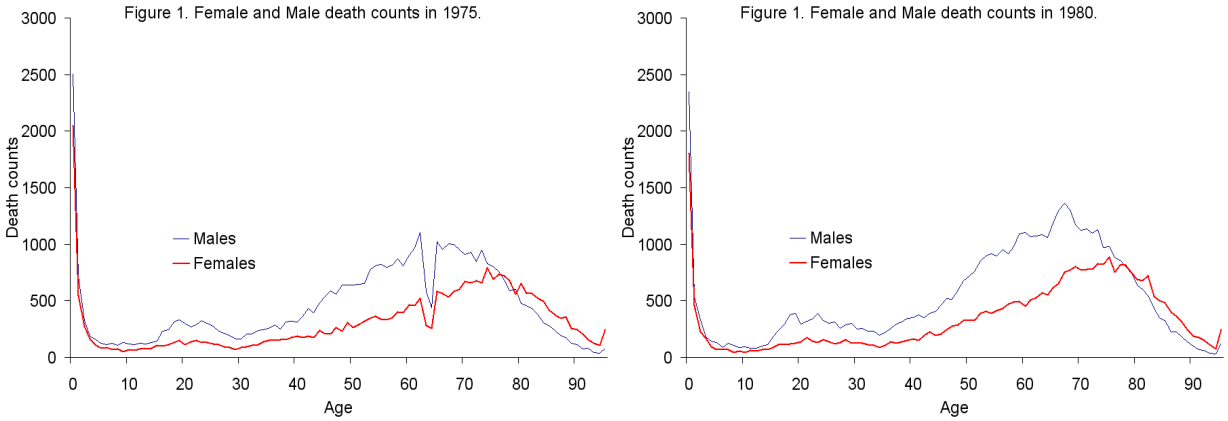
DATA QUALITY ISSUES

The data prior to 1980 are of lower quality than in later years and should be used with extra caution. There is also evidence suggesting possible data quality problems above age 80 even in recent years.

Age Heaping

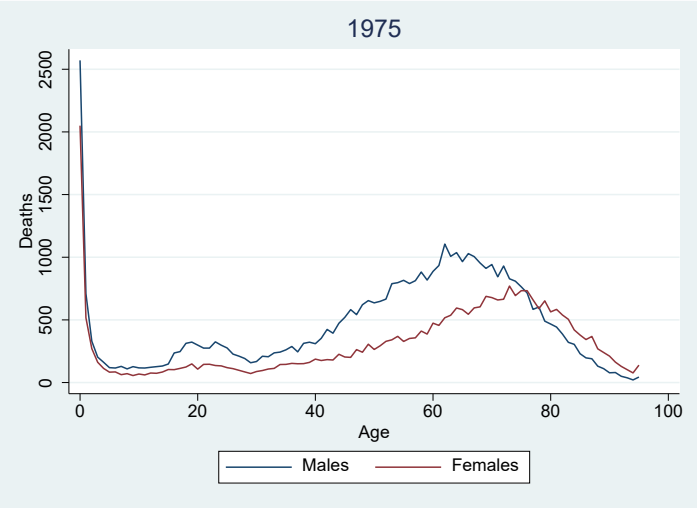
From 1975 to 1978, the raw death counts published by the MOI exhibit patterns of age-misreporting around age 65 (see Figure 1).

Figure 1. Raw Death Counts by Age, Females and Males, 1975 and 1980 (counts reported by MOI)



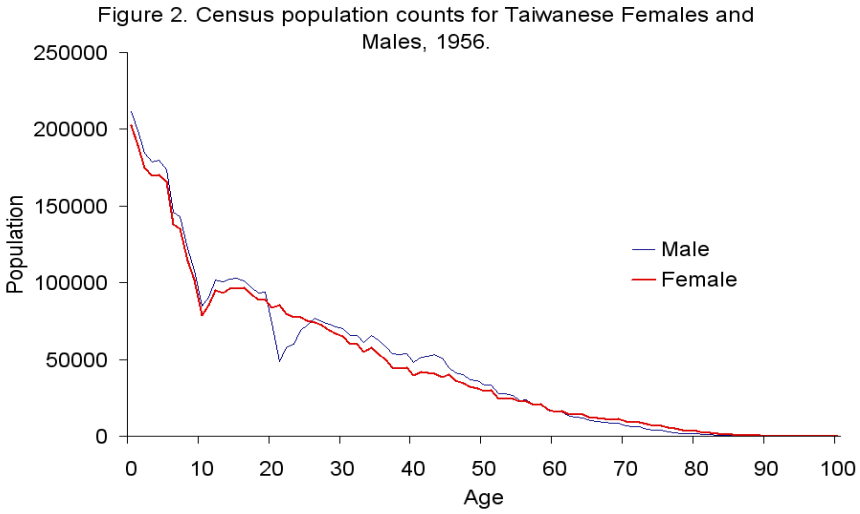
By 1980, the unusual age pattern had largely disappeared. Data coming from the DOH did not demonstrate such problems (see Figure 2). Therefore, we have used the data from the latter source for the HMD.

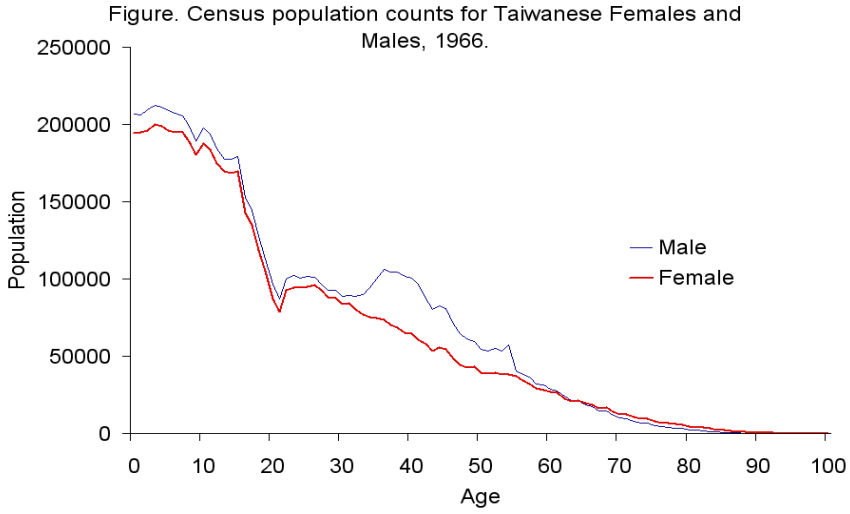
Figure 2. Raw Death Counts by Age, Females and Males, 1975 (reported by the DOH)

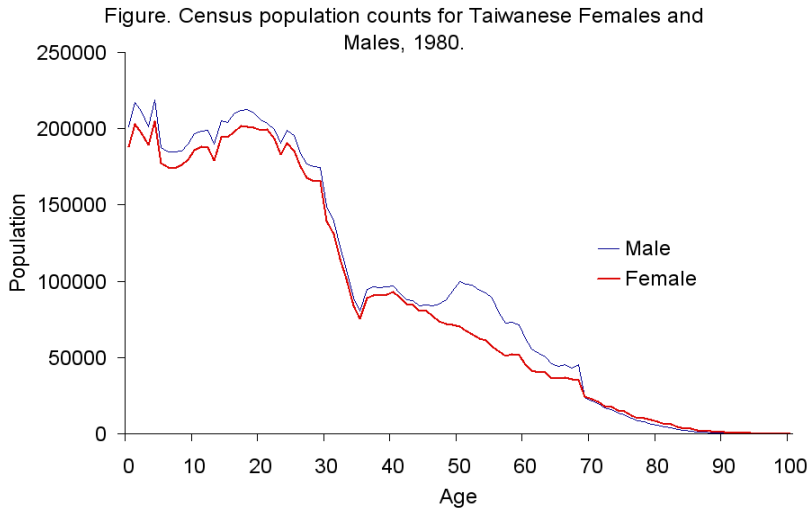


There is less evidence of age heaping in the census counts (see Figure 3). The 1956 census was the first of its type after WWII; the deficit of males at ages 20-24 years is related to the exclusion of young men in the armed forces (Census Office of the Executive Yuan, 1982). The 1966 and later censuses show an unusually high ratio of males to females among cohorts aged 35-55 in 1966 that reflects the migration of the Nationalist army into Taiwan from mainland China after 1949.

Figure 3. Raw Census Counts by Age, Taiwanese Females and Males, 1956, 1966 and 1980.



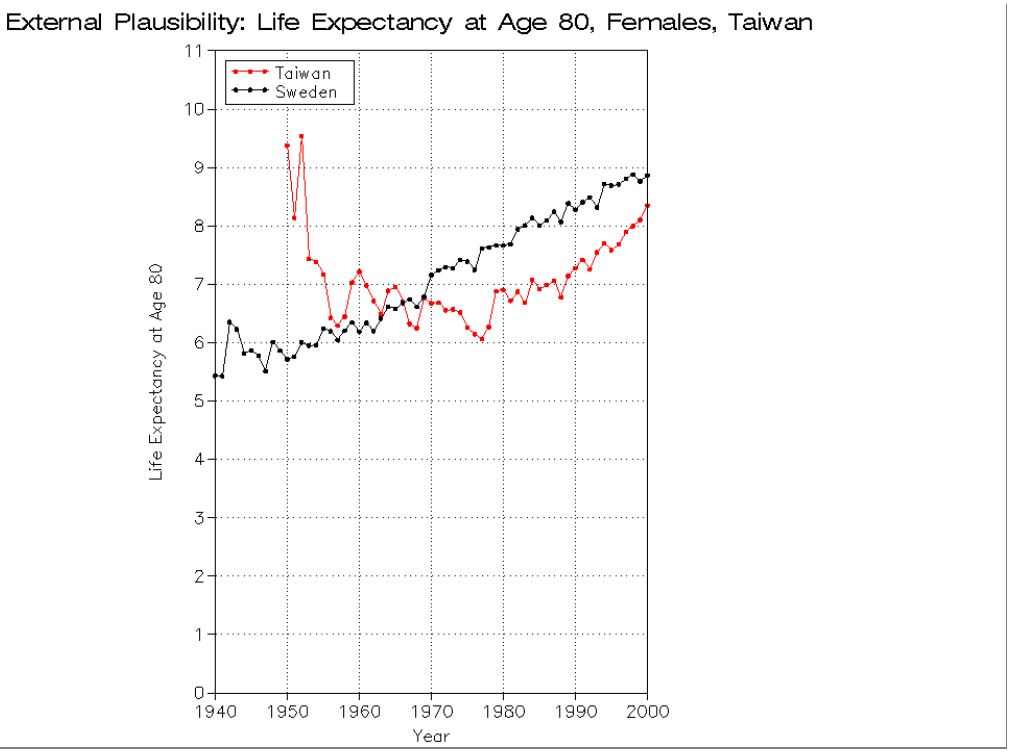




Implausible trends in old-age survival, 1950-1979

Mortality data at ages above 80 appear to be less accurate for the years before the 1970s. A comparison of trends in remaining life expectancy at age 80 suggests that e_{80} was much *greater* for Taiwan than for Sweden during the 1950s, especially for women (see Figure 4). In Taiwan, these values decline dramatically between 1950 and 1958 and then continued to decline more slowly over most of the period until 1978. By 1970, old age life expectancy was substantially *lower* for Taiwan than for Sweden. This pattern is particularly evident for females (see Figure 4). Such an implausible trend can result from an improvement in data quality over time: estimates of old age life expectancy may be artificially inflated during historical periods (e.g., due to age exaggeration). Because of this implausible pattern of old-age life expectancy, we begin the HMD series in 1970.

Figure 4. Female remaining life expectancy at age 80 for Sweden and Taiwan (1950-2000)



Data quality problem among the elderly is a well-known issue in many populations and it seems to exist in Taiwan too. According to Yue (2005), mortality estimates for old ages in Taiwan become less reliable as the age increases. A comparison of trends in remaining life expectancy at age 80 suggests that e_{80} for males was *greater* for Taiwan than for Sweden between 2000 and 2015 (Figure 5). This trend continued until 2022, when Taiwan's e_{80} dipped by nearly a year for both sexes, a decline greater than in Sweden in 2020. Between 2008 and 2013, life expectancy at age 100 (e_{100}) was slightly greater for males than for females (Figure 6), an unexpected pattern which could also indicate data quality problems. One of the reasons is the quality of the information regarding the old-age population in the censuses. According to Yue (2005), it has

become more difficult to keep the data for the old-age population updated because, starting in 2001, Taiwan began providing a monthly stipend (citizen's annuity) to Taiwanese 65 and older. There have been several cases where the records indicate someone is alive who was reported as deceased many years earlier. Historical migration and the mobility of the elderly can also play an important role: "*about 3 million people migrated to Taiwan due to the political unrest in 1949, and a lot of these people still alive moved back (or travel back and forth) to mainland China since 1990, when the relationship between Taiwan and China became less tight. It is very difficult to locate these people who move or travel to China, at least for now, since China is the major thread to Taiwan*". Yue (2005, p. 13).

Figure 5. Female remaining life expectancy at age 80 for Sweden and Taiwan (1970-2023)

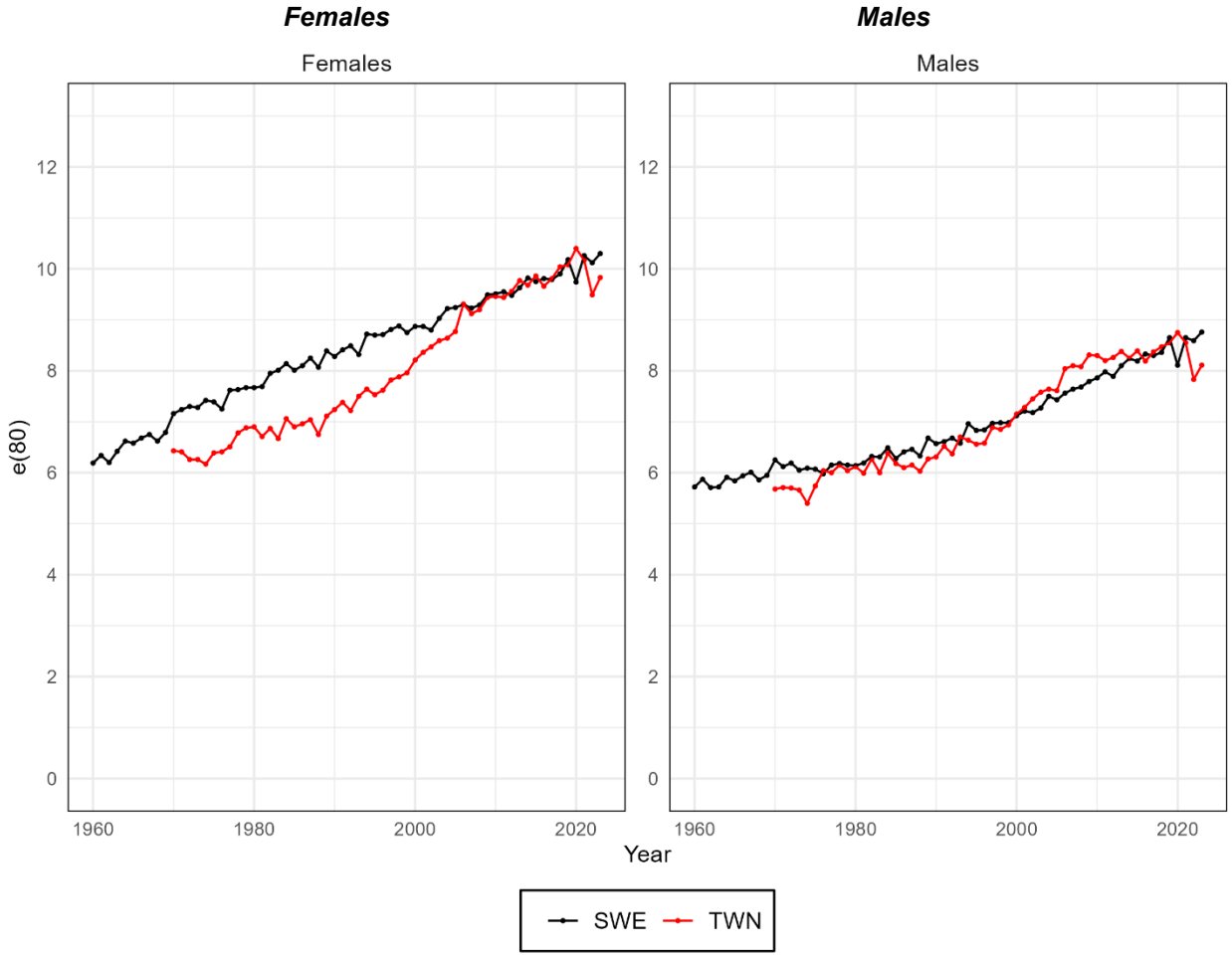


Figure 6. Remaining life expectancy at ages 85, 90, 95 and 100 for Taiwan (1970-2023), by sex

Inconsistencies between birth counts and population aged 0

There are inconsistencies between the number of births and the population estimates under age 1 (i.e., the number of births in year *t* minus the deaths in year *t* among those born in year *t* is much larger than the official population estimate for those aged 0 on January 1st of year *t*+1). These discrepancies imply out-migration of 3-10% of infants each year. However, our estimates of implied net migration show similar levels of in-migration of children aged 0-1 in the following year.

We believe that this unusual pattern is a result of the fact that we are using registered birth by year of occurrence, whereas we suspect that the official population estimates include only the births that were registered by the end of the year. That is, the latter is missing all of the "delayed registrations." Consequently, when we compute implied net migration, it looks like infants aged 0 emigrated (from Taiwan to elsewhere) in the year in which they were born, but then immigrated back into Taiwan in the following year. In fact, what is happening is that the official population estimates for age 0 are under-estimated (because the babies born in year *t* who were registered in year *t*+1 or later are not included). However, the official population estimates for age 1 in the following

year corrects for that problem because most of those "delayed registrations" are registered in the year after they were born. Thus, the implied net migration at age 0-2 (out-migration at age 0 followed by in-migration at ages 0-1 in the following year) is a mirage.

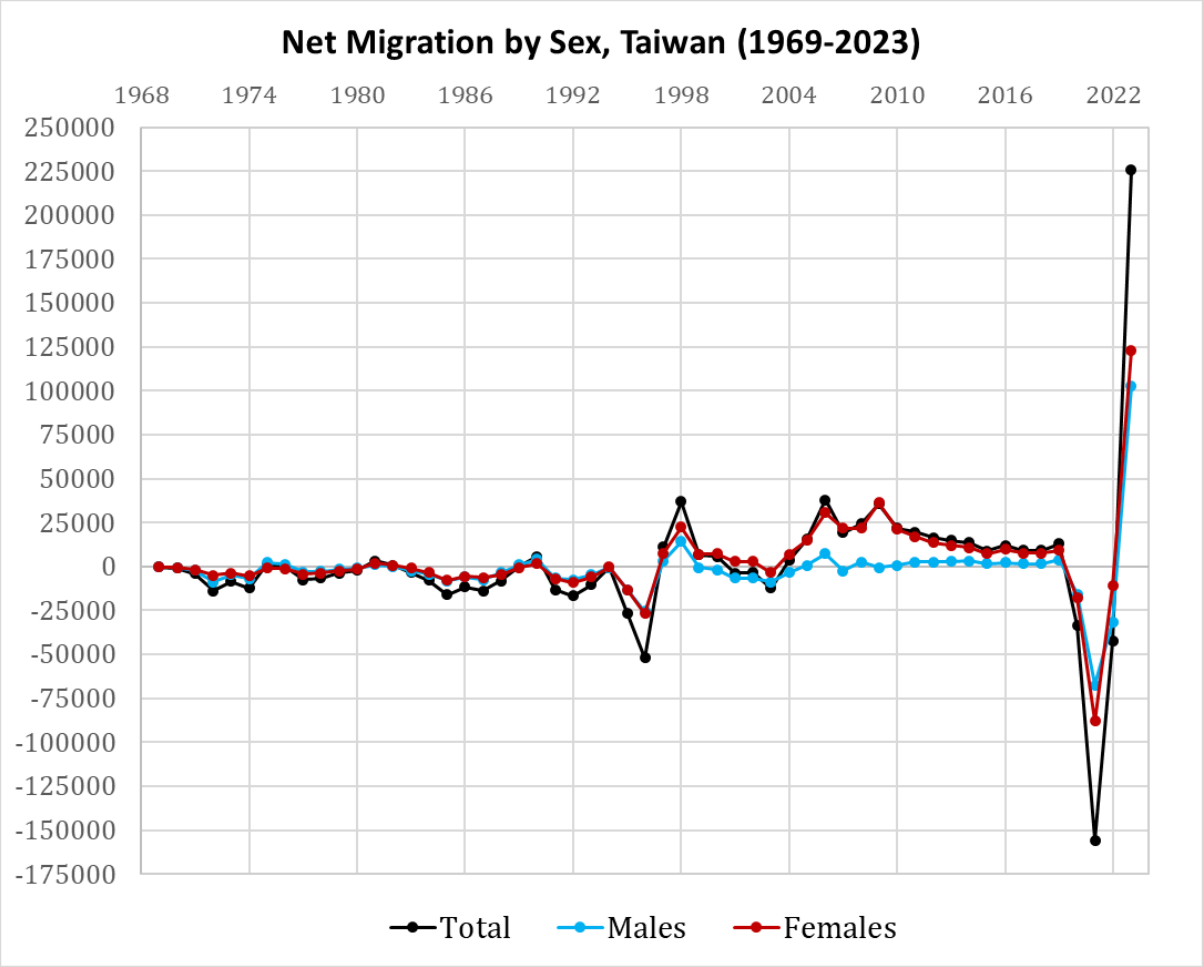
The consequence of this problem is that our exposure estimates for age 0 may be slightly too low (thereby inflating the estimates of infant mortality). For example, our estimate of exposure for males age 0 in 1977 is 192,006. There were 2,558 deaths among males age 0 in 1977. Thus, our estimated mortality rate for males aged 0 in 1977 is 0.01133. If we had instead used the birth count data for 1976 and 1977 (and subtracted out deaths at age 0 in the lower triangle), the corresponding exposure estimate would probably be ~208,500, which would produce an estimated mortality rate of 0.0123 (8% lower). For males aged 0 in 2019, our current estimate of exposure is 87,768 with 379 deaths, yielding a mortality rate of 0.0043. Had we used the birth counts instead, the exposure estimate would have been ~91,762, yielding a mortality rate of 0.0041 (4.4% lower).

Irregularities in migration patterns

Estimates of implied net migration from both MOI and HMD suggest low levels of net migration prior to 1990. However, the HMD estimates suggest a high level of in-migration in 1990 (nearly 40,000), whereas the MOI data suggest a much lower level of in-migration (~6,000). Both sources show high out-migration around 1995-1996 and high in-migration around 1998. The patterns are also similar since 1998.

COVID-19 restrictions in 2020-2021 have produced a large international outflow that has not been offset by the typical in-migration (2020-2021 annual in-migration halved from the pre-pandemic levels, down to about 11,000 per year), but rebounded strongly in 2022-2023 to over 185,000 and 250,000, respectively, when the restrictions were lifted.

Figure 7. Net migration flows for Taiwan (1969-2023), by sex



REVISION HISTORY

Changes with the May 2016 revision:

Population: The 2016 revision includes new population estimates by sex and single year age groups for the period 1974-2014, recently published by the Dept. of Household Registration Affairs, Ministry of Interior (MOI). The new population series introduces changes in population numbers compared with the previous series, with impacts on the death rates and life expectancies estimates. The largest differences are in the estimates for the 1970s and early 1980s, especially among males. Life expectancies calculated using the new population counts are higher than those in previous updates.

Changes with the December 2017 revision:

Life tables: All life tables have been recalculated using a modified methods protocol. The revised protocol (Version 6) includes two changes: 1) a more precise way to calculate a0, the mean age at death for children dying during the first year of life and 2) the use of birth-by-month data (where and when available) to more accurately estimate population exposures. These changes have been implemented simultaneously for ALL HMD series/countries. For more details

about these changes, see the revised Methods Protocol (at http://v6.mortality.org/Public/Docs/MethodsProtocol.pdf), particularly section 7.1 on Period life tables and section 6 and Appendix E, on death rates. The life tables calculated under the prior methods (Version 5) remain available at v5.mortality.org but will not be further updated in the future.

Changes with the December 2020 revision:

Deaths: We added death counts for 2015-19.

Births: We updated birth counts for 1992-2014 and added birth counts for 2015-19. Monthly birth counts were deleted because they represent births by date of registration (rather than by date of occurrence).

Population: We added population estimates for 2015-19 and revised population estimates for 1974-1991 to represent Taiwan Area (in previous version, they represented the Taiwan-Fukien Area).

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REFERENCES

Barclay, George W. 1954. *Colonial Development and Population in Taiwan*. Princeton University, Princeton, NJ.

Census Office of the Executive Yuan. 1982. *An Extract Report on the 1980 Census of Population and Housing Taiwan-Fukien Area, Republic of China*. Population Census Office of the Executive Yuan, Taipei.

Chen, L.M., Sun C.A., Wu, D.M., Shen M.H. and Lee, W.C. 1998. Underregistration of neonatal deaths: an empirical study of the accuracy of infantile vital statistics in Taiwan. *Journal of Epidemiology Community Health* 52:289-292.

Chen, Yu-Hua; Kostova, Dora. 2016. Human Fertility Database Documentation: Taiwan. Retrieved from http://www.humanfertility.org/Docs/TWN/TWNcom.pdf.

Domschke, Eliane and Goyer Doreen S. 1986. *The Handbook of National Population Censuses: Africa and Asia*. New York: Greenwood Press.

Goldman, Noreen. 1980. Far Eastern patterns of mortality. *Population Studies* 34(1): 5-19.

Gu, Baochang and Krishna, Roy. 1995. Sex ratio at birth in China, with reference to other areas in East Asia: What we know. *Asia-Pacific Population Journal* 10:17-42.

Che, Yu-Hua and Dora Kostova. 2020. Human Fertility Database Documentation: Taiwan. Retrieved 23 November 2020 (https://www.humanfertility.org/Docs/TWN/TWNcom.pdf).

Ministry of Interior. 1994. *1993 Taiwan-Fukien Demographic Fact Book Republic of China*. Ministry of Interior, Republic of China, Taipei, Taiwan, China.

Ministry of Interior. 1982. *1981 Taiwan-Fukien Demographic Fact Book Republic of China*. Ministry of Interior, Republic of China, Taipei, Taiwan, China.

National Statistics, Republic of China (Taiwan). 2016. 2010 Population and Housing Census, Preface. Retrieved 2 February 2016 (http://eng.stat.gov.tw/public/Data/5428161614W75Z7OW0.pdf).

Selya, Roger Mark. 2004. *Development and Demographic Change in Taiwan, 1945-1995*. World Scientific Publishing, River Edge, NJ.

Sullivan, J.M. 1973. The Influence of Cause-Specific Mortality Conditions on the Age Pattern of Mortality with Special Reference to Taiwan. *Population Studies* 27:135-58.

The UN Refugee Agency. 2020. Taiwan: Nationality laws (2000 – February 2004). Retrieved 23 November 2020 (https://www.refworld.org/docid/41501c69e.html).

Yue, Jack C. *Data Quality of Oldest-Old Population in Taiwan: 2003 Census for Ages 89 and Above.* Presented at The Living to 100 and Beyond Symposium. January 12-14, 2005.

APPENDIX 1:

DESCRIPTION OF DATA USED FOR HMD CALCULATIONS

DEATHS

Period	Type of Data	Age grouping	Comments	RefCode(s)†
1970	Annual number of deaths, by sex and age group (5x1), with open-ended age interval 80+	0, 1-4, 5-9, …, 75-79, 80+	Data for Taiwan Area	10
1971	Annual number of deaths, by sex and age group (5x1 and some single ages), with open-ended age interval 80+	0, 1, 2, 3, 4, 5-9, …75-79, 80+	Data for Taiwan Area	10
1972-1973	Annual number of deaths, by sex and age group (5x1), with open-ended age interval 85+	0, 1, 2, 3, 4, 5-9, …, 80-84, 85+	Data for Taiwan Area	11
1974	Annual number of deaths, by sex and age group (5x1, Lexis triangle at age 0, and some single ages), with open-ended age interval 85+	0, 1, 2, 3, 4, 5-9, …, 80-84, 85+	Data for Taiwan Area	12
1975-1978	Annual number of deaths, by sex and single year of age (1x1), with open-ended age interval 95+	0, 1, , …93, 94, 95+	Data for Taiwan Area	13
1979-1991	Annual number of deaths, by sex and single year of age (1x1, and Lexis triangle at age 0), with open-ended age interval 95+	0, 1, , …93, 94, 95+	Data for Taiwan Area	14
1992-1997	Annual number of deaths, by sex and single year of age (1x1, and Lexis triangle at age 0), with open-ended age interval 95+	0, 1, , …93, 94, 95+	Data for Taiwan-Fukien Area	15, 16
1998-2014	Annual number of deaths, by sex, single year of age, (1x1, and Lexis triangle at age 0), with open-ended age interval 100+	0, 1, , …98, 99, 100+	Data for Taiwan-Fukien Area	15, 16, 17
2015-2023	Annual number of deaths, by sex and single year of age with open-ended age interval 100+	0, 1, , …98, 99, 100+	Data for Taiwan-Fukien Area	16, 18, 19

† The reference code is used in the raw data files (Input Database) to link data with sources.

POPULATION

Period	Type of Data	Age grouping	Comments	RefCode(s)†
1970	Micro-census counts (*de jure* population) as of December 16th, by sex and single year of age	0, 1, 2, …, 84, 85+	Data for Taiwan Area	32
1974	Population estimates as of December 31st, by sex and age to 85+	0, 1, 2, …, 84, 85+	Data for Taiwan Area	50‡
1975-1990	Population estimates as of December 31st, by sex and age to 90+	0, 1, 2, …, 89, 90+	Data for Taiwan Area	50‡
1991	Population estimates as of December 31st, by sex and age to 90+	0, 1, 2, …, 89, 90+	Data for Taiwan-Fukien Area	51
1992-2023	Population estimates as of December 31st, by sex and age to 100+	0, 1, 2, …, 99, 100+	Data for Taiwan-Fukien Area	51, 53, 54

† The reference code is used in the raw data files (Input Database) to link data with sources.
‡ Population estimates by single year of age are available only for Taiwan-Fukien Area, while population estimates for the Fukien province are available by 5-year age group (above age 5; RefCode=52). For Fukien province, we estimate the distribution by single year of age by assuming that the age distribution within each 5-year age group is the same as it is for the Taiwan-Fukien Area as a whole. Then, we derive population estimates for the Taiwan Area by subtracting the estimated counts for Fukien province from the population estimates for Taiwan-Fukien Area.

BIRTHS

Period	Type of Data	Comments	RefCode(s)†
1906-1943	Annual live birth counts by sex‡	Data for Taiwan Area (Missing Years: 1944-1948)	1
1949-1973	Annual live birth counts by sex‡	Data for Taiwan Area	2
1974-1991	Annual live birth counts by sex‡	Data for Taiwan Area	3
1992-2023	Annual live birth counts by sex‡	Data for Taiwan-Fukien Area	4, 6, 7

† The reference code is used in the raw data files (Input Database) to link data with sources.
‡ Represents births by year of occurrence.

APPENDIX 2:

ADDITIONAL DATA USED ONLY FOR COMPARISON

CENSUS COUNTS

Period	Type of Data	Age groups	Comments	RefCode(s)†
1956	Census (Sept. 16th) by sex and single year of age	0,1,2,…100+, UNK	Data for Taiwan Area	30
1966	Census (Sept. 16th) by sex and single year of age	0,1,2,…100+	Data for Taiwan Area	31
1975	Micro-census (Dec. 16th) by sex and single year of age	0, 1, 2, …84, 85+	Data for Taiwan Area	33
1980	Census (Dec. 28th) by sex and single year of age	0,1,2,…100+	Data for Taiwan Area	34
1990	Census (Dec. 16th) by sex and single year of age	0,1,2,…100+	Data for Taiwan Area	35
2000	Census (Dec. 16th) by sex and single year of age	0,1,2,…100+	Data for Taiwan and Taiwan-Fukien Areas	36

† The reference code is used in the raw data files (Input Database) to link data with sources.

POPULATION

Period	Type of Data	Age grouping	Comments	RefCode(s)†
1974	Population estimates as of December 31st, by sex and age to 85+	0, 1, 2, …, 84, 85+	Data for Taiwan-Fukien Area	50
1975-1990	Population estimates as of December 31st, by sex and age to 90+	0, 1, 2, …, 89, 90+	Data for Taiwan-Fukien Area	50
1974	Population estimates as of December 31st, by sex and 5-year age group to 85+	0, 1, 2, …, 4, 5-9,…80-84, 85+	Data for Fukien province	52
1975-1990	Population estimates as of December 31st, by sex and 5-year age group to 90+	0, 1, 2, …,4, 5-9, …85-89, 90+	Data for Fukien province	52

† The reference code is used in the raw data files (Input Database) to link data with sources.