

Life Expectancies for selected populations

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Aim

This appendix will show the life expectancies for the populations compared in the paper.

Data

```
library(tidyverse)

## -- Attaching packages ----- tidyverse 1.3.1 --
## v ggplot2 3.3.6      v purrr  0.3.4
## v tibble  3.1.7      v dplyr  1.0.9
## v tidyr   1.2.0      v stringr 1.4.0
## v readr   2.1.2      v forcats 0.5.1

## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()

# load data
hmd_lt <- read_rds("https://github.com/JonMinton/change-in-ex/blob/main/data/lifetables.rds?raw=true")

# Labels for codes
country_code_lookup <-
  tribble(
    ~code, ~country,
    "DEUTNP", "Germany",
    "DEUTE", "East Germany",
    "DEUTW", "West Germany",
    "ESP", "Spain",
    "FRATNP", "France",
    "ITA", "Italy",
    "GBRTENW", "England & Wales",
    "GBR_SCO", "Scotland",
    "DEUTSYNTH", "Synthetic Germany",
    "NLD", "Netherlands"
  )

countries_of_interest <- c(
  "GBRTENW",
  "GBR_SCO",
  "GBR_UK",
```

```

"FRATNP",
"ESP",
"ITA",
"DEUTNP",
"DEUTE",
"DEUTW",
"NLD"
)

source("https://raw.githubusercontent.com/JonMinton/change-in-ex/main/R/make_synthetic_germany_function.R")

source("https://raw.githubusercontent.com/JonMinton/change-in-ex/main/R/make_pop_selection.R")

```

Graphs

Life Expectancy at birth

```

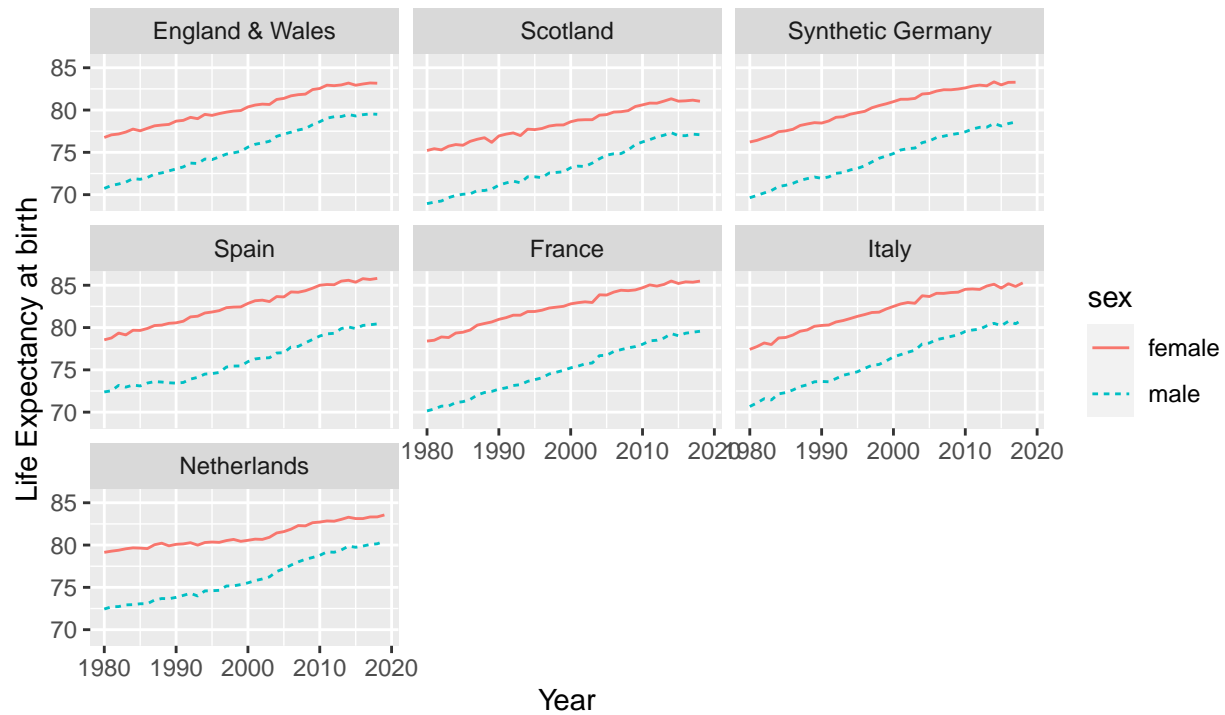
hmd_ex_selected_countries_with_synth %>%
  left_join(country_code_lookup) %>%
  mutate(country = factor(country, levels = c("England & Wales", "Scotland", "Synthetic Germany", "Spain")))
  filter(!is.na(country)) %>%
  filter(between(year, 1980, 2020)) %>%
  filter(x == 0) %>%
  ggplot(aes(x = year, y = ex, group = sex, colour = sex, linetype = sex)) +
  geom_line() +
  facet_wrap(~country) +
  labs(
    x = "Year",
    y = "Life Expectancy at birth",
    title = "Life expectancies at birth for selected nations",
    subtitle = "1980 to 2020 or latest available year",
    caption = "Source: Human Mortality Database"
  )

## Joining, by = "code"

```

Life expectancies at birth for selected nations

1980 to 2020 or latest available year



Source: Human Mortality Database

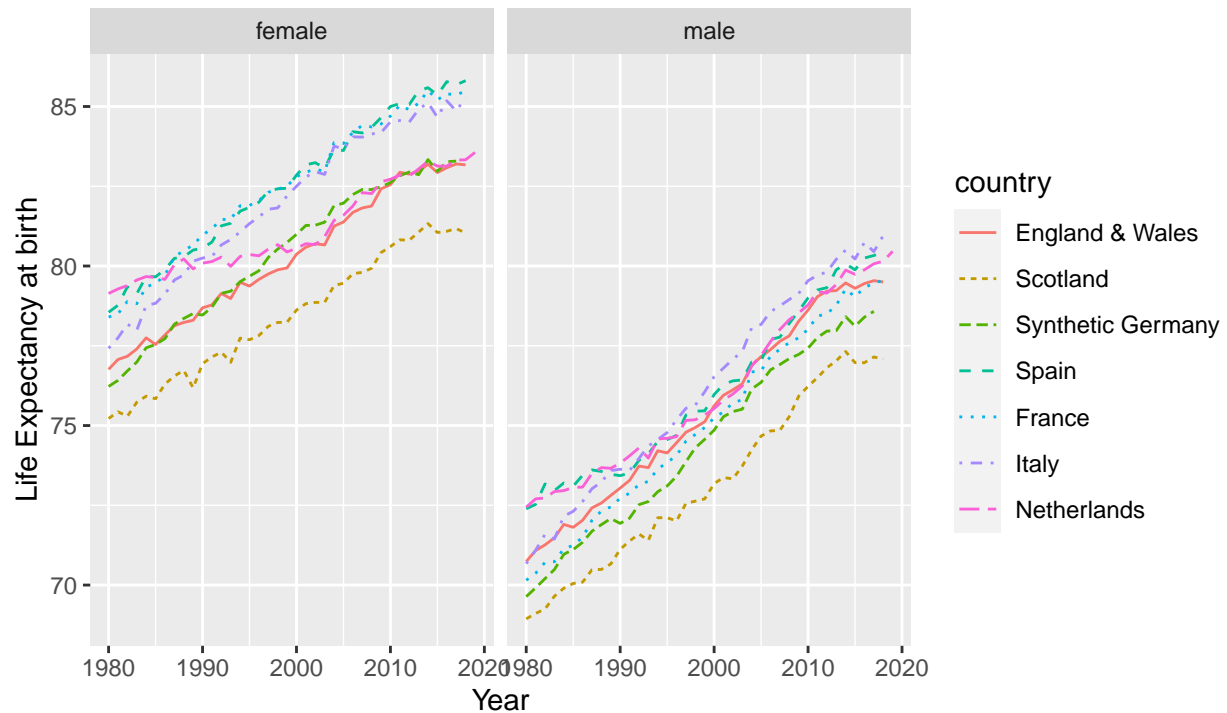
Equivalently

```
hmd_ex_selected_countries_with_synth %>%
  left_join(country_code_lookup) %>%
  mutate(country = factor(country, levels = c("England & Wales", "Scotland", "Synthetic Germany", "Spain", "France", "Italy", "Netherlands"))) %>%
  filter(!is.na(country)) %>%
  filter(between(year, 1980, 2020)) %>%
  filter(x == 0) %>%
  ggplot(aes(x = year, y = ex, group = country, colour = country, linetype = country)) +
  geom_line() +
  facet_wrap(~sex) +
  labs(
    x = "Year",
    y = "Life Expectancy at birth",
    title = "Life expectancies at birth for selected nations",
    subtitle = "1980 to 2020 or latest available year",
    caption = "Source: Human Mortality Database"
  )
```

```
## Joining, by = "code"
```

Life expectancies at birth for selected nations

1980 to 2020 or latest available year



Source: Human Mortality Database

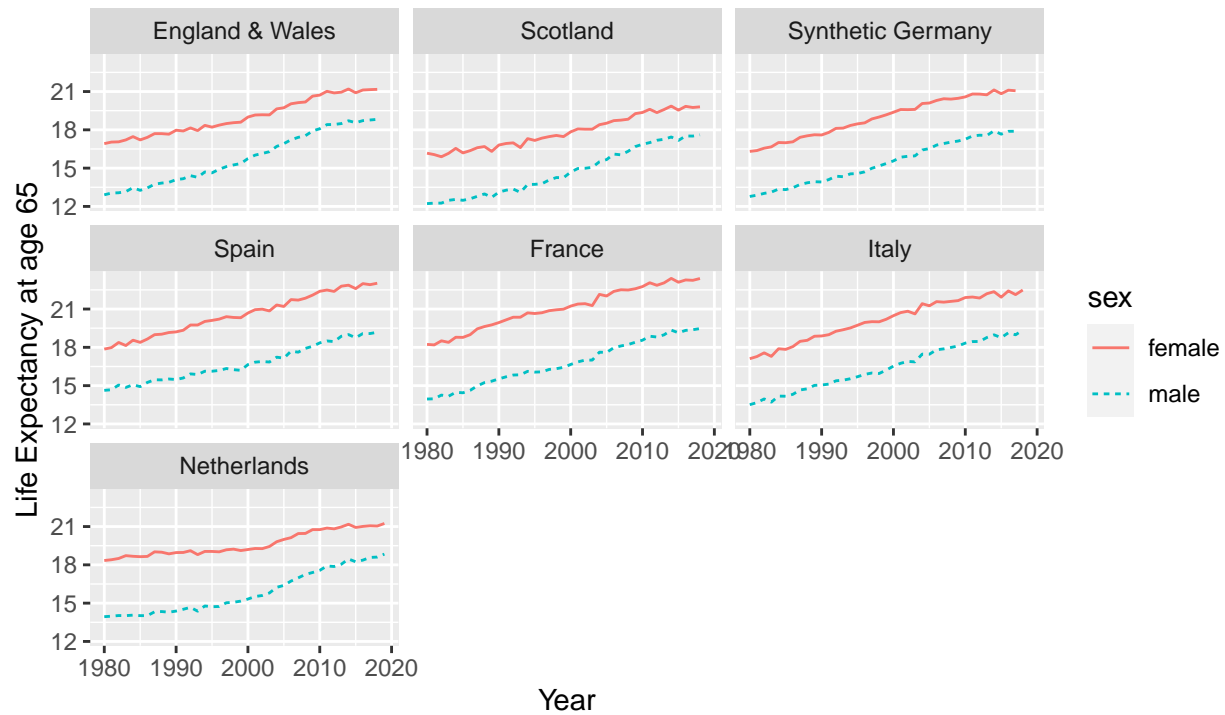
Life expectancy at age 65

```
hmd_ex_selected_countries_with_synth %>%
  left_join(country_code_lookup) %>%
  mutate(country = factor(country, levels = c("England & Wales", "Scotland", "Synthetic Germany", "Spain", "France", "Italy", "Netherlands"))) %>%
  filter(!is.na(country)) %>%
  filter(between(year, 1980, 2020)) %>%
  filter(x == 65) %>%
  ggplot(aes(x = year, y = ex, group = sex, colour = sex, linetype = sex)) +
  geom_line() +
  facet_wrap(~country) +
  labs(
    x = "Year",
    y = "Life Expectancy at age 65",
    title = "Life expectancies at age 65 years for selected nations",
    subtitle = "1980 to 2020 or latest available year",
    caption = "Source: Human Mortality Database"
  )
```

```
## Joining, by = "code"
```

Life expectancies at age 65 years for selected nations

1980 to 2020 or latest available year



Source: Human Mortality Database

Equivalently:

```
hmd_ex_selected_countries_with_synth %>%
  left_join(country_code_lookup) %>%
  mutate(country = factor(country, levels = c("England & Wales", "Scotland", "Synthetic Germany", "Spain", "France", "Italy", "Netherlands"))) %>%
  filter(!is.na(country)) %>%
  filter(between(year, 1980, 2020)) %>%
  filter(x == 65) %>%
  ggplot(aes(x = year, y = ex, group = country, colour = country, linetype = country)) +
  geom_line() +
  facet_wrap(~sex) +
  labs(
    x = "Year",
    y = "Life Expectancy at age 65",
    title = "Life expectancies at age 65 years for selected nations",
    subtitle = "1980 to 2020 or latest available year",
    caption = "Source: Human Mortality Database"
  )
```

```
## Joining, by = "code"
```

Life expectancies at age 65 years for selected nations
1980 to 2020 or latest available year



Source: Human Mortality Database