Case Study 1: Descriptive and Time Series Analyses of Homicide in East and Southeast Asia

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The rise of developed economies in Asia from the late 1970s onwards defied the conventional notion that rapid industrialization inevitably increased crime, as observed in many European countries; Japan was the first to develop into a rising economic superpower and was followed by the four high-growth economies of the ‘Asian tigers’: Hong Kong, Singapore, South Korea, and Taiwan (Bui & Farrington, 2019). Advanced economic development and comparatively low crime were attributed to ‘Asian Exceptionalism’: Confucian values, peculiar to East Asia and some parts of Southeast Asia, supposedly explained the success (Sheptycki, 2008). Yet, such exceptionalism does not account for Asian countries with developing economies despite Confucian influence and the fact that definitions of recorded crimes differ between countries.

‘Exceptionalism’ calls for a comparison. The concept is not exclusive to Asia and has been invoked to emphasize the uniqueness of crime and justice phenomena in the US and Scandinavia (Pratt, 2008; Zimring, 2006). It is a ‘fundamentally comparative concept’ because only comparisons can test its assumption (Karstedt, 2012). In addition, as the nature and recording of crimes differ between countries, it is difficult to gauge the extent of offences committed in any given place, and so, a dark figure of crime is suspected. Homicide, however, is considered the most reliable crime indicator because definitions are similar cross-nationally and information is widely collected and registered (Oberwittler, 2019). Informed by this context, we are curious to know the extent to which these ‘exceptional’ countries differ from their developing counterparts in crime over time. We compare rates of homicide between developed and developing East and Southeast Asian countries and visualize patterns between the years 2000 and 2020. We use homicide data recorded and made available by The World Bank Data repository (<https://data.worldbank.org/indicator/VC.IHR.PSRC.P5?most_recent_year_desc=true&locations=>).

We begin by loading the required packages in R:

library(here) # to identify the path to the data  
library(dplyr) # for data wrangling  
library(tidyr) # for data wrangling  
library(stringr) #to work with stings  
library(ggplot2) # for visualizations

We open this dataset and select the following East and Southeast Asian countries that have been influenced by Confucianism (Oldstone-Moore, 2023): developed economies – Hong Kong, Japan, Singapore, and South Korea – and developing economies – (People’s Republic of) China, Indonesia, Macau, Malaysia, Mongolia, North Korea, and Vietnam; a total of 11 countries plus the world average. Data from Taiwan were unavailable in this dataset The selection of developing countries was informed by: Global South Countries 2023 (<https://worldpopulationreview.com/country-rankings/global-south-countries>) and the World Bank (<https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>).

#Read csv file with data  
data\_homicides <- read.csv(here("data/API\_VC.IHR.PSRC.P5\_DS2\_en\_csv\_v2\_5996865.csv"),  
 skip = 3) #Skip first three rows (no data)  
  
#Make list of available developed and developing East and   
# Southeast (SE) Asian countries for comparison  
countries\_interest <- c("China", "Hong Kong SAR, China", "Japan",  
 "Singapore", "Korea, Rep.", "Macao SAR, China",   
 "Indonesia", "Mongolia", "Malaysia",   
 "Korea, Dem. People's Rep.", "Viet Nam", "World")  
  
  
#Select the listed East and SE Asian countries in the dataset  
data\_homicides <- data\_homicides %>%  
 filter(Country.Name %in% countries\_interest)

We are also interested in those countries that have complete data between 2000 and 2020. We select columns of interest, tidy up the column names, filter out countries without complete data, and gather columns to change them into rows under a new variable called “Homicide rate”.

data\_homicides <- data\_homicides %>%  
 #Select columns of interest  
 select(Country.Name, X2000:X2020) %>%  
 #Remove X from column names  
 rename\_with(~str\_replace(., "^X", ""), starts\_with("X")) %>%   
 #Filter out incomplete cases  
 filter(complete.cases(.)) %>%  
 #Gather columns to rows  
 gather(Year, "Homicide rate", -Country.Name)

Consequently, six of the 11 countries (China, Indonesia, Mongolia, North Korea, Singapore, and Vietnam) are excluded from the dataset.

We are interested in knowing the average homicide rate across the remaining countries and their variance over the years.

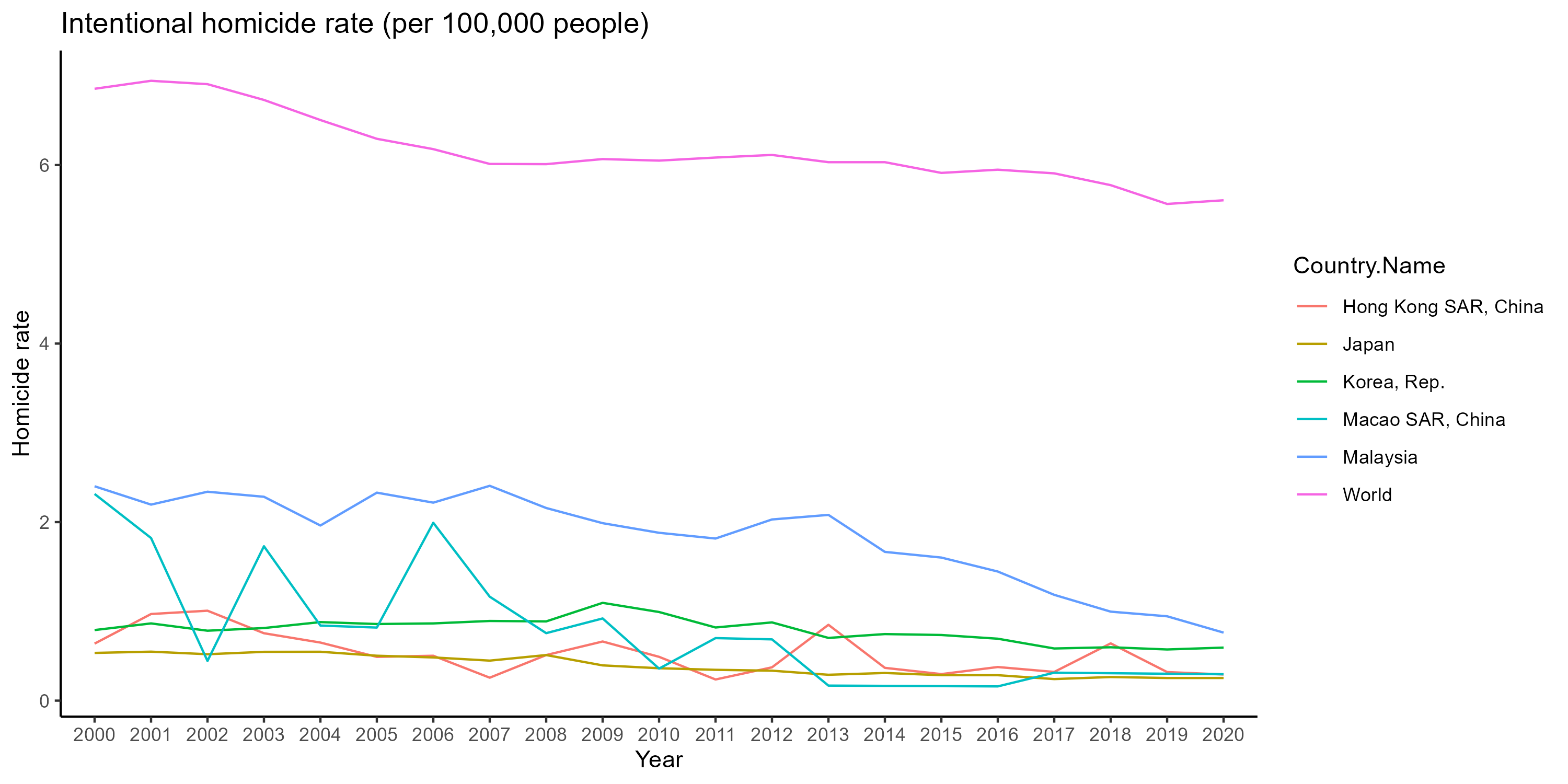
data\_homicides %>%  
 group\_by(Country.Name) %>%  
 summarize(mean = mean(`Homicide rate`),  
 variance = var(`Homicide rate`))

## # A tibble: 6 × 3  
## Country.Name mean variance  
## <chr> <dbl> <dbl>  
## 1 Hong Kong SAR, China 0.524 0.0534  
## 2 Japan 0.394 0.0135  
## 3 Korea, Rep. 0.793 0.0187  
## 4 Macao SAR, China 0.782 0.436   
## 5 Malaysia 1.84 0.259   
## 6 World 6.17 0.160

Although Confucianism has influenced all of these countries, average homicide rates for all three developed Asian countries are lower than those of the developing countries; Hong Kong has the lowest (0.52) whereas Malaysia has the highest (1.84) homicide rate out of the five East and Southeast Asian countries. Mean homicide rates in East and SE Asian countries in our sample is remakably lower than the global average (6.17).

Finally, we want to display the annual averages in a temporal line graph:

ggplot(data\_homicides, aes(x = Year, y = `Homicide rate`,   
 group = Country.Name)) +  
 #Visualise each country with a different color  
 geom\_line(aes(color = Country.Name)) +  
 #Add title  
 ggtitle("Intentional homicide rate (per 100,000 people)") +  
 #Classic graph theme  
 theme\_classic()



The graph shows that, on average, Malaysia has the highest homicide rate across the two decades compared with the other four countries; with this visualization, however, we observe that, although Malaysia has the comparatively highest homicide rate annually, its rate has been declining over time. It is also noteworthy the difference in crime rates between East and SE Asian countries and the world average.

**References**

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