**STAT701 – Covid in Brazil and associated variables**

**List of cleaned variables**

* **Geo data**
  + City names and codes (auxiliary table to match city names variations and codes)
    - *names*: IBGE city code (7 digits), city name (in Portuguese)
    - *names\_code7.final*: IBGE city code (7 digits), city name
    - *names\_code6.final*: IBGE city code (6 digits), city name
    - *names\_aux* (versions 1 to 7, increasing list of names)
  + City area
    - *area*: total city area in km2, (2010)
  + Urban area
    - *area\_urban*: urban area in km2, (2015)
  + Metropolitan area classification
    - *metro*: metropolitan area (metro), urban (urban agglomeration) and non-metro/urban, (2020)
* **Population data**
  + Absolute population
    - *pop*: estimated total city population (2011-2020), % annual growth from 2012 to 2020
  + Population by age bracket
    - *pop\_age*: % population by age bracket of 5 years, (2010)
  + Population by age bracket
    - *pop\_sex*: % population male or female, (2010)
  + Population rural vs urban
    - *pop\_urban*: % population rural or urban, (2010)
  + Population by race
    - *pop\_race*: % population white, black, Asian, pardos, indigenous or others, (2010)
  + Population by education level
    - *pop\_edu*: % population in each education level (from kindergarten to doctorate) and % population in private or public education, (2010)
  + Residents per house
    - *pop\_residents*: average number of residents per house, (2010)
  + Rooms per house
    - *pop\_rooms*: % houses with 1, 2, …, 9, 10+ rooms and estimated average number of rooms per house, (2010)
  + Population density
    - *pop\_density*: city population density and urban density, (2010)
  + Access to tap water
    - *pop\_water*: % houses with access to tap water (inside the house or in the property) and with no access, (2010)
  + Bathrooms and sewage
    - *pop\_bathroom*: % houses with access to bathroom (sewage, septic tank or other destination of waste) and with no bathrooms, (2010)
* **Economic data**
  + GDP
    - *GDP*: % of GDP from agriculture, industry, services, government spent and taxes (2018); GDP nominal growth from 2010 to 2015 and from 2015 to 2018, and GDP per capita (2018)
  + Work commuting time
    - *Commute\_time*: % of occupied population by commuting time (<5 min, 6 to 10 min, 30 to 60 min, 1 to 2h, +2h); and estimated average commuting time (2010)
  + Population by wage level
    - *wages\_level*: % of population by salary bracket in terms of minimum wage (<.25 [extreme poverty], 0.25 to 0.5 [poverty], 0.5 to 1, 1 to 2, etc.); and estimated average salary (2010)
  + Employment category
    - *employment\_category*: % of occupied population by type of employment (private formal, public formal, informal, working with no wage, working for subsistence, owner of business, self-employed), (2010)
  + Average working hours
    - *working\_hours*: % of occupied population by weekly working hours (<14h, 15 to 39h, 40 to 44h, 45 to 48h, >49h); and estimated average working hours (2010)
  + Employment evolution
    - *employment\_evo*: % annual increase of employment rate from 2012 to 2015, from 2015 to 2018, and from 2018 to 2019; and % of employed of total population (2019)
  + Employed by economy sector
    - *employment\_sector:* % of workers by economy sector (agriculture, extractive industry, transformation industry, power, water and sewage, building, trade, etc.), (2019)
  + Companies, workers and salaries evolution
    - *companies:* number of active companies per 100k inhabitants (2018) and growth from 2016 to 2018; average salary in terms of minimum wage (2018) and growth from 2016 to 2018; % workers of total population (2018) and growth from 2016 to 2018
  + Beneficiaries of the 'Bolsa Família' program
    - *bolsa\_familia*: number of families receiving the benefit per 100k inhabitants; and value (in Brazilian reais, BRL) per inhabitant (2019)

* **Covid data**
  + Deaths and cases
    - *covid\_evo*: number of new cases and deaths per day; and number of new cases per 100k inhabitants and deaths per 100k inhabitants per day, from first day of appearance on Brazil (25/Feb/20) to last day of available data for all cities (last update on 16/March/2021)
    - *covid\_cumulative*: number of total cases and deaths; and number of total cases per 100k inhabitants and total deaths per 100k inhabitants, from first day of appearance on Brazil (25/Feb/20) to last day of available data for all cities (last update on 16/Mar/2021)
  + Covid ICU beds sponsored by the Federal Government
    - *covid\_fed\_ICUbeds*: number of ICU beds dedicated to Covid sponsored by the Federal government per 100k inhabitants; and corresponding value (Brazilian Reais, BRL) per capita (2021)
  + Government expenditure with COVID
    - *covid\_spent*: covid health expenditure per capita in each city with federal, state or city funds (2020)
  + Vaccines
    - *covid\_vaccines*: shots per capita of 1st and 2nd doses by supplier (Coronavac, Covishield - AstraZeneca, unknown), up to 21/Apr/2021
  + 2020 Covid federal covid emergency aid
    - *covid\_emergency\_aid*: % of the population which received the federal emergency aid by type of enrollment (Cadastro Único, Caixa app, lawsuit, Bolsa Família); and per capita value (Brazilian Reais, BRL) by type of enrollment, (2020)