**1. Spilt of Countries Dataset:**

**1.1.  Meta Data Tables:**

- > A. Table for `Countres` info: {'WEO\_Country\_Code', 'ISO', 'Country'} P\_Key> 'WEO\_Country\_Code'.

- > B. Table for `Subject` info: {'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale'} P\_Key>'WEO\_Subject\_Code'.

- > C. Table for `Country\_Subject\_Notes` info: {'WEO\_Country\_Code', 'WEO\_Subject\_Code','Country\_Series-specific\_Notes','Estimates\_Start\_After'} P\_Key>('WEO\_Country\_Code','WEO\_Subject\_Code').

- > D. Table for `Year` info: {'Years'} P\_Key> 'Years'.

**1.2. dataset Tables:**

- > E. Table for data values `WEO\_Data\_Countries` name Columns {'WEO\_Country\_Code' , 'Years' , and all Varibles 'WEO\_Subject\_Code' {'BCA\_NGDPD', 'GGR\_NGDP', 'GGSB\_NPGDP', 'GGX\_NGDP', 'GGXWDG\_NGDP', 'LUR', 'NGDP\_RPCH', 'NGSD\_NGDP', 'NID\_NGDP', 'PCPIPCH', 'PPPEX', 'PPPPC', 'PPPSH', 'TM\_RPCH', 'TRWMA', 'TX\_RPCH'} }

**2. Spilt of Groups Dataset:**

**2.1. Meta Data Tables:**

- > A. Table for `Country\_Groups` info: {'WEO\_Country\_Group\_Code', 'Country\_Group\_ID', 'Country\_Group\_Name'} P\_Key> 'WEO\_Country\_Group\_Code'.

- > B. Table for `Groups\_Subject\_Notes ` info: {'WEO\_Country\_Group\_Code', 'WEO\_Subject\_Code', 'Country\_Series-Specific\_Notes', 'Estimates\_Start\_After'} P\_Key> ('WEO\_Country\_Group\_Code', 'WEO\_Subject\_Code').

- > C. Table for `Country\_Classes` info: {'WEO\_Country\_Code', 'Country', 'WEO\_Country\_Group\_Code', and all Varibles 'Country\_Group\_ID' {'All\_Advanced\_41','All\_Advanced\_Euro\_20', 'All\_Advanced\_G7', 'All\_Developing\_155','All\_Developing\_Asia\_30', 'All\_Developing\_Europe\_15', 'All\_Developing\_Latina\_Caribbean\_33', 'All\_Developing\_Meast\_Casia\_32', 'All\_Developing\_Ssafrica\_45', 'All\_Asean\_5', 'All\_Brics\_20', 'All\_Eur\_27'} } P\_Key> 'WEO\_Country\_Code'.

**2.2. dataset Tables:**

- > C. Table for data values `Country\_Data\_Group`name Columns : {'WEO\_Country\_Group\_Code' , 'Years' , and all Varibles 'WEO\_Subject\_Code' {'BCA\_NGDPD', 'GGR\_NGDP', 'GGSB\_NPGDP', 'GGX\_NGDP', 'GGXWDG\_NGDP', 'LUR', 'NGDP\_RPCH', 'NGSD\_NGDP', 'NID\_NGDP', 'PCPIPCH', 'PPPEX', 'PPPPC', 'PPPSH', 'TM\_RPCH', 'TRWMA', 'TX\_RPCH'} }

group\_mapping = {

"ALL": "World",

"ALL\_Advanced\_41": "Advanced economies",

"ALL\_Advanced\_Euro\_20": "Euro area",

"ALL\_Advanced\_G7": "Major advanced economies (G7)",

"ALL\_Developing\_155": "Emerging market and developing economies",

"ALL\_Developing\_Asia\_30": "Emerging and developing Asia",

"ALL\_Developing\_Europe\_15": "Emerging and developing Europe",

"ALL\_Developing\_LatinA\_Caribbean\_33": "Latin America and the Caribbean",

"ALL\_Developing\_MEast\_CAsia\_32": "Middle East and Central Asia",

"ALL\_Developing\_SSAfrica\_45": "Sub-Saharan Africa",

"ALL\_ASEAN\_5": "ASEAN-5",

"ALL\_BRICS\_20": "Other advanced economies (Advanced economies excluding G7 and euro area)",

"ALL\_EUR\_27": "European Union"

}

(196, 60)

./dataset\_/01.1-WEO\_Data\_GDP\_NGDP\_RPCH.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/01.2-WEO\_Data\_GDP\_PPPPC.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/01.3-WEO\_Data\_GDP\_PPPSH.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(198, 60)

./dataset\_/02-WEO\_Data\_GNS\_NGSD\_NGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', '1980', '1981', '1982', '1983', '1984', '1985', '1986', '1987', '1988', '1989', '1990', '1991', '1992', '1993', '1994', '1995', '1996', '1997', '1998', '1999', '2000', '2001', '2002', '2003', '2004', '2005', '2006', '2007', '2008', '2009', '2010', '2011', '2012', '2013', '2014', '2015', '2016', '2017', '2018', '2019', '2020', '2021', '2022', '2023', '2024', '2025', '2026', '2027', '2028', '2029', 'Estimates Start After']

(198, 60)

./dataset\_/03-WEO\_Data\_INV\_NID\_NGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', '1980', '1981', '1982', '1983', '1984', '1985', '1986', '1987', '1988', '1989', '1990', '1991', '1992', '1993', '1994', '1995', '1996', '1997', '1998', '1999', '2000', '2001', '2002', '2003', '2004', '2005', '2006', '2007', '2008', '2009', '2010', '2011', '2012', '2013', '2014', '2015', '2016', '2017', '2018', '2019', '2020', '2021', '2022', '2023', '2024', '2025', '2026', '2027', '2028', '2029', 'Estimates Start After']

(196, 60)

./dataset\_/04-WEO\_Data\_PPP\_PPPEX.xlsx

['WEO\_Country\_Code', 'ISO', 'WEO\_Subject\_Code', 'Country', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/05.1-WEO\_Data\_VIG\_TX\_RPCH.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/05.2-WEO\_Data\_VIG\_TM\_RPCH.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/06-WEO\_Data\_EMP\_LUR.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/07.1-WEO\_Data\_GGR\_NGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/07.2-WEO\_Data\_GGX\_NGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/07.3-WEO\_Data\_GGSB\_NPGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/07.4-WEO\_Data\_GGXWDG\_NGDP.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/08-WEO\_Data\_BCA\_NGDPD.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 59)

./dataset\_/09-WEO\_Data\_TRWMA.xlsx

['WEO\_Country\_Code', 'Country\_Code', 'Country', 'WEO\_Subject\_Code', 'Series\_Name', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 60)

./dataset\_/10-WEO\_Data\_INF\_PCPIPCH.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(3136, 54)

./dataset\_/11-WEO\_Data\_Country.xlsx

['WEO\_Country\_Code', 'ISO', 'Country', 'WEO\_Subject\_Code', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029]

(182, 59)

./dataset\_/12-WEO\_Data\_Group.xlsx

['WEO\_Country\_Group\_Code', 'Country\_Group\_Name', 'WEO\_Subject\_Code', 'Subject\_Descriptor', 'Subject\_Notes', 'Units', 'Scale', 'Country/Series-specific\_Notes', 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 'Estimates Start After']

(196, 15)

./dataset\_/13-WEO\_Group.xlsx

['WEO\_Country\_Code', 'ISO', 'Country(ALL(196))', 'ALL/Advanced(41)', 'ALL/Advanced/Euro(20)', 'ALL/Advanced/G7', 'ALL/Developing(155)', 'ALL/Developing/Asia(30)', 'ALL/Developing/Europe(15)', 'ALL/Developing/LatinA\_Caribbean(33)', 'ALL/Developing/MEast\_CAsia(32)', 'ALL/Developing/SSAfrica(45)', 'ALL/ASEAN(5)', 'ALL/BRICS(20)', 'ALL/EUR(27)']

//// Meta Data Tables

// Store country details

Table Countries {

  WEO\_Country\_Code varchar              // Primary key: unique country code

  ISO varchar                           // ISO Alpha‑3 country code

  Country varchar                       // Country name

  Primary Key (WEO\_Country\_Code)        // Define primary key

}

// Store subject definitions

Table Subjects {

  WEO\_Subject\_Code varchar             // Primary key: unique subject code

  Subject\_Descriptor varchar           // Short description of subject

  Subject\_Notes text                   // General notes on subject

  Units varchar                        // Unit of measurement

  Scale varchar                        // Scale of the data

  Primary Key (WEO\_Subject\_Code)       // Define primary key

}

// Link countries to subject notes

Table Country\_Subject\_Notes {

  WEO\_Country\_Code varchar             // FK to Countries

  WEO\_Subject\_Code varchar             // FK to Subjects

  Country\_Series\_Specific\_Notes text   // Country‑specific notes

  Estimates\_Start\_After int            // Year when estimates begin

  Primary Key (WEO\_Country\_Code, WEO\_Subject\_Code)  // Composite primary key

}

// Store all years of data

Table Years {

  Year int                             // Year of observation

  Primary Key (Year)                   // Define primary key

}

//// Dataset for country values

// Combined WEO country data (Long Format)

Table WEO\_Data\_Countries {

  WEO\_Country\_Code varchar             // FK to Countries

  WEO\_Subject\_Code varchar             // FK to Subjects

  Year int                             // FK to Years

  Value float                          // Observed value for the subject

  Primary Key (WEO\_Country\_Code, Year, WEO\_Subject\_Code)  // Composite key for long format

}

/// ==================================

//// Meta Data for groups

// Store country group info

Table Country\_Groups {

  WEO\_Country\_Group\_Code varchar      // Primary key: unique group code

  Country\_Group\_ID varchar            // Internal ID for group

  Country\_Group\_Name varchar          // Descriptive group name

  Primary Key (WEO\_Country\_Group\_Code) // Define primary key

}

// Link groups to subject notes

Table Groups\_Subject\_Notes {

  WEO\_Country\_Group\_Code varchar      // FK to Country\_Groups

  WEO\_Subject\_Code varchar            // FK to Subjects

  Country\_Series\_Specific\_Notes text  // Group‑specific notes

  Estimates\_Start\_After int           // Year when group estimates begin

  Primary Key (WEO\_Country\_Group\_Code, WEO\_Subject\_Code) // Composite key

}

// Map countries to classification flags (Long Format)

Table Country\_Classes {

  WEO\_Country\_Code varchar            // FK to Countries

  WEO\_Country\_Group\_Code varchar      // FK to Country\_Groups

  Value bool                           // Membership flag (true if part of group)

  Primary Key (WEO\_Country\_Code, Classification\_Type) // Composite primary key

}

//// Dataset for group values

// Combined WEO group data (Long Format)

Table Country\_Data\_Group {

  WEO\_Country\_Group\_Code varchar      // FK to Country\_Groups

  WEO\_Subject\_Code varchar             // FK to Subjects

  Year int                             // FK to Years

  Value float                          // Observed value for the subject

  Primary Key (WEO\_Country\_Group\_Code, Year, WEO\_Subject\_Code)  // Composite key for long format

}

// Relationships

Ref: Country\_Subject\_Notes.WEO\_Country\_Code > Countries.WEO\_Country\_Code     // Link country notes to Countries

Ref: Country\_Subject\_Notes.WEO\_Subject\_Code > Subjects.WEO\_Subject\_Code     // Link country notes to Subjects

Ref: WEO\_Data\_Countries.WEO\_Country\_Code > Countries.WEO\_Country\_Code       // Link country data to Countries

Ref: WEO\_Data\_Countries.Year > Years.Year                                   // Link country data to time

Ref: WEO\_Data\_Countries.WEO\_Subject\_Code > Subjects.WEO\_Subject\_Code       // Link country data to subject

//===================

Ref: Groups\_Subject\_Notes.WEO\_Country\_Group\_Code > Country\_Groups.WEO\_Country\_Group\_Code     // Link group notes to Countries

Ref: Groups\_Subject\_Notes.WEO\_Subject\_Code > Subjects.WEO\_Subject\_Code     // Link group notes to Subjects

Ref: Country\_Data\_Group.WEO\_Country\_Group\_Code > Country\_Groups.WEO\_Country\_Group\_Code  // Link group data to group metadata

Ref: Country\_Data\_Group.Year > Years.Year                                   // Link group data to time

Ref: Country\_Data\_Group.WEO\_Subject\_Code > Subjects.WEO\_Subject\_Code       // Link group data to subject

Ref: Country\_Classes.WEO\_Country\_Code > Countries.WEO\_Country\_Code          // Link country classification to Countries

Ref: Country\_Classes.WEO\_Country\_Group\_Code > Country\_Groups.WEO\_Country\_Group\_Code  // Link classification to group metadata