

Statistical Performance Indicators

World Bank, Development Data Group

February 9th, 2021

Introduction

- World Bank Development Data Group (DECDG) will be releasing new set of Statistical Performance Indicators (SPI) along with WDR
- Will be major overhaul of Statistical Capacity Index
- SPI are tool for countries/donors to assess statistical system

Based on feedback, goal was for SPI framework to:

- Be forward looking (relevant ~ 10-15 years)
- Measure less advanced systems, as well as more advanced systems
- Cover entire national statistical system, not just NSO
- Give countries incentives to build modern statistical system
- Open data and open code

Framework Overview

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 3. Data Products
 - Whether the country is able to produce relevant indicators, primarily related to SDGs

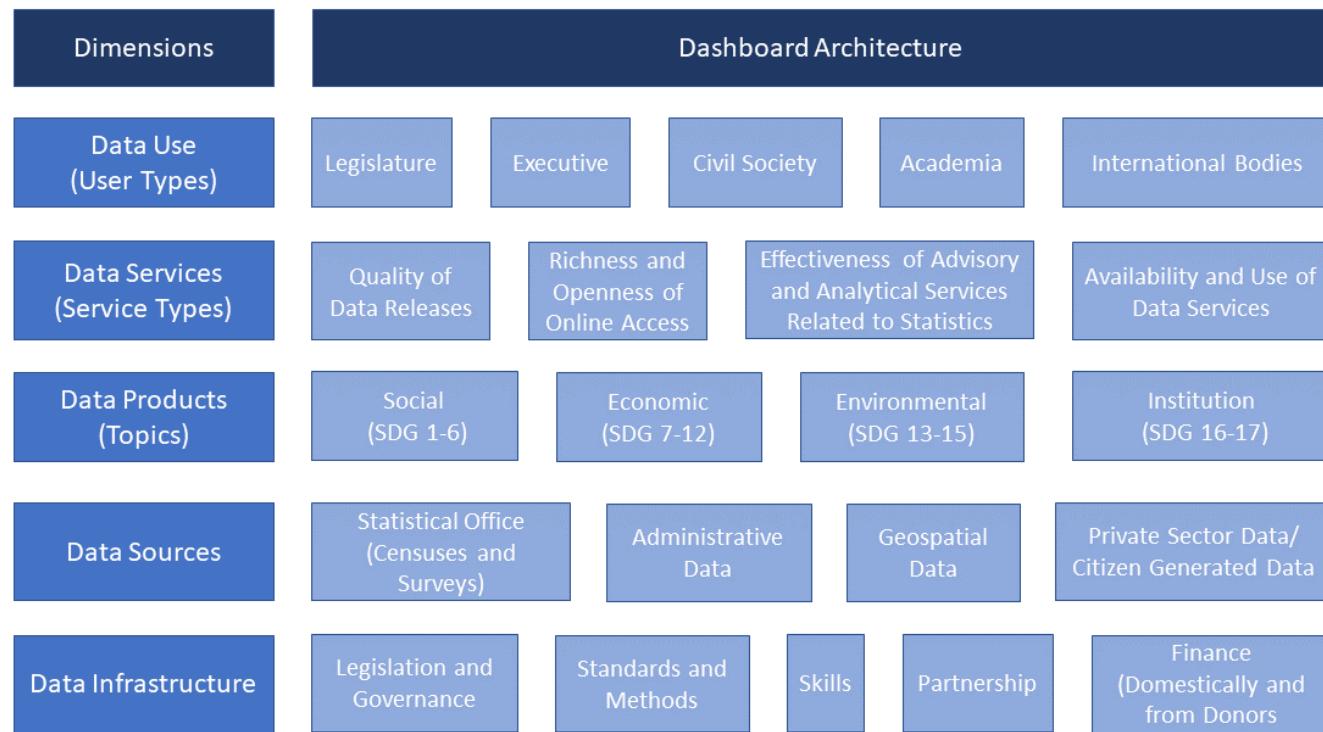
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 - Censuses, surveys, admin data, geospatial, private/citizen generated data

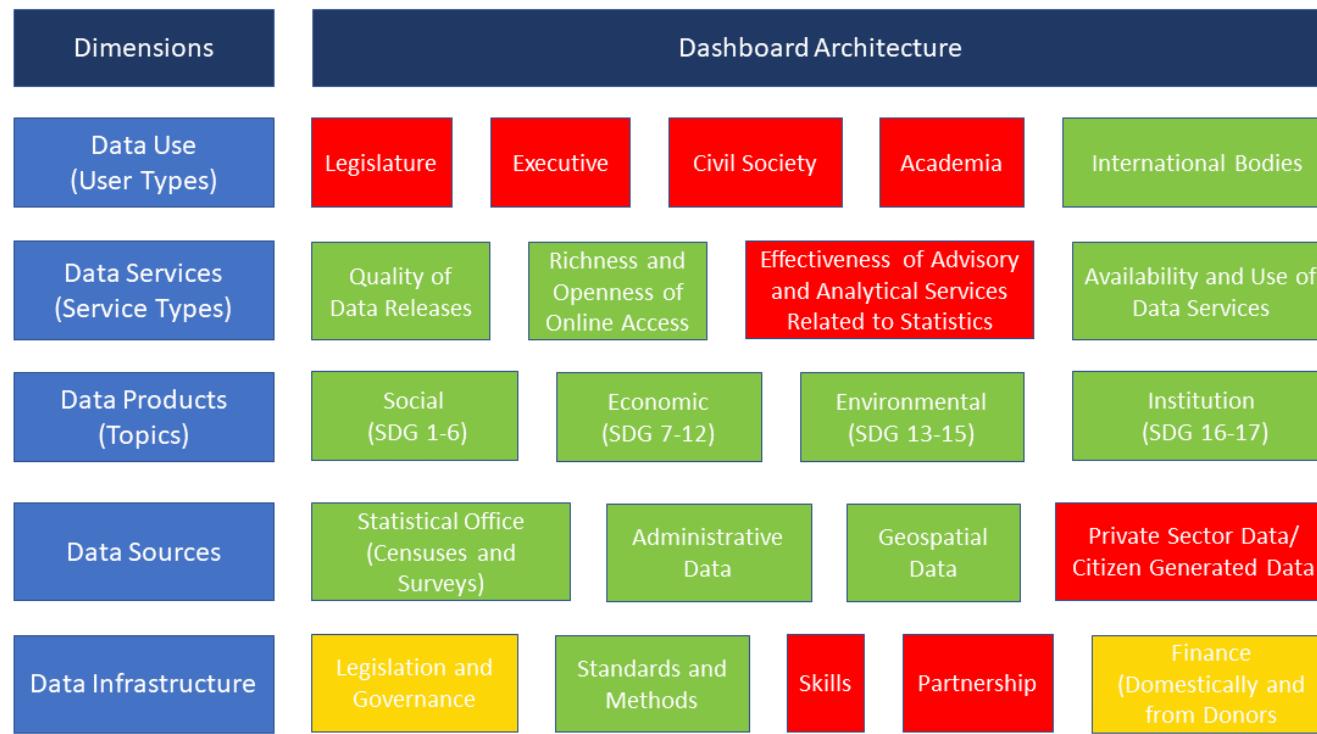
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 5. Data Infrastructure
 - Legislation and governance, standards & methods, skill, partnerships, and finance

SPI Framework



SPI Framework



Overall Scores Across Countries

Index Methodology

- Produce overall score combining indicators
- Three level structure:

- Indicators nested under pillars (sub-dimensions):

$$SPI.PILLAR_{ctds} = \sum_{i=1}^{N_I} \frac{SPI.IND_{ctdsi}}{N_I}$$

- Pillars (sub-dimensions) nested under dimensions:

$$SPI.DIM_{ctd} = \sum_{s=1}^{N_S} \frac{\omega_{ds} SPI.PILLAR_{ctds}}{N_S}$$

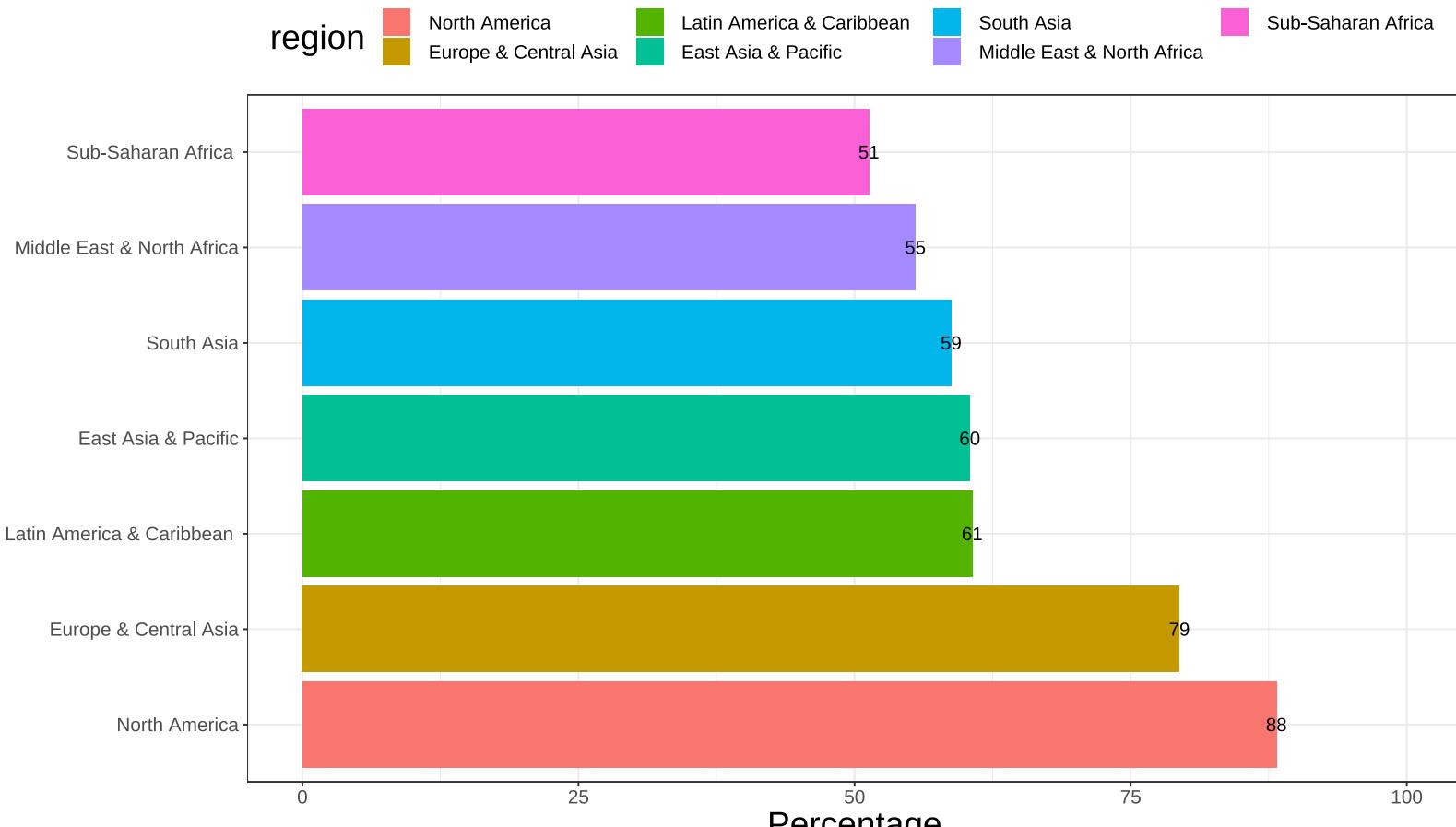
- Dimensions nested under overall score:

$$SPI.INDEX_{ct} = \sum_{d=1}^{N_D} \frac{\alpha_d SPI.DIM_{ctd}}{N_D}$$

- Nested structure allows for symmetry, monotonicity, and subgroup decomposability

SPI Overall Scores - By Region

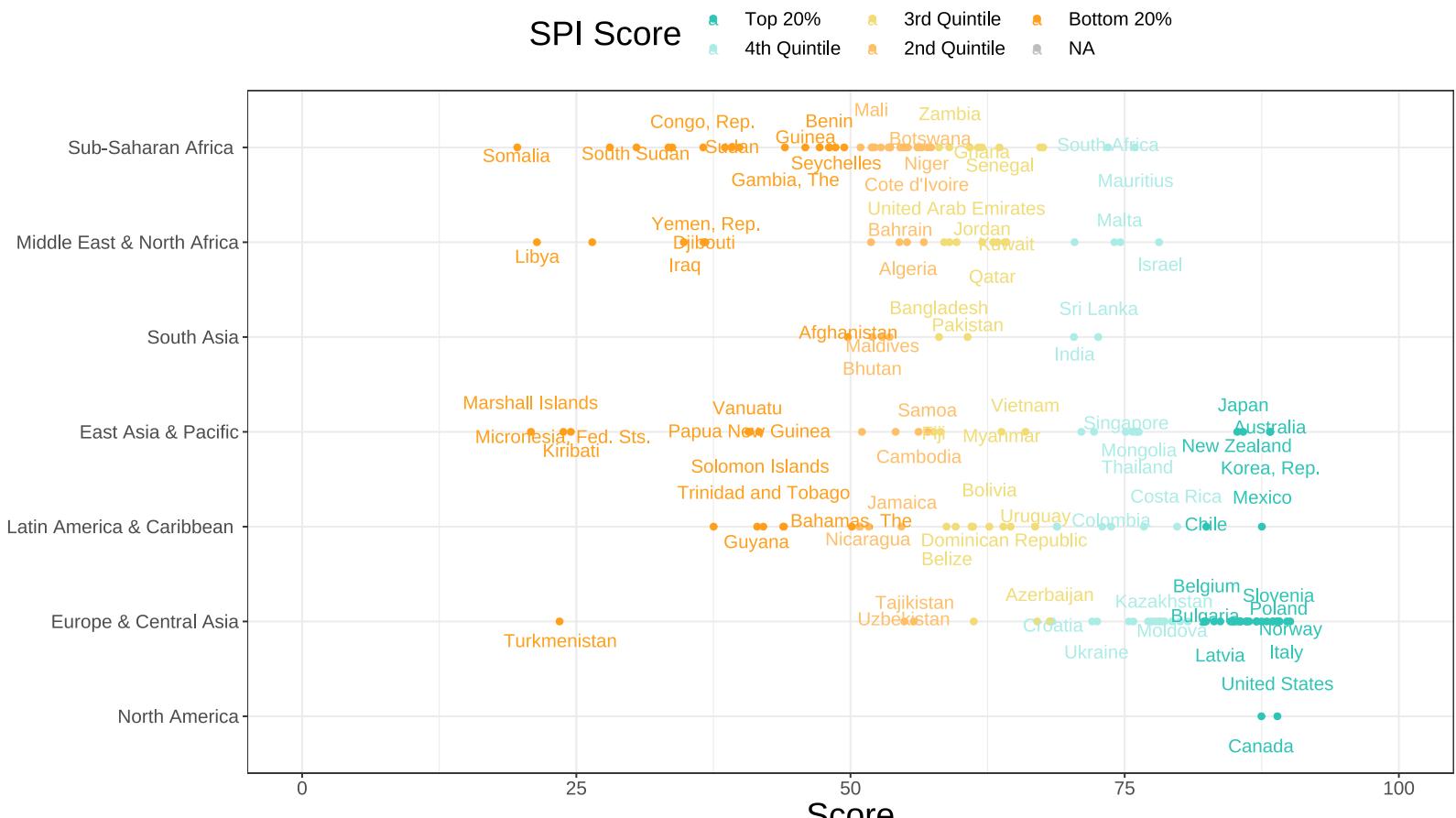
Data Point is for last year available (2019)



Source: SPI Indicators Raw Data

SPI Overall Scores vary significantly within regions.

Statistical Performance Indicators - Overall Scores - 2019

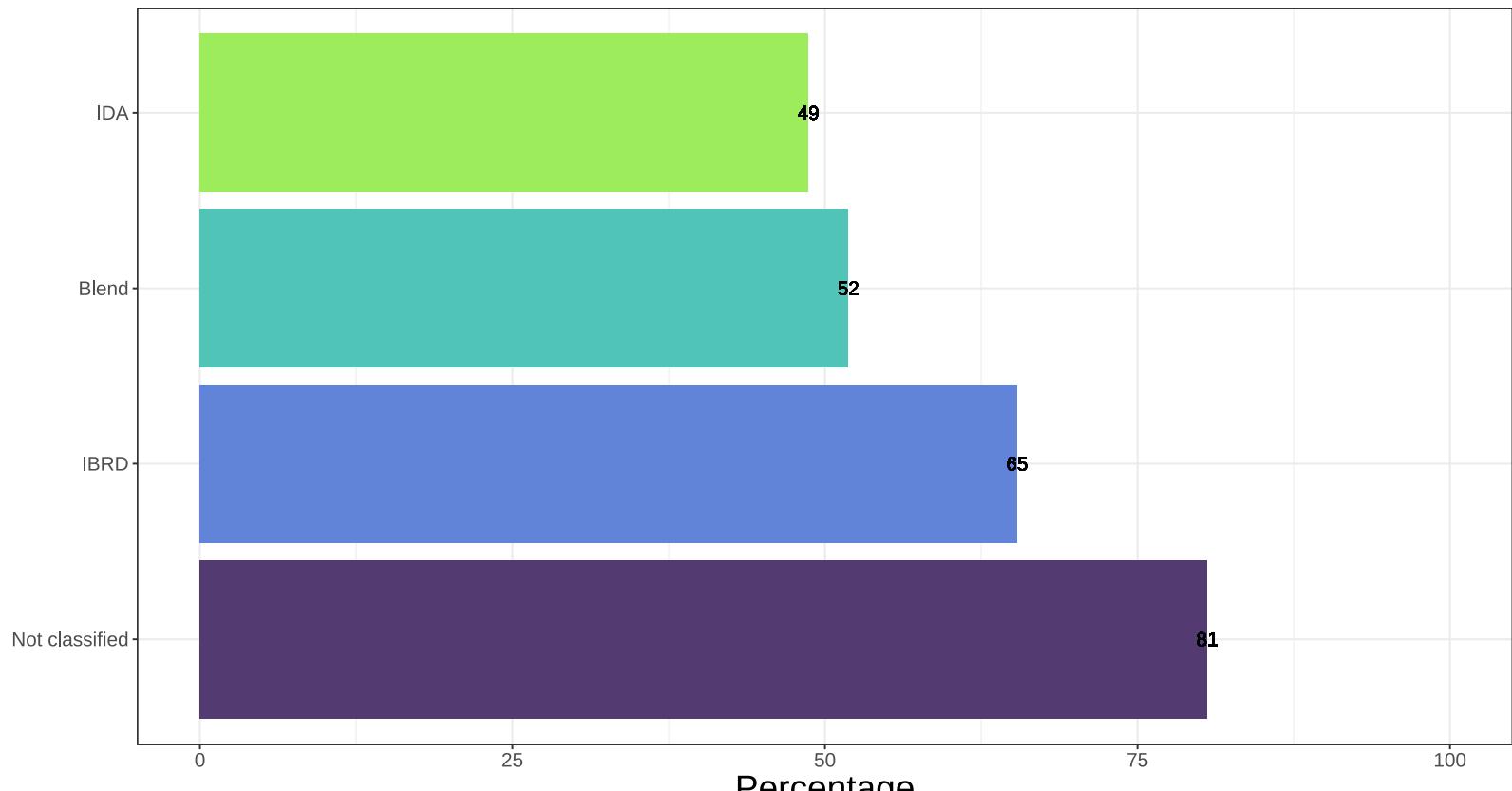


Source: SPI Indicators Raw Data

Statistical Performance Indicators - Overall Scores - By Lending Status

Data Point is for last year available (2019)

Lending Group Blend IBRD IDA Not classified

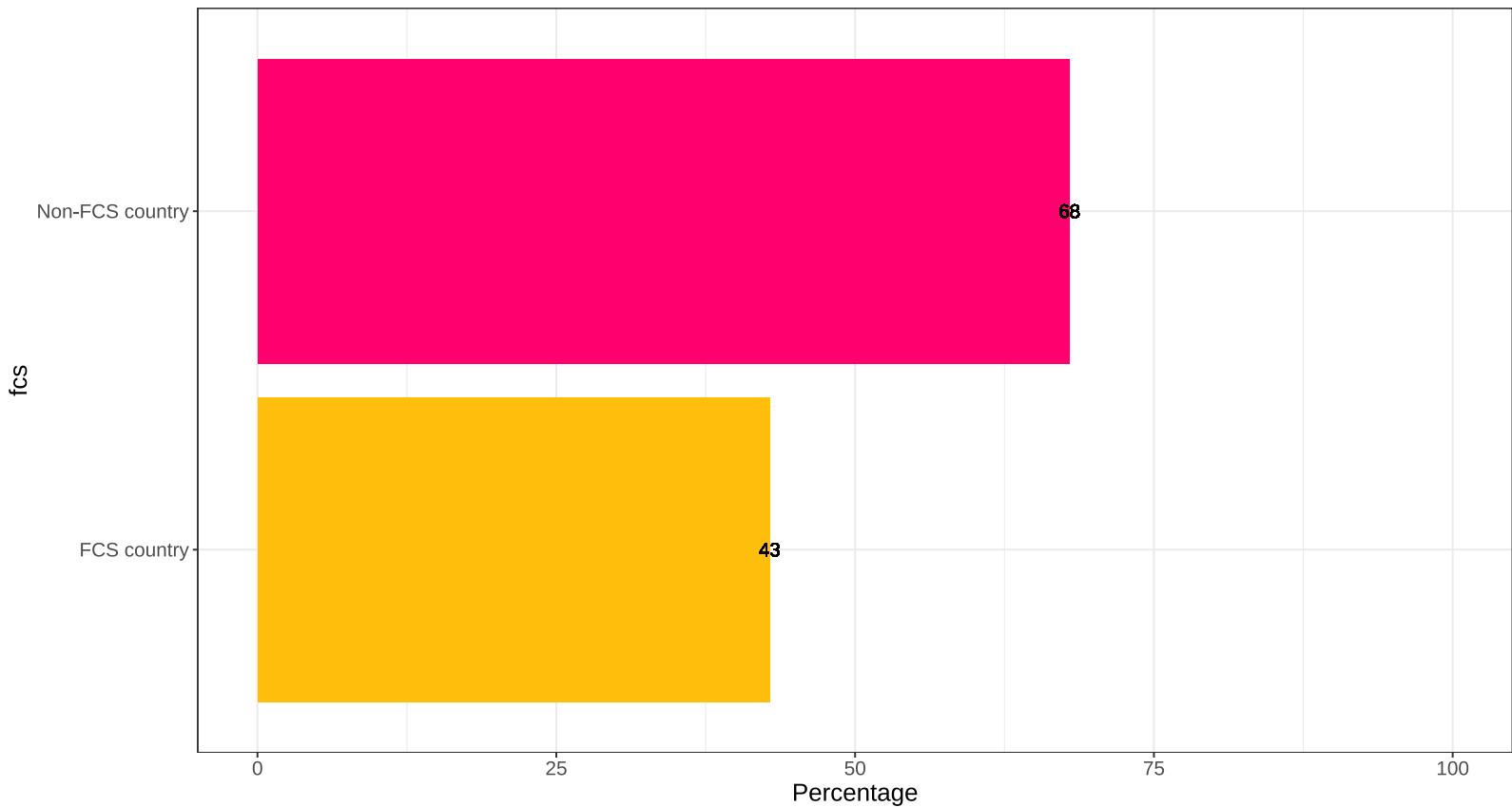


Source: SPI Indicators Raw Data

Statistical Performance Indicators - Overall Scores - By Fragile and Conflict-affected Situations (FCS)

Data Point is for last year available (2019)

FCS Group FCS country Non-FCS country NA



Source: SPI Indicators Raw Data

Overview Summary of Results

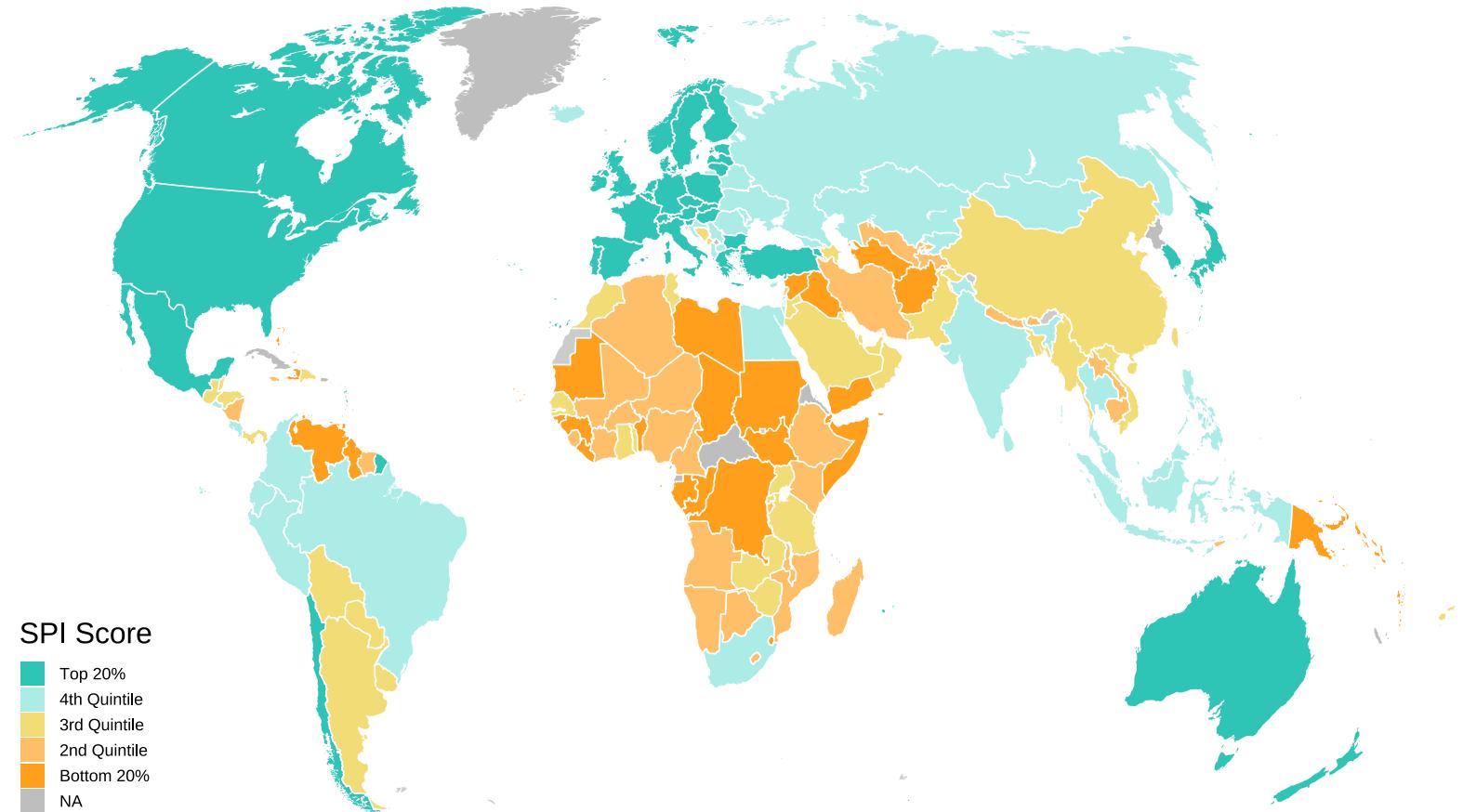
- Will present aggregate scores overall and for each dimension
- Given imprecision inherent in calculations, we recommend color coding providing subdivisions of maturity.

Countries are grouped into five groups:

- **Top 20%**: Shading in **dark green**.
- **4th Quintile**: Shading in **light green**.
- **3rd Quintile**: Shading in **yellow**.
- **2nd Quintile**: Shading in **light orange**.
- **Bottom 20%**: Shading in **dark orange** .

High income OECD countries tend to have most mature systems, and low income countries have least mature systems.

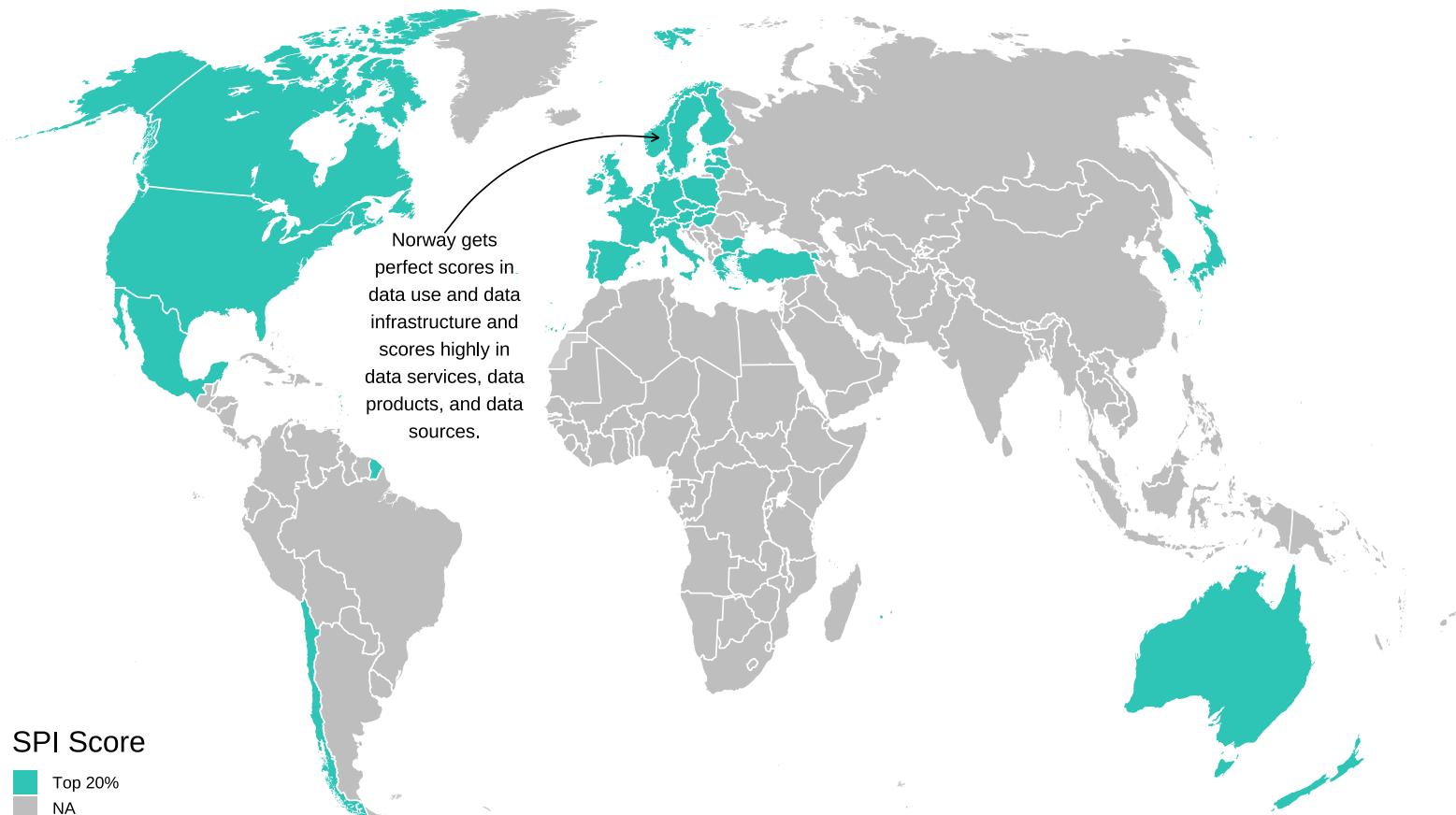
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

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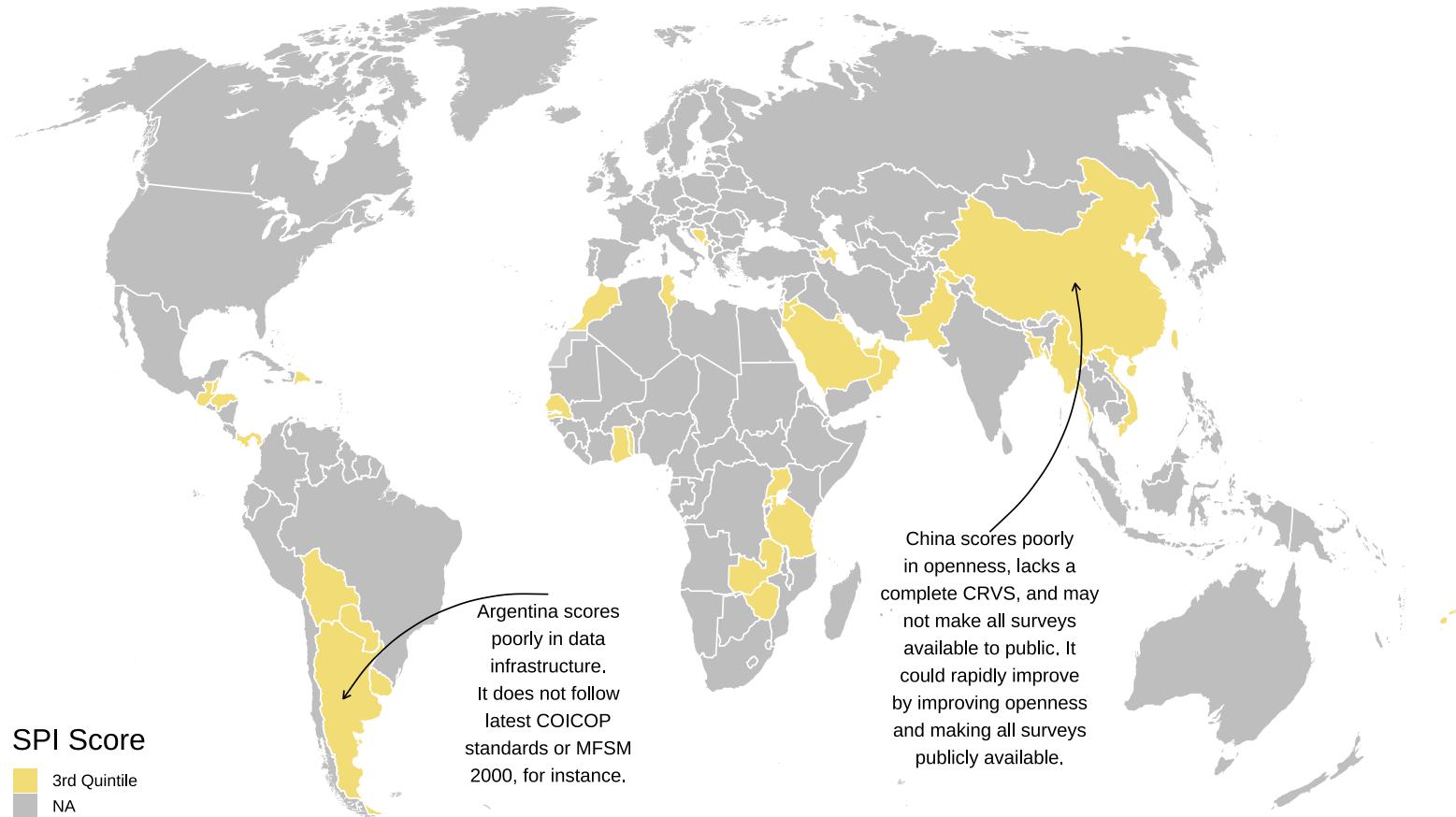
Countries in next quintile have many strengths but may lack in certain areas.
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Countries in the middle 20% may have multiple areas to improve or significant room for improvement in certain areas.

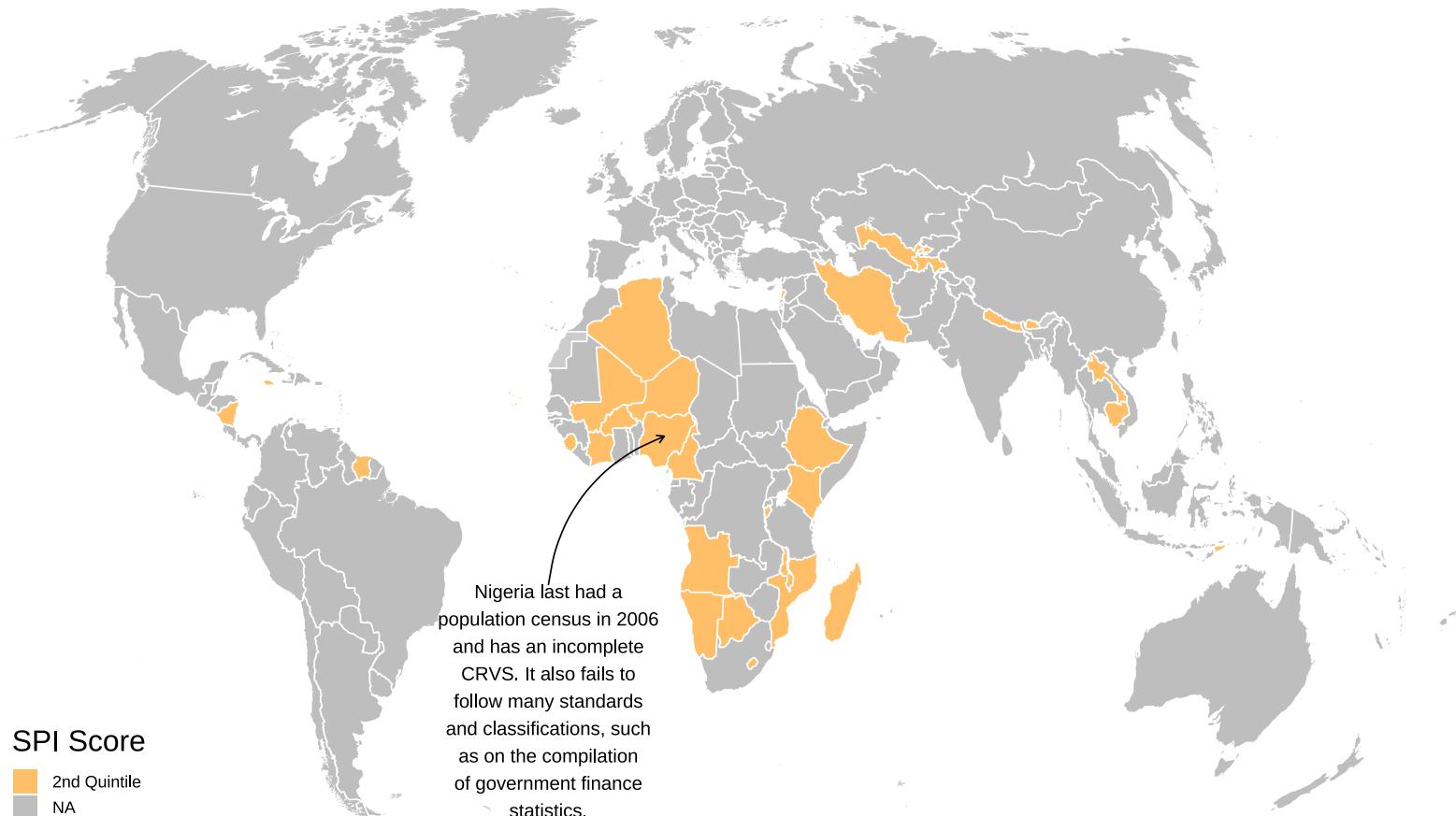
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

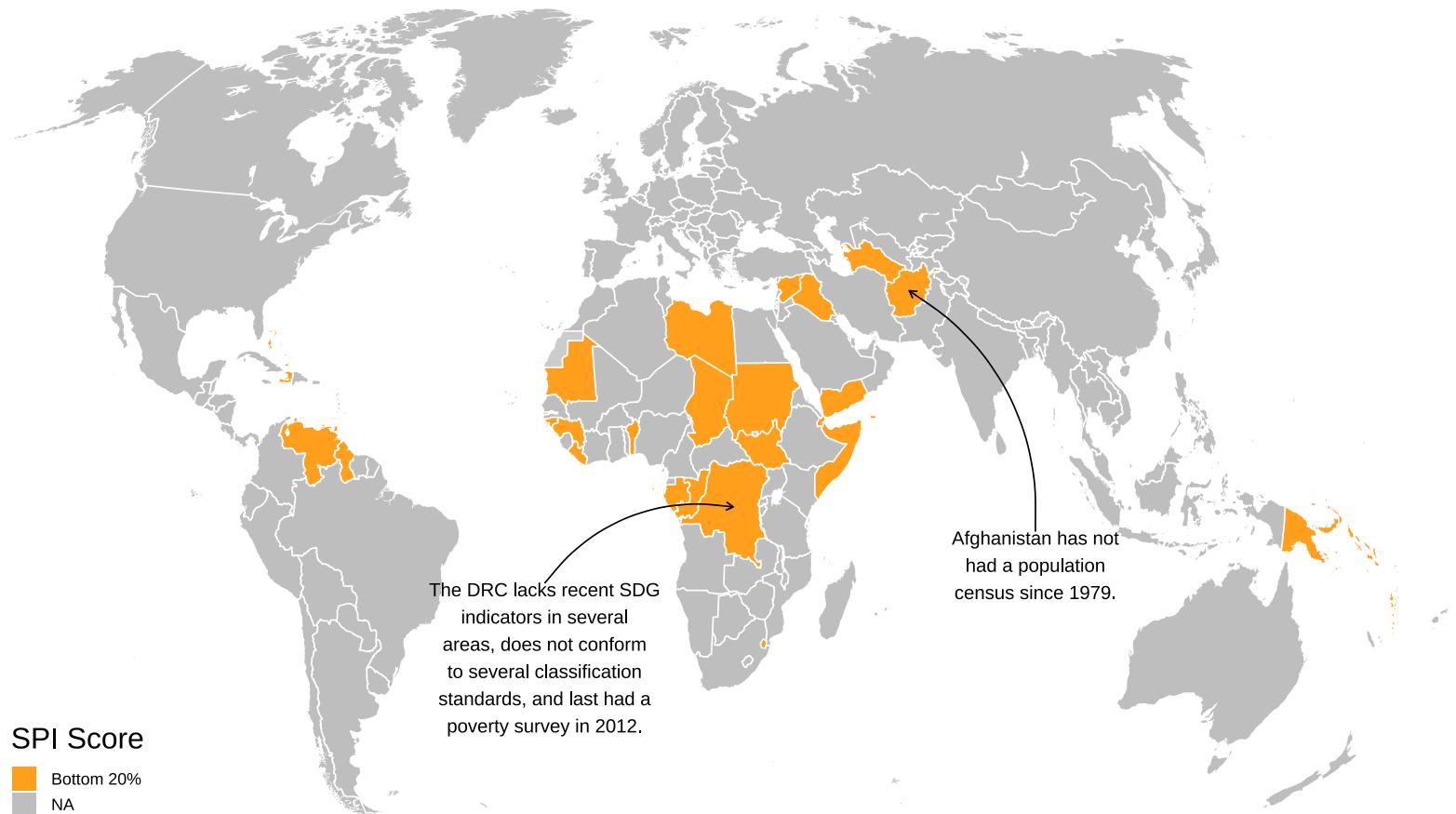
Countries in the 2nd quintile struggle in multiple areas typically.

Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Bottom 20% have many elements missing, and contains many FCS countries.
Statistical Performance Indicators - Overall Scores - 2019

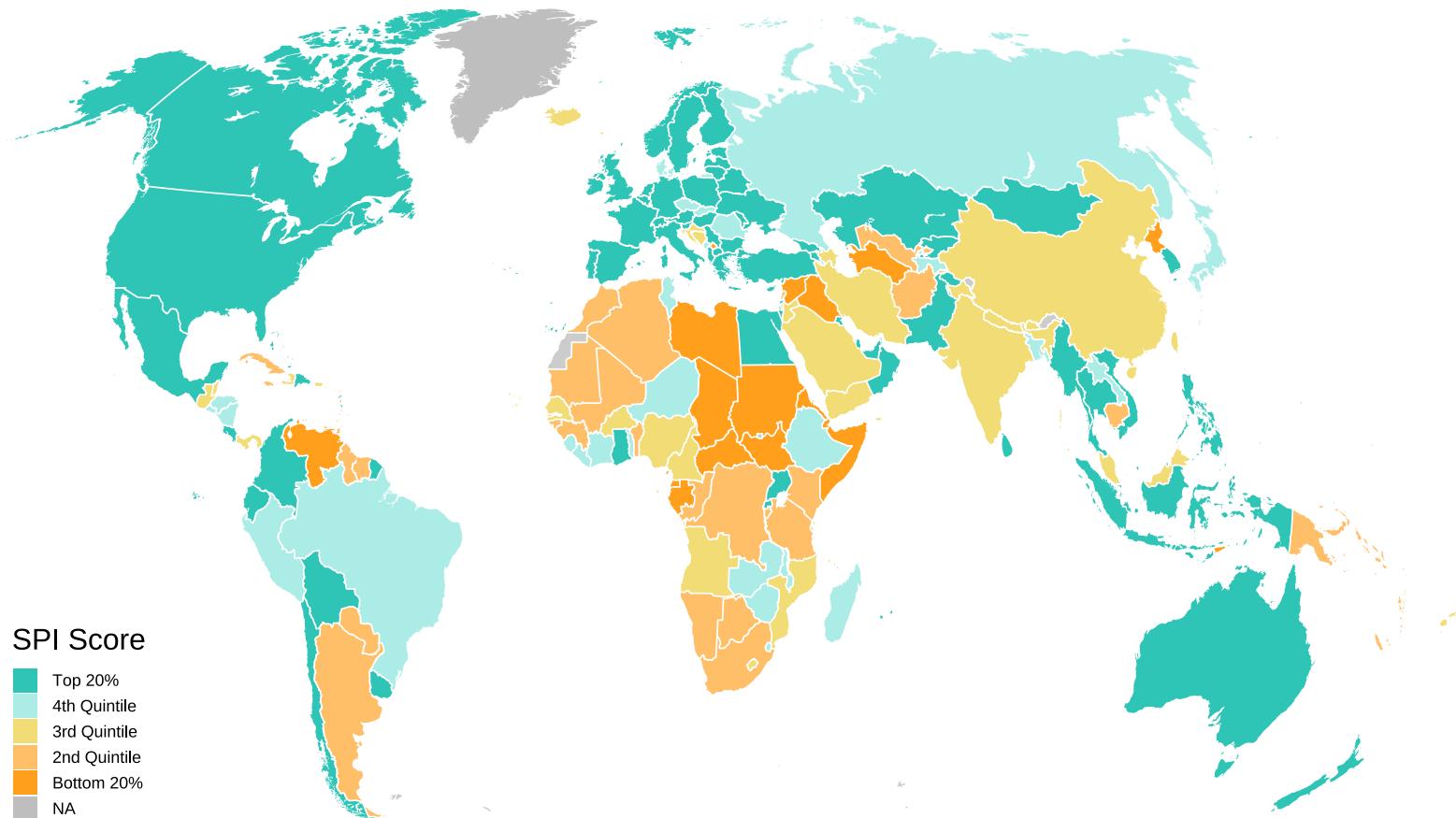


Source: World Bank. Statistical Performance Indicators

Scores by Dimension Across Countries

Statistical Performance Indicators - SPI Dimension 1: Data Use

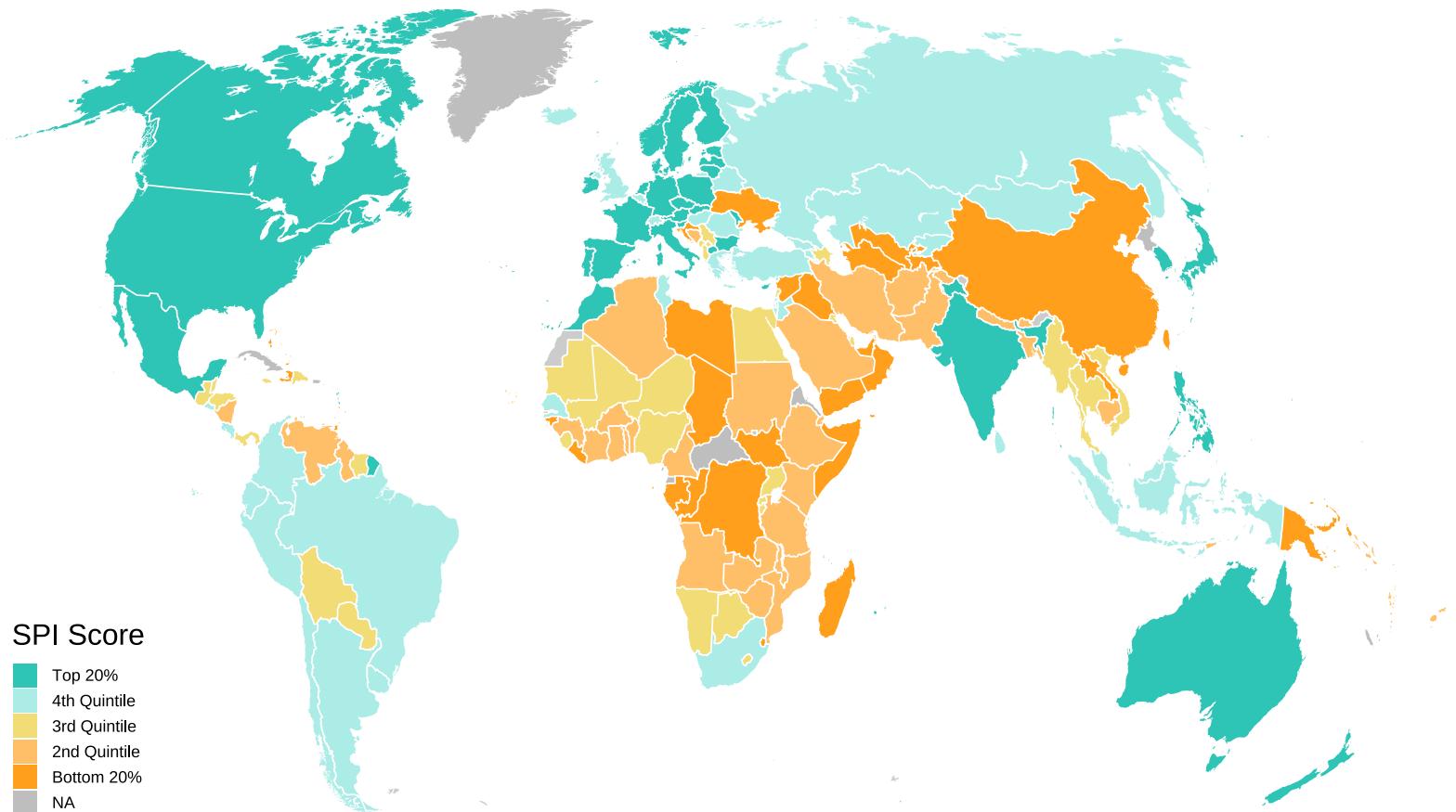
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Statistical Performance Indicators - SPI Dimension 2: Data Services

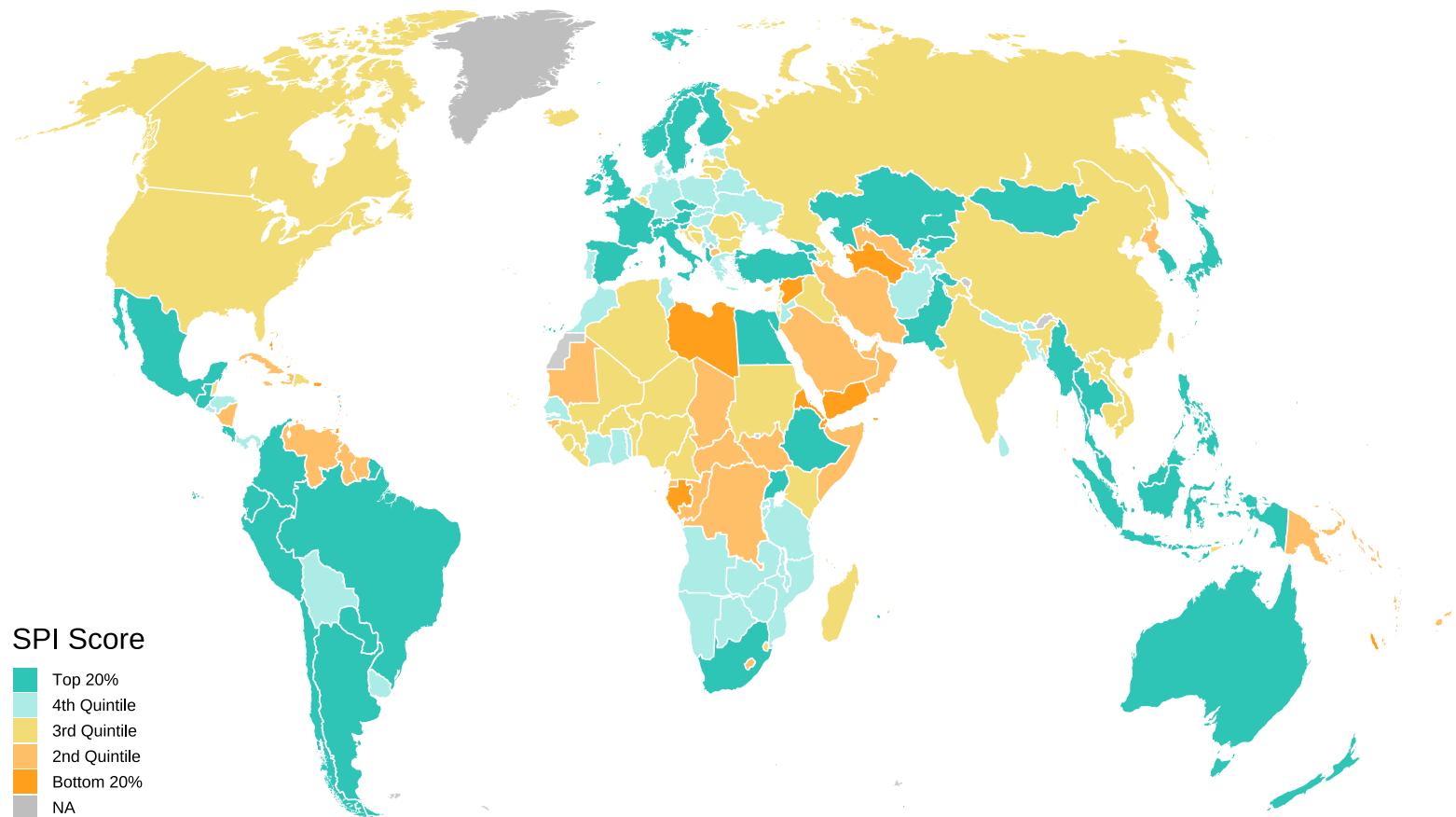
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Statistical Performance Indicators - SPI Dimension 3: Data Products

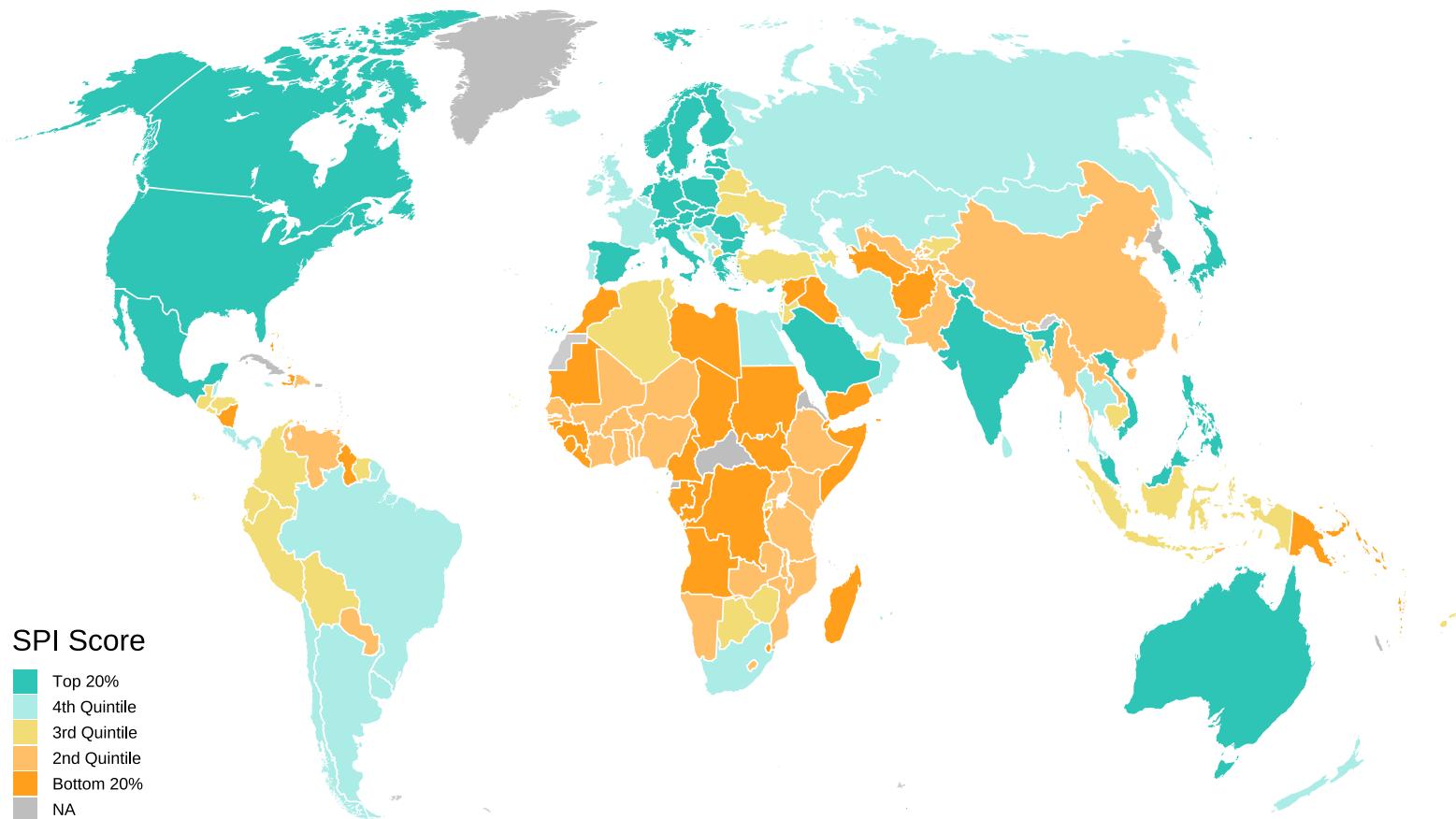
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Statistical Performance Indicators - SPI Dimension 4: Data Sources

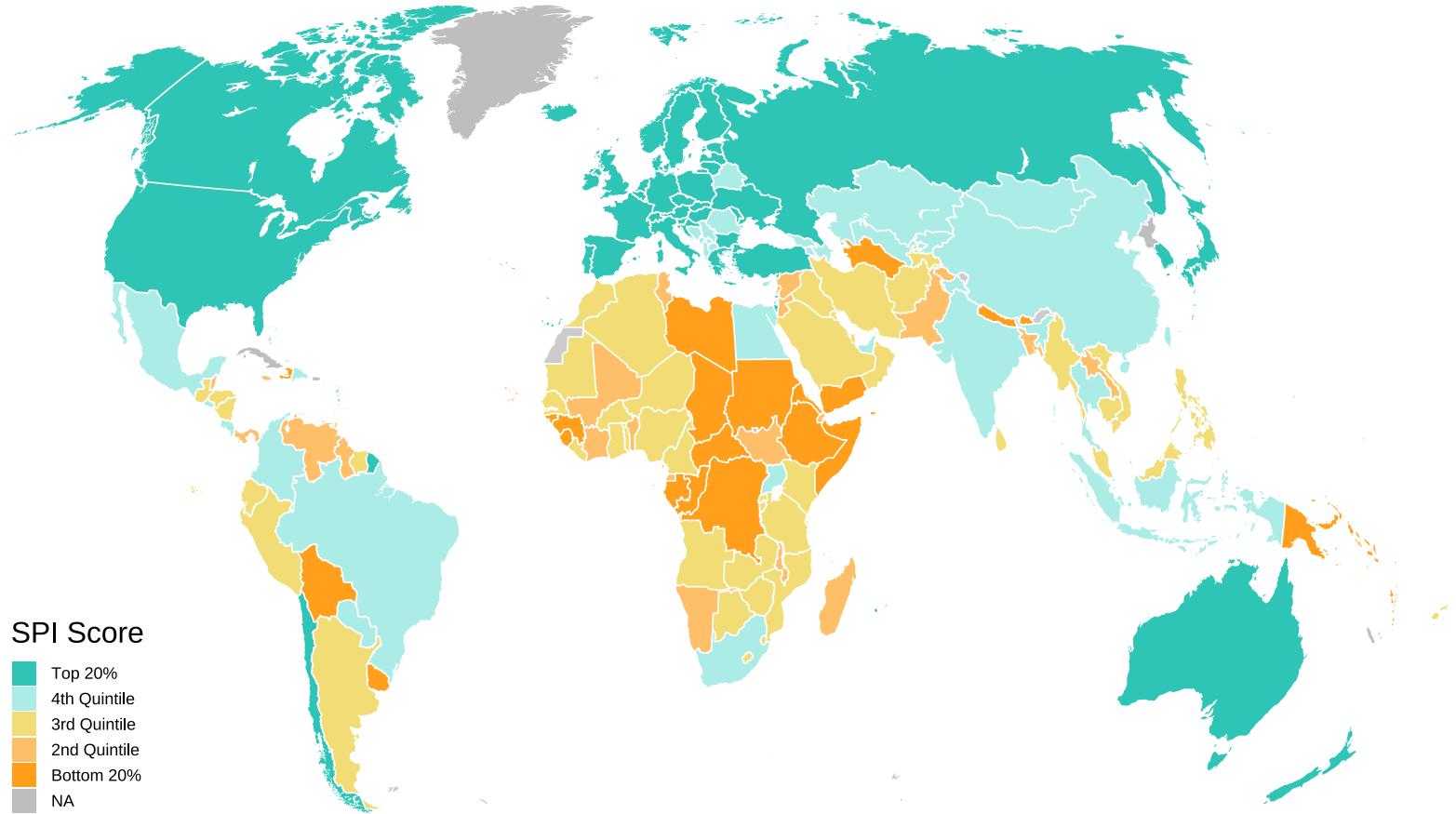
Statistical Performance Indicators - Overall Scores - 2019



Source: World Bank. Statistical Performance Indicators

Statistical Performance Indicators - SPI Dimension 5: Data Infrastructure

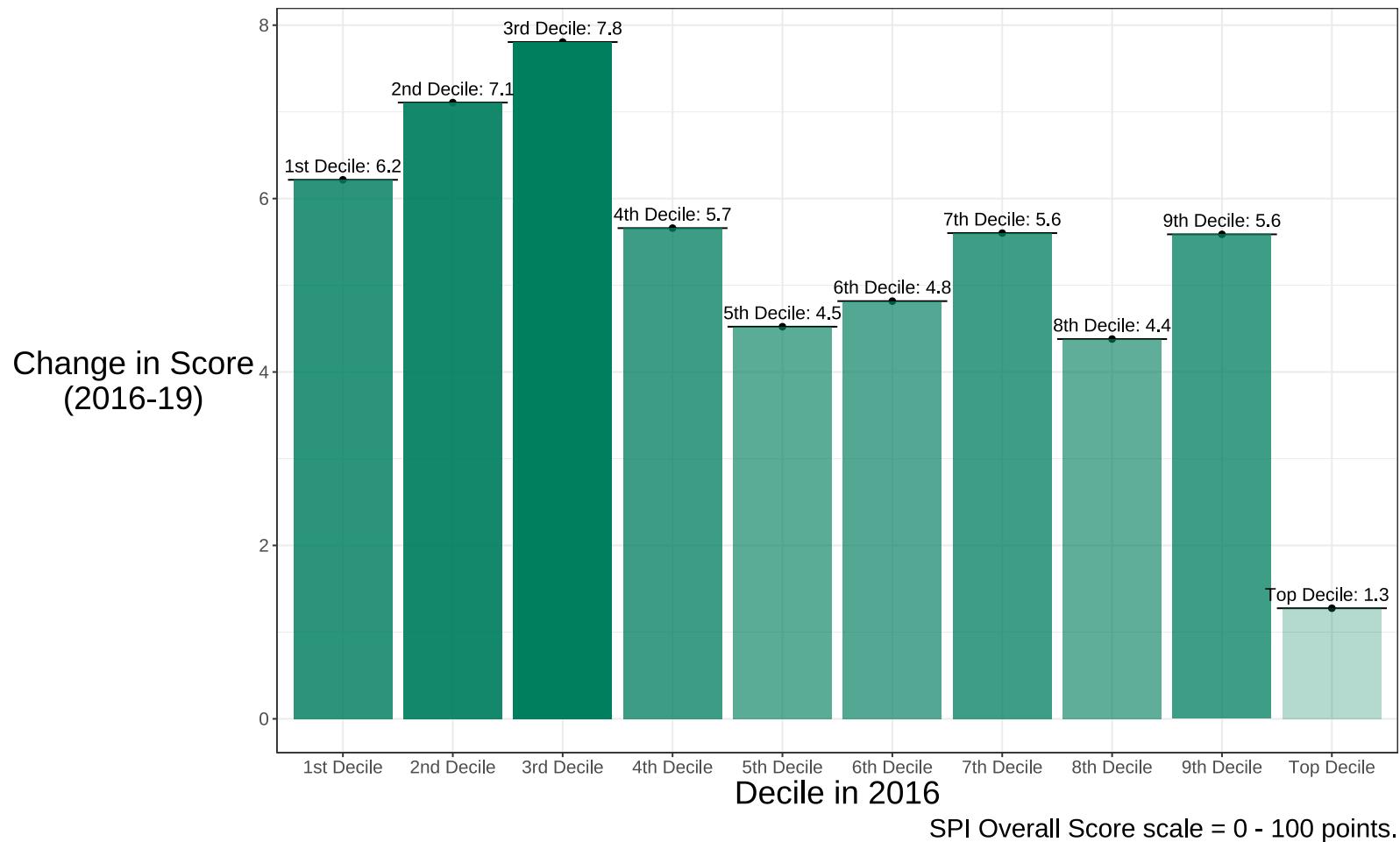
Statistical Performance Indicators - Overall Scores - 2019



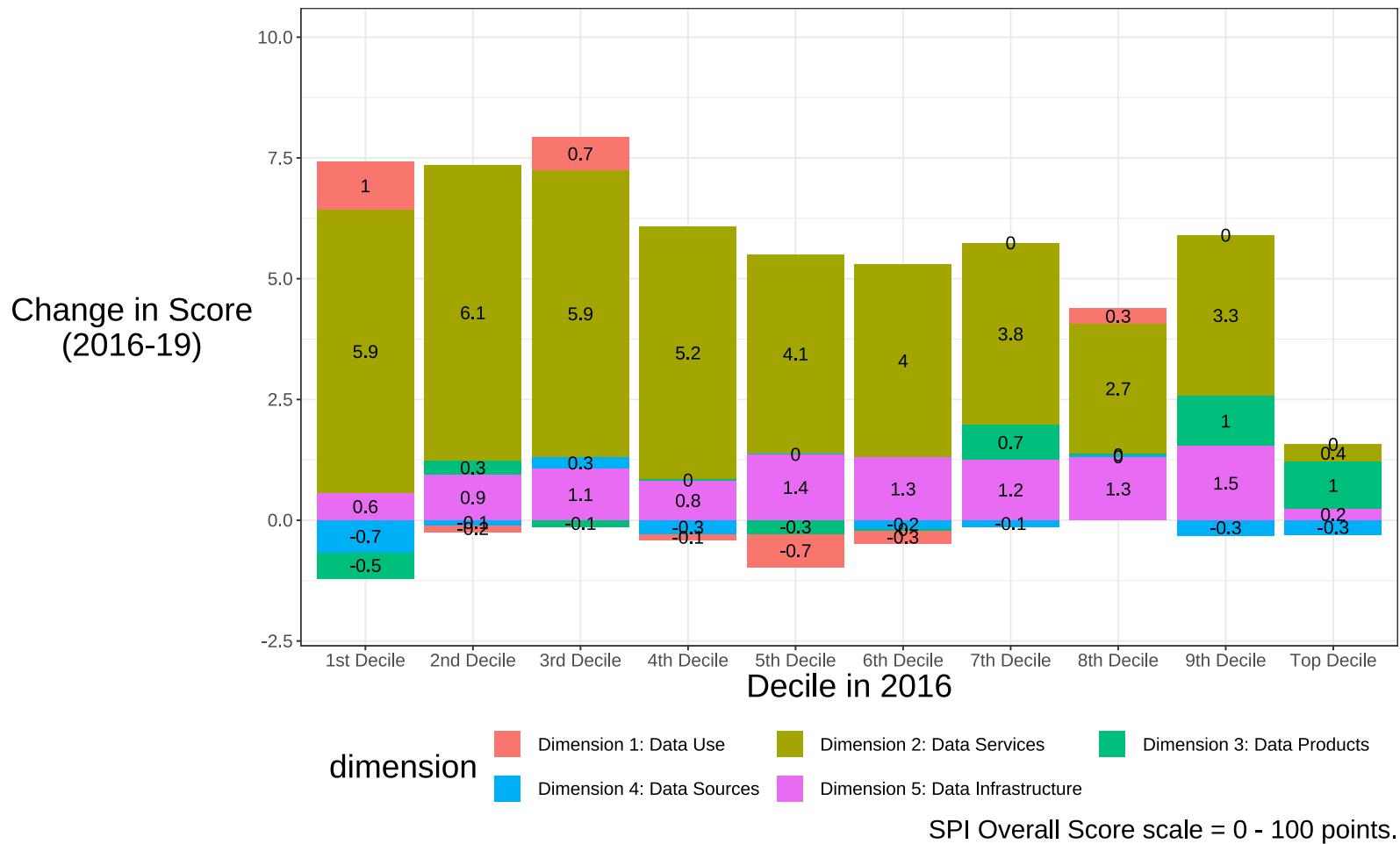
Source: World Bank. Statistical Performance Indicators

Scores Over Time

**2nd & 3rd deciles have improved most since 2016.
Change in SPI Overall Score from 2016-19 by 2016 decile group**

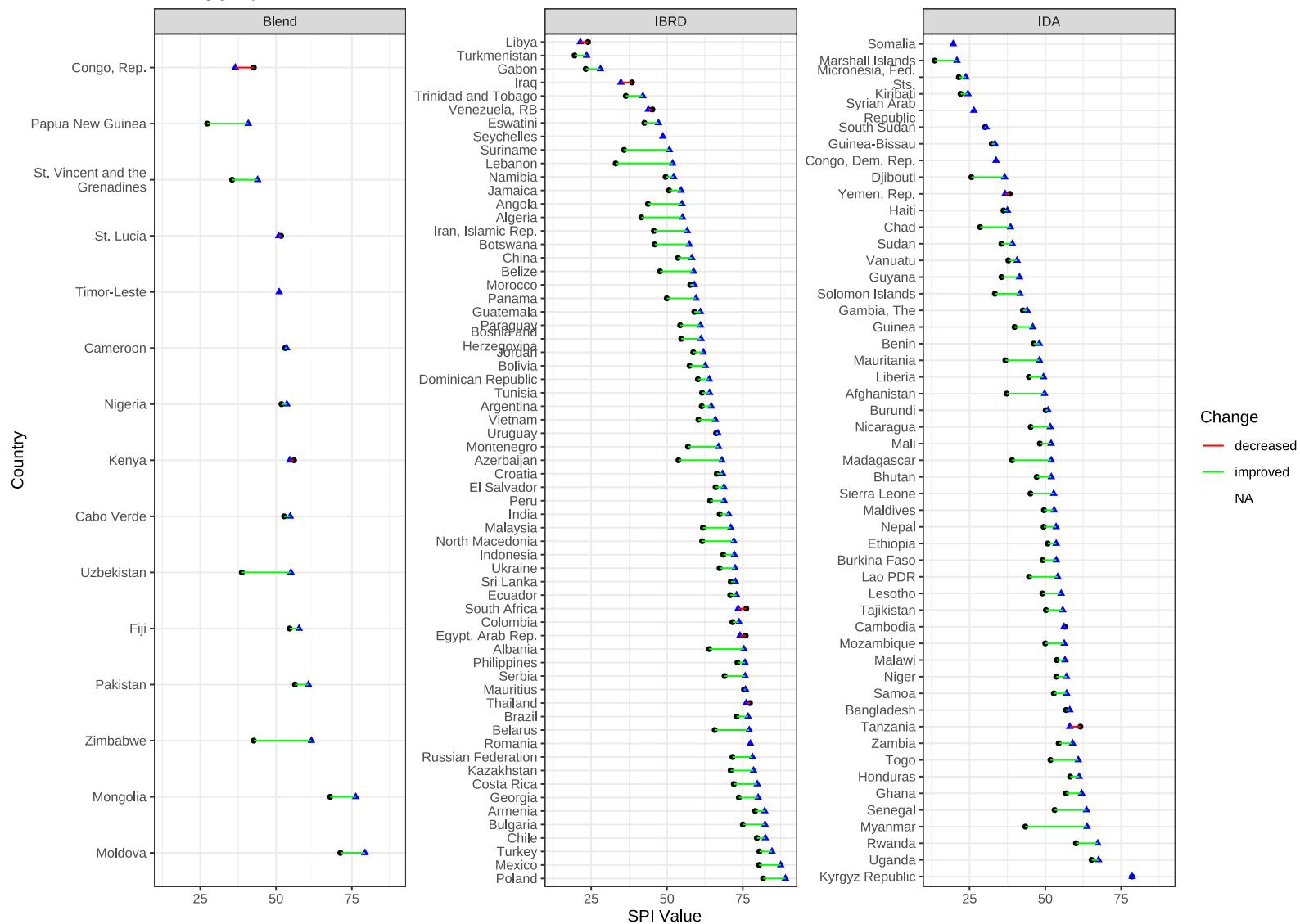


Countries in 2nd and 3rd deciles have grown most since 2016.
 Change in SPI Overall Score from 2016-19 by 2016 decile group



Change in SPI Overall Score from 2016 to 2019 by Lending Type

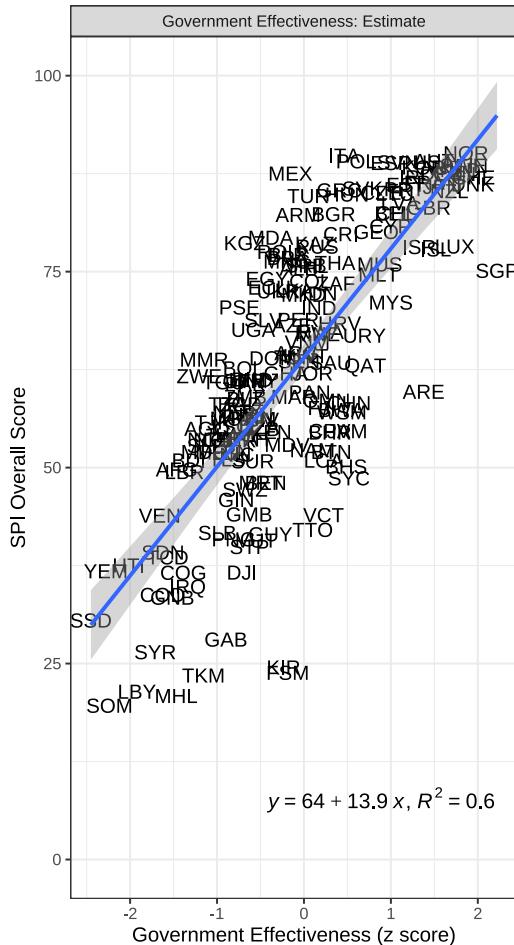
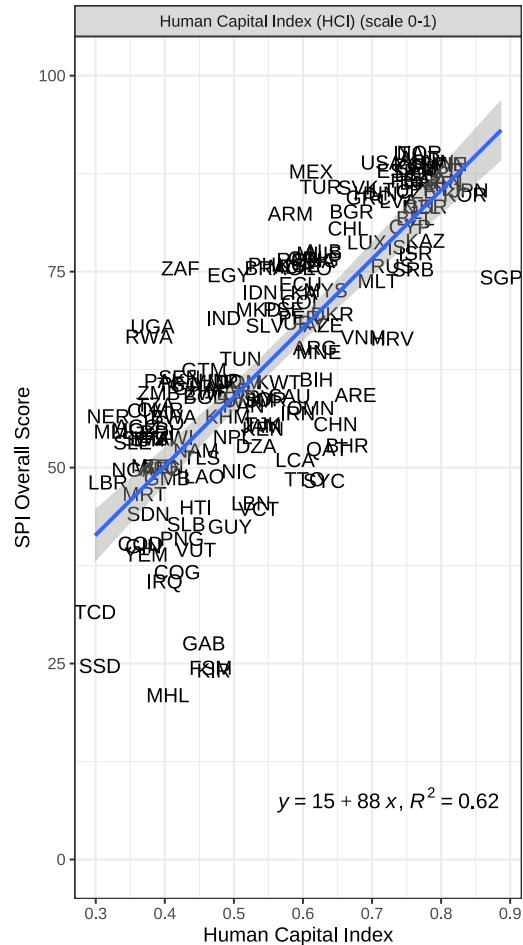
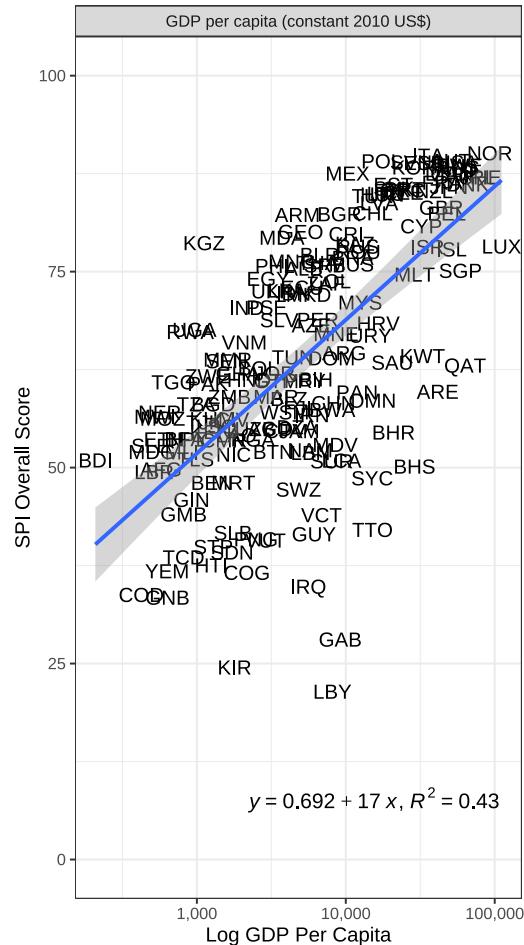
Lending group based on 2019 classification



Relationship to Other Outcomes

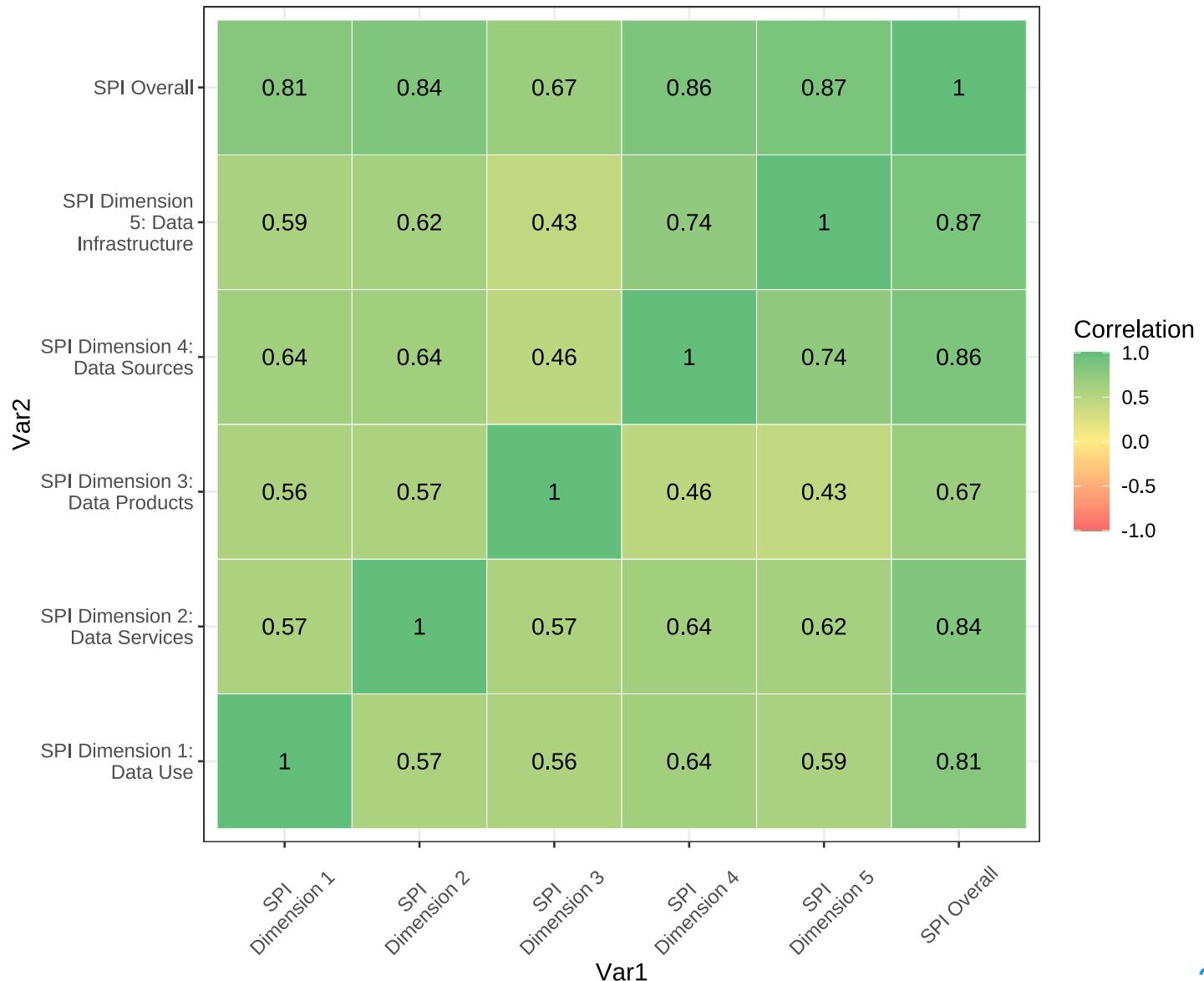
SPI Overall Scores strongly related to GDP per capita, Human Capital Index, and Government Effectiveness Index.

Plot of SPI Index on GDP per capita, Human Capital Index, and Government Effectiveness Index



Source: All indicators come from the World Bank.

Correlation Between SPI Dimensions



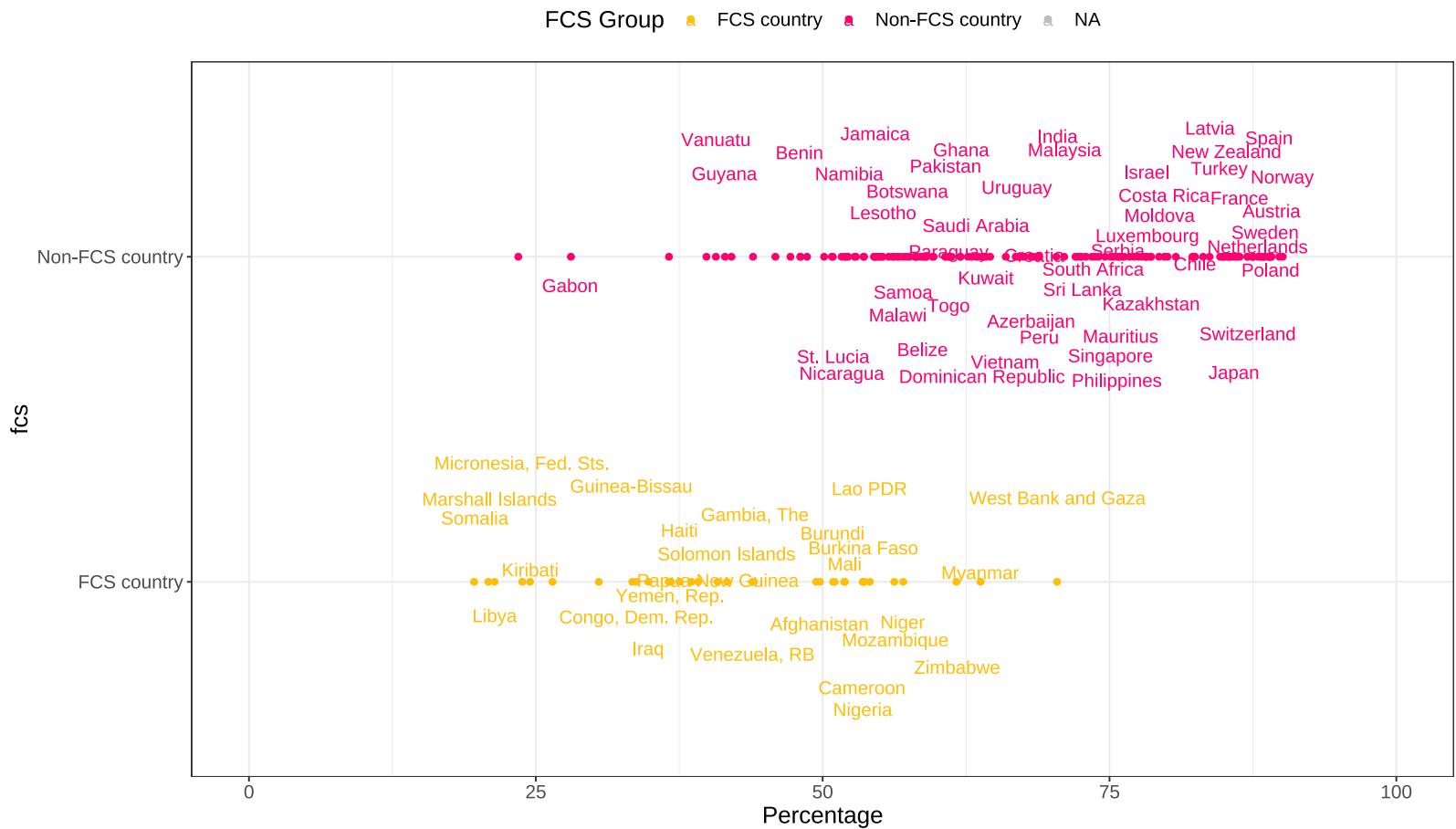
Conclusions

- Statistical Performance Indicators will be released at same time as new World Development Report
- Meant to aid in country engagement around statistical capacity
- All countries have room for improvement, including high income countries
- Framework is meant to be comprehensive & flexible enough to allow customization.

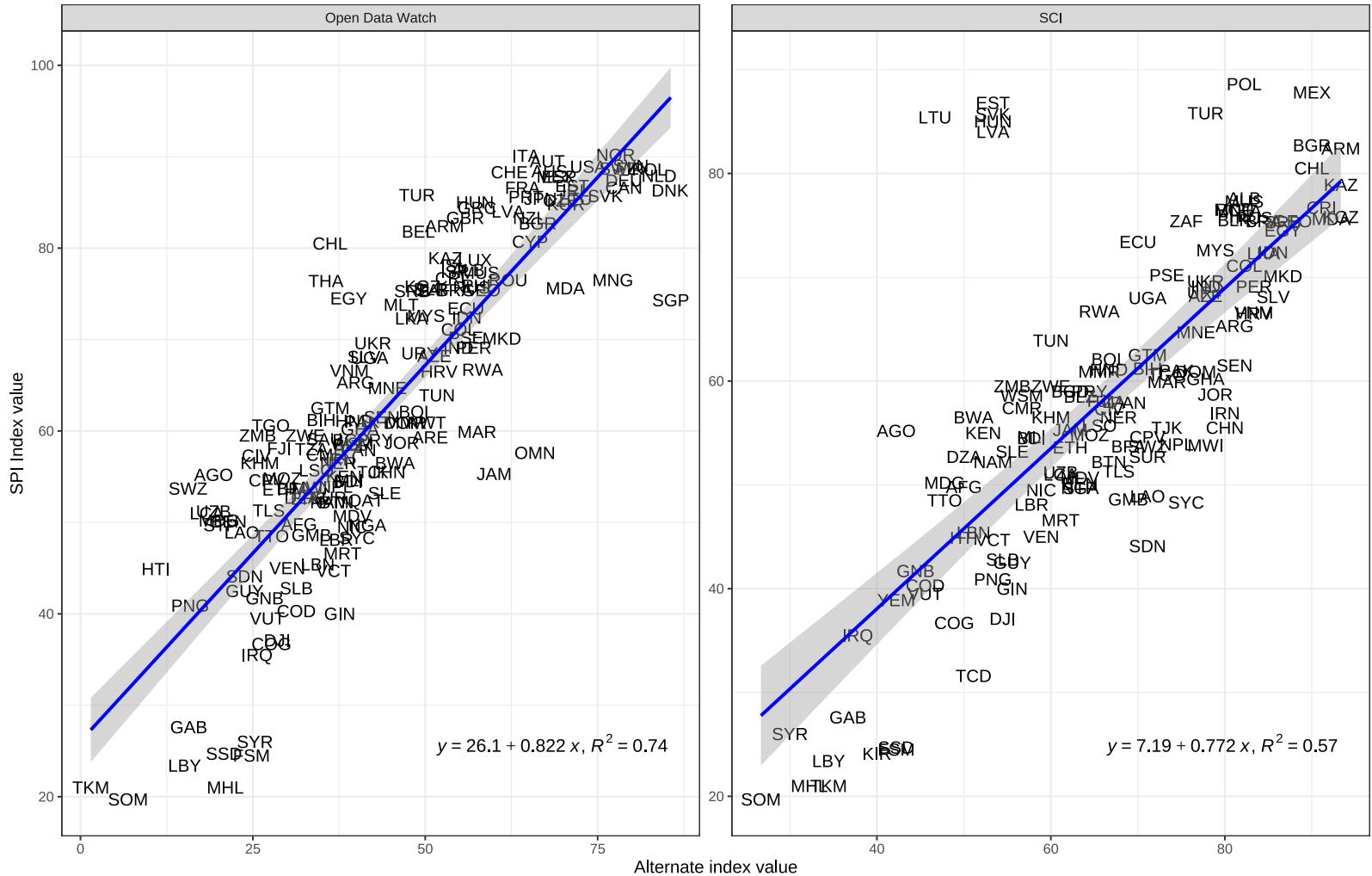
Supplementary Charts and Figures

Statistical Performance Indicators - Overall Scores - By Fragile and Conflict-affected Situations (FCS)

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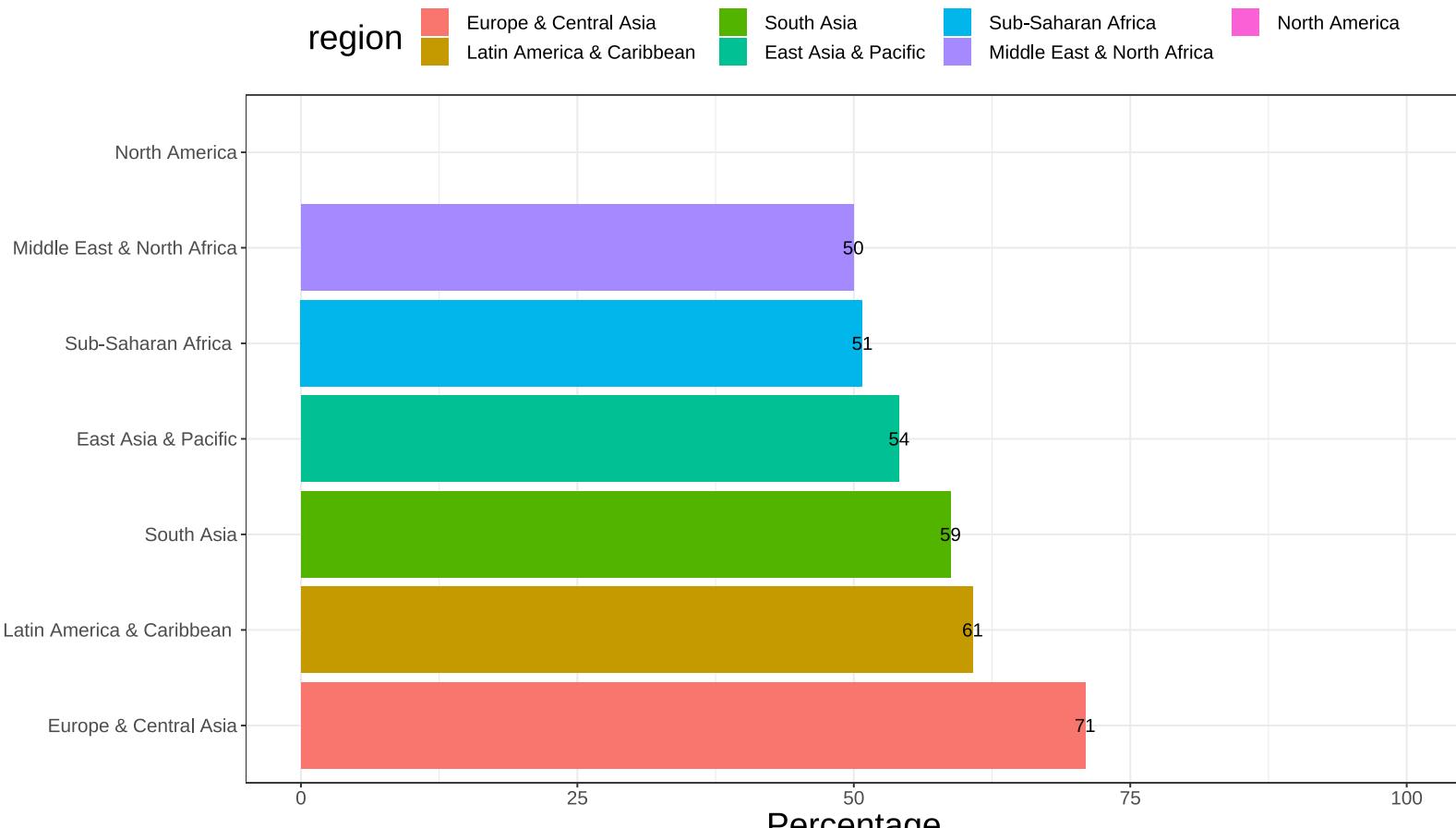


Scatterplot of SPI Index on Open Data Watch Index & SCI



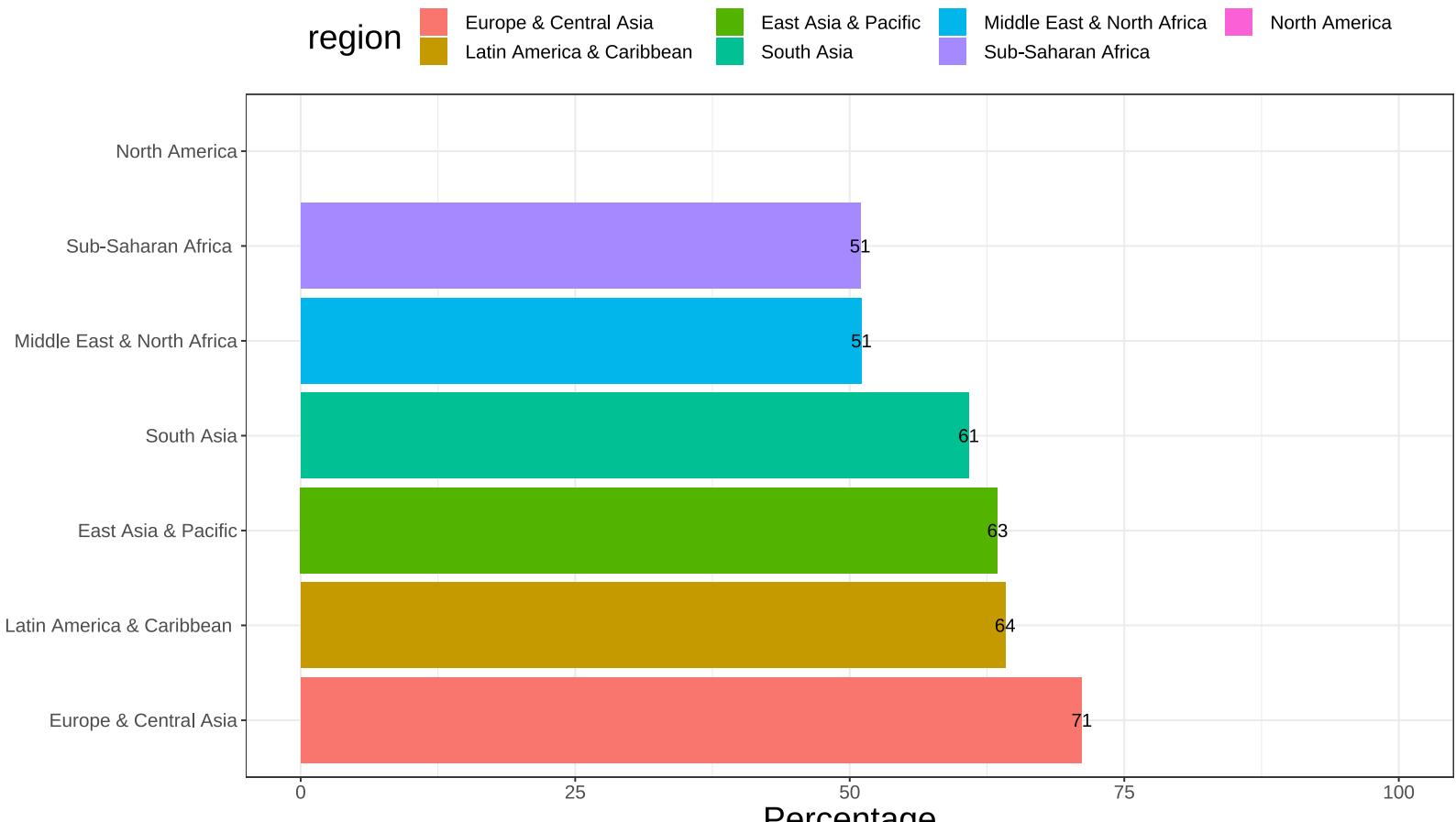
SPI Overall Scores (excluding High Income) - By Region

Data Point is for last year available (2019)



Source: SPI Indicators Raw Data

SPI Overall Scores (excluding High Income & populations less than Data Point is for last year available (2019))



Source: SPI Indicators Raw Data

Extra Slides

Data Use (5 Pillars)

- Pillar 1.1: Data use by national legislature:
 - *Not included because of lack of established methodology*
- Pillar 1.2: Data use by national executive branch:
 - *Researching method on use of statistics in Voluntary National Review documents*
- Pillar 1.3: Data use by civil society:
 - *Not included because of lack of established methodology*
- Pillar 1.4: Data use by academia:
 - *Not included because of lack of established methodology*
- **Pillar 1.5: Data use by international organizations:**
 - *Reliability/Usefulness of Poverty, Child Mortality, Debt Statistics, safely managed water, labor force data for international agencies using metadata*

Data Services (4 Pillars)

- **Pillar 2.1: Data Releases:**
 - *SDDS/e-GDDS subscription*
- **Pillar 2.2: Online access:**
 - *ODIN Open Data Openness score*
- Pillar 2.3: Advisory/ Analytical Services:
 - *Not included because of lack of established methodology*
- **Pillar 2.4: Data services:**
 - *NADA metadata available*

Data Products (4 Pillars)

For these pillars, we pull values from the UN SDG database, calculate the share of SDG indicators with a country produced value per country

- **Pillar 3.1: Social Statistics:**
 - *Average score for Goal 1-6 indicators*
- **Pillar 3.2: Economic Statistics:**
 - *Average score for Goal 7-12 indicators*
- **Pillar 3.3: Environmental Statistics:**
 - *Average score for Goal 13-15 indicators*
- **Pillar 3.4: Institutional Statistics:**
 - *Average score for Goal 16-17 indicators*

Data Sources (4 Pillars)

- **Pillar 4.1: Censuses and Surveys:**
 - *Average score of 8 Census and Survey Indicators*
- **Pillar 4.2: Administrative Data:**
 - *Complete CRVS, availability of SPL admin data (ASPIRE), Education admin data (UNESCO), Labor admin data (ILO)*
- **Pillar 4.3: Geospatial Data:**
 - *Geospatial data available at 1st Admin Level according to ODIN*
- Pillar 4.4: Private/citizen generated data:
 - *Not included because of lack of established methodology*

Data Infrastructure (5 Pillars)

- Pillar 5.1: Legislation and Governance:
 - *SDG 17.18.2 - National Statistical Legislation complies with UN Fundamental Principles of Statistics (PARIS21)*
- **Pillar 5.2: Standards and Methods:**
 - *Average score for 10 Standards and Methods indicators sourced mostly from IMF*
- Pillar 5.3: Skills:
 - *Considering PARIS21 measure of statistical literacy*
- Pillar 5.4: Partnerships:
 - *Not included because of lack of established methodology*
- Pillar 5.5: Finance:
 - *SDG 17.18.3 - Statistical Plan fully funded (PARIS21)*