**Accuracy Award Approach Description**

# **Entry 1 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| 1. Data processing steps: (a) Data downloaded from Eurostat databrowser as SDMC-CSV format. (b) Import the data in R (c) Convert the time variable into a Date class (d) Convert the data into tsibble format with time variable as index and country variables as key. 2. Methods and models used: A combination of statistical methods have been used. The combination is calculated by averaging the point estimates from three methods, namely, ARIMA, ETS and Theta. 3. Processing time: About 1 minute or less. |

# **Entry 2 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| 1. Data processing steps: (a) Data downloaded from Eurostat databrowser as SDMC-CSV format. (b) Import the data in R (c) Convert the time variable into a Date class (d) Convert the data into tsibble format with time variable as index and country variables as key. 2. Methods and models used: A combination of statistical methods have been used. The combination is calculated by averaging the point estimates from two methods, namely, ARIMA, and ETS. 3. Processing time: About 1 minute or less. |

# **Entry 3 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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| 1. Data processing steps: (a) Data downloaded from Eurostat databrowser as SDMC-CSV format. (b) Import the data in R (c) Convert the time variable into a Date class (d) Convert the data into tsibble format with time variable as index and country variables as key. 2. Methods and models used: ARIMA 3. Processing time: About 1 minute or less. |

# **Entry 4 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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# **Entry 5 - Approach**

Please provide a short description of the approach used to calculate the point estimates for the selected countries. The description should contain (1) the data processing steps, (2) the methods and models used, and (3) the time it took to calculate the point estimates.

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# **Short description of the Team – area of expertise (optional)**

Please provide a description of the team and all team members, your area of expertise and contact information.

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| Haseeb Mahmud  Area of expertise: Machine learning, statistics, HPC infrastructure design and implementation.  Address: Zähringerstraße 17, 65189 Wiesbaden  Germany  Phone: +4917657860809  Email: haseeb.mahmud@gmail.com |