

Education Statistics

by The World Bank

by Pittawat Taveekitworachai 61130500220

May 12, 2021

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- Education help country innovate

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- **But there are a lot of the myths in Thailand education**
- **Let's see if those myths are true!!!**

Dataset

Education Statistics by World Bank

- The World Bank EdStats All Indicator Query holds over **4,000 internationally comparable indicators** that describe education access, progression, completion, literacy, teachers, population, and expenditures. The indicators cover the education cycle **from pre-primary to vocational and tertiary education**. The query also holds learning outcome data from **international and regional learning assessments** (e.g. PISA, TIMSS, PIRLS), **equity data** from household surveys, and **projection/attainment data to 2050**. For further information, please visit the EdStats website.^[1]
- Last Updated: **March 13, 2020**

^[1] <https://datacatalog.worldbank.org/dataset/education-statistics>

Some Interesting Data Preprocessing

How the data look like?

[illegible]

Some Interesting Data Preprocessing

`pandas.melt`

- Unpivot a DataFrame from wide to long format, optionally leaving identifiers set.
- This function is useful to massage a DataFrame into a format where one or more columns are identifier variables (`id_vars`), while all other columns, considered measured variables (`value_vars`), are “unpivoted” to the row axis, leaving just two non-identifier columns, ‘variable’ and ‘value’.

Some Interesting Data Preprocessing

`pandas.melt`

```
education = education.melt(id_vars=['Country Name',  
    'Country Code', 'Indicator Name', 'Indicator Code'],  
    var_name='Year',  
    value_name='Value')
```

Some Interesting Data Preprocessing

pandas.melt

	Country Name	Country Code	Indicator Name	Indicator Code	Year	Value
0	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2	1970-01-01	NaN
1	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.F	1970-01-01	NaN
2	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.GPI	1970-01-01	NaN
3	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.M	1970-01-01	NaN
4	Arab World	ARB	Adjusted net enrolment rate, primary, both sex...	SE.PRM.TENR	1970-01-01	54.822121

Some Interesting Data Preprocessing

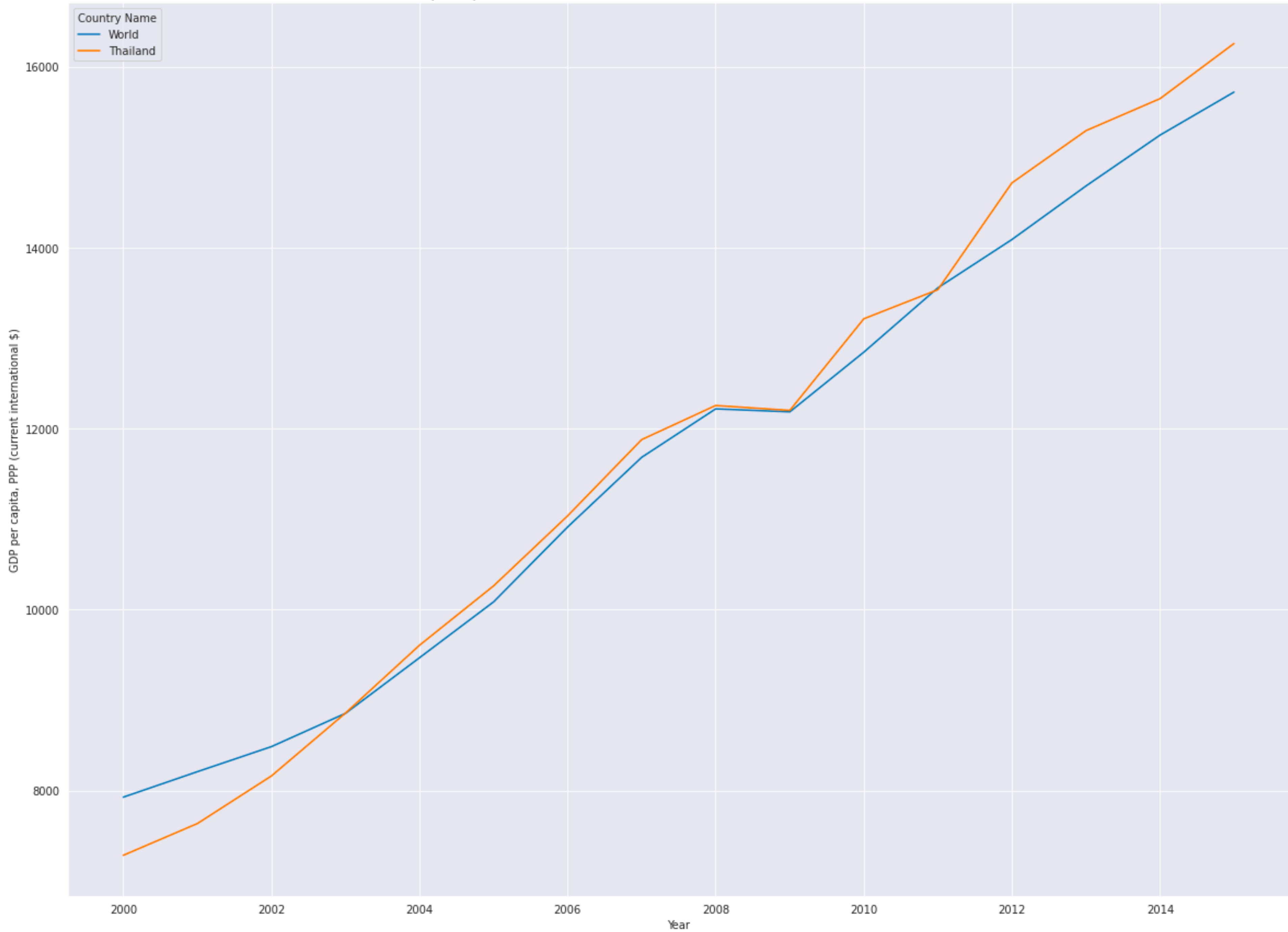
pandas.melt

	Country Name	Country Code	Indicator Name	Indicator Code	Year	Value
0	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2	1970-01-01	NaN
1	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.F	1970-01-01	NaN
2	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.GPI	1970-01-01	NaN
3	Arab World	ARB	Adjusted net enrolment rate, lower secondary, ...	UIS.NERA.2.M	1970-01-01	NaN
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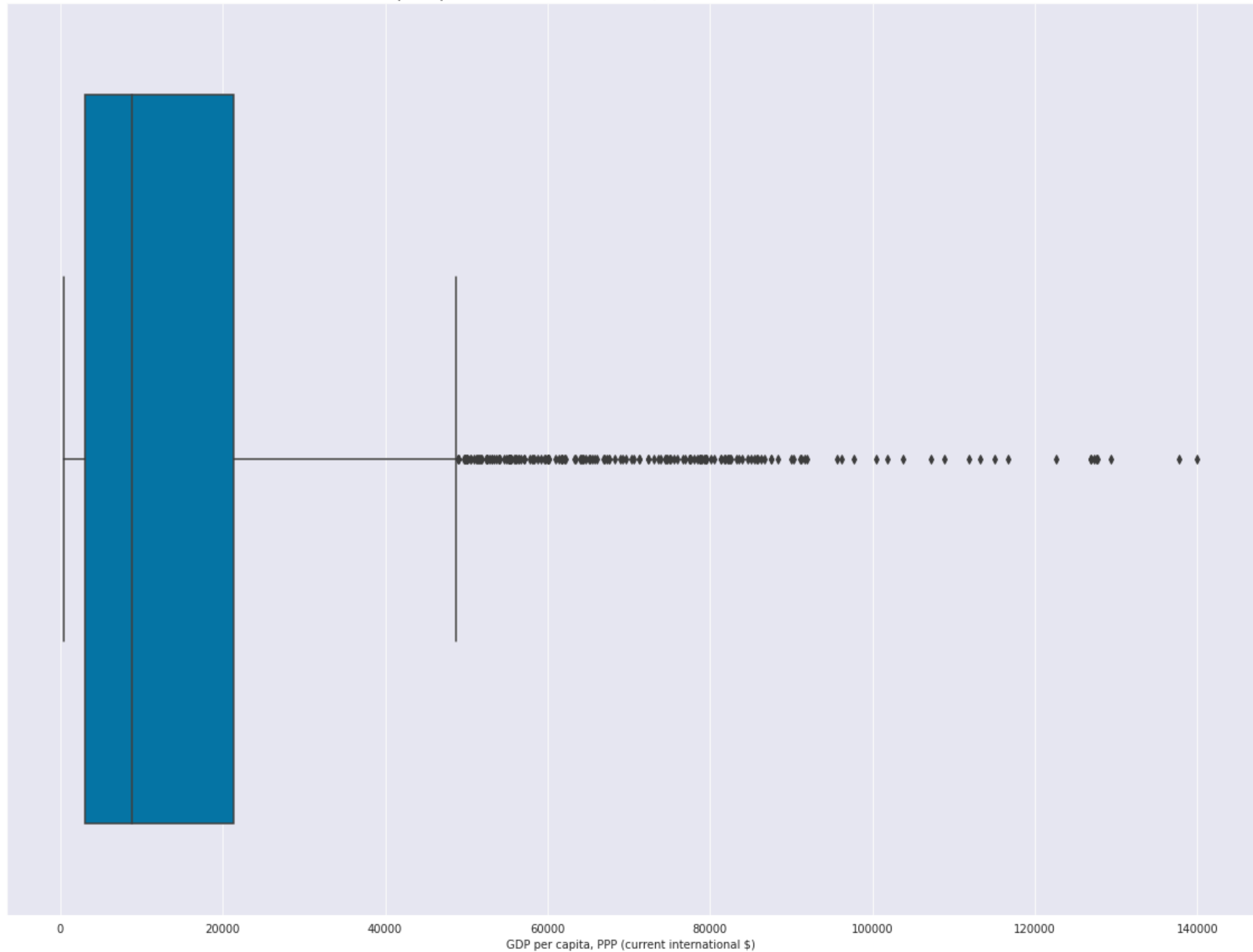
Visualizations

**GDP (PPP) per capita
(international current \$)**

GDP per capita, PPP (current international \$) of Thailand vs World from 2000 to 2015

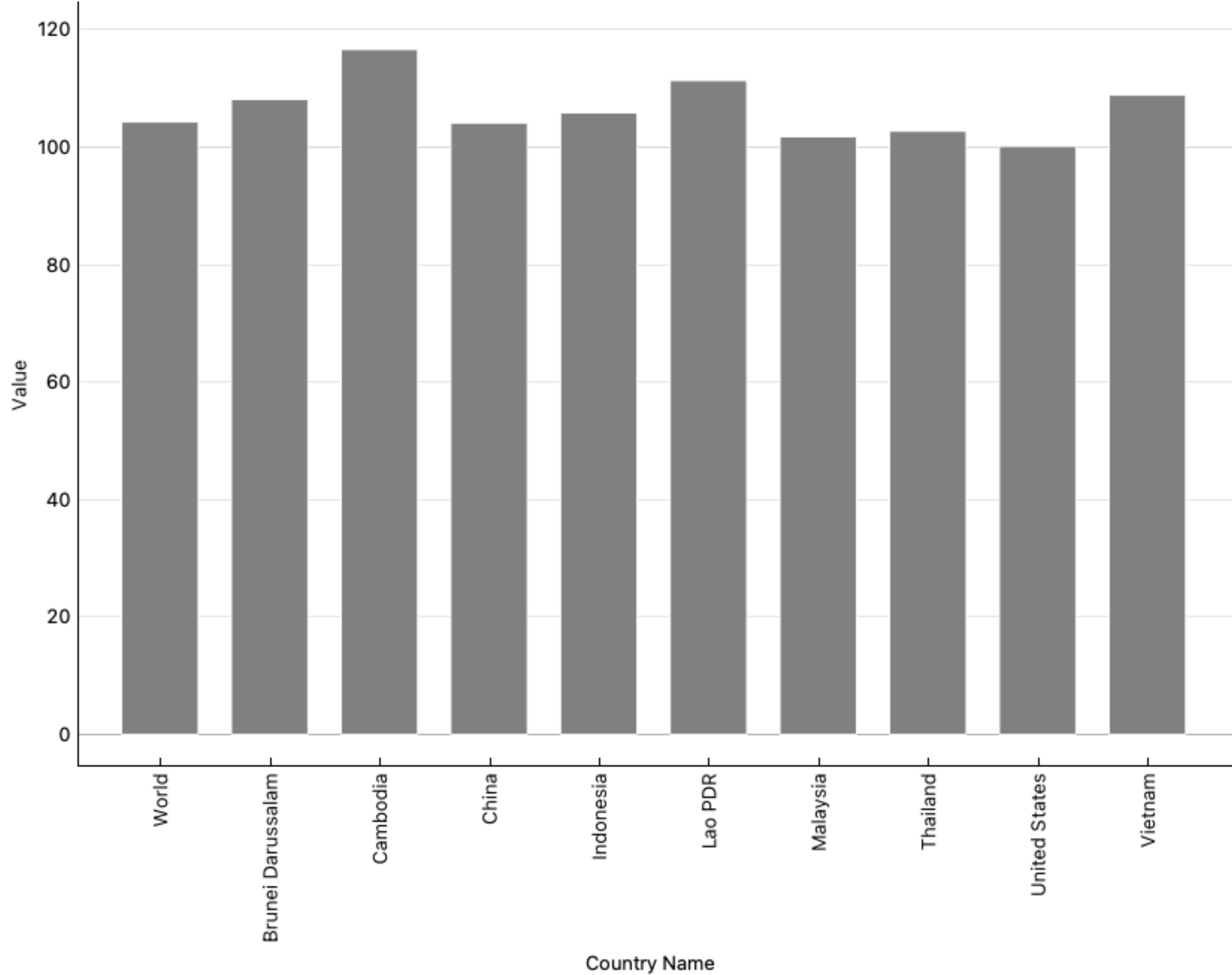


GDP per capita, PPP (current international \$) of whole World from 2000 to 2015

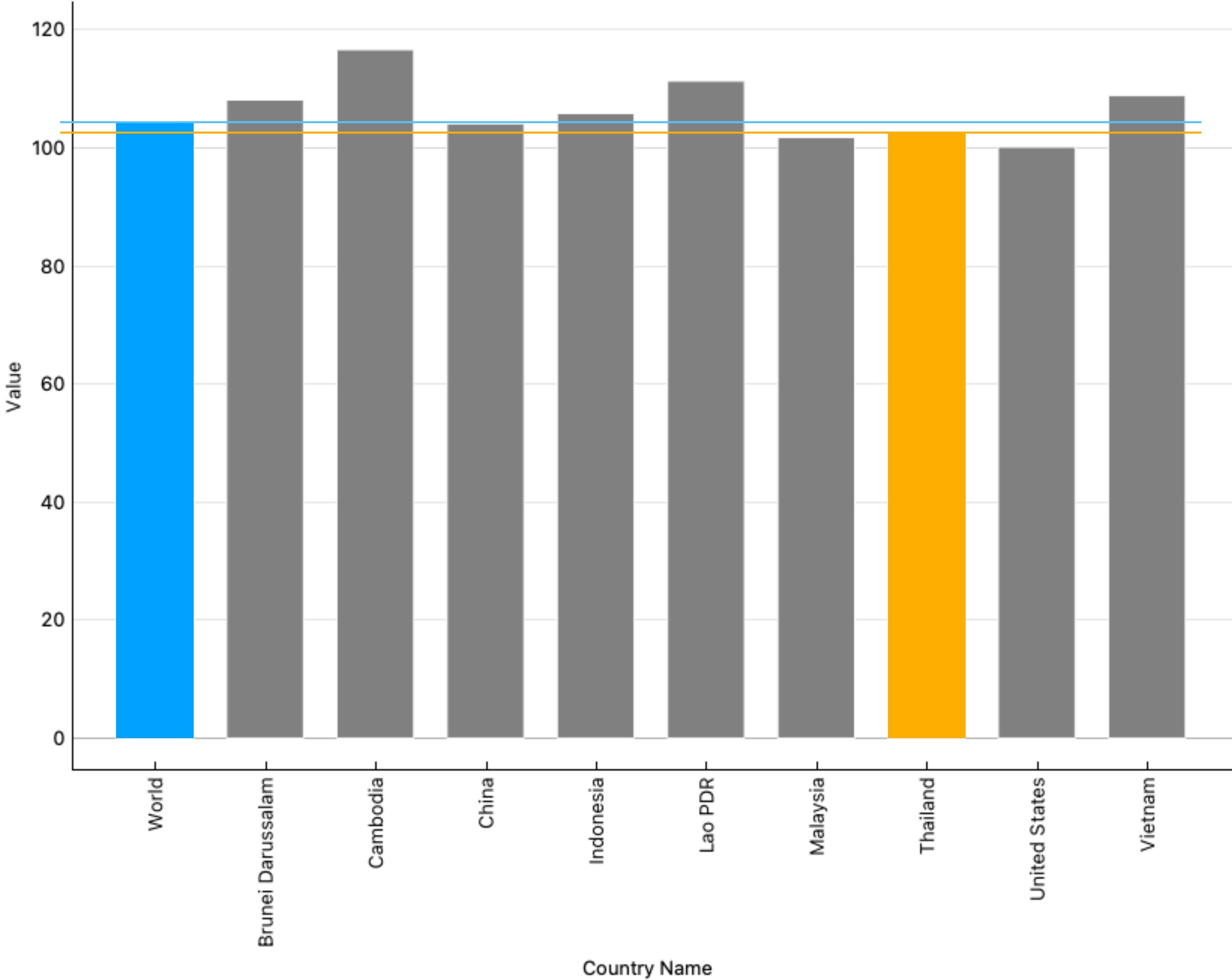


Primary School Enrollment (GER)

Primary School Enrollment (Gross Enrollment Ratio) in 2015

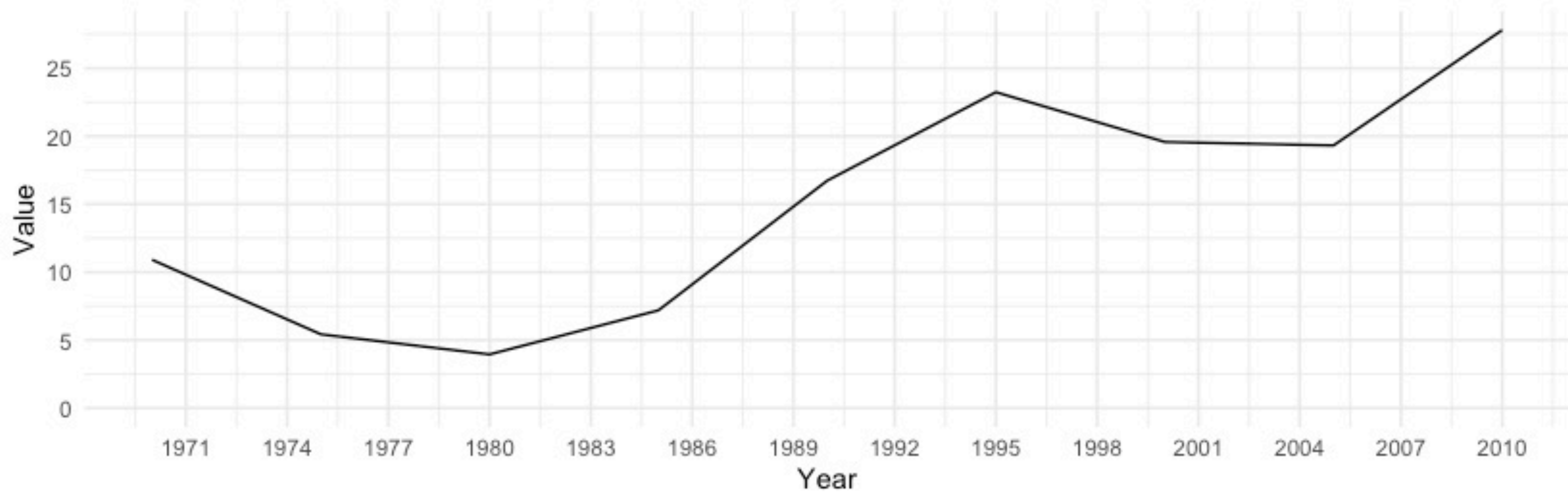


Primary School Enrollment (Gross Enrollment Ratio) in 2015

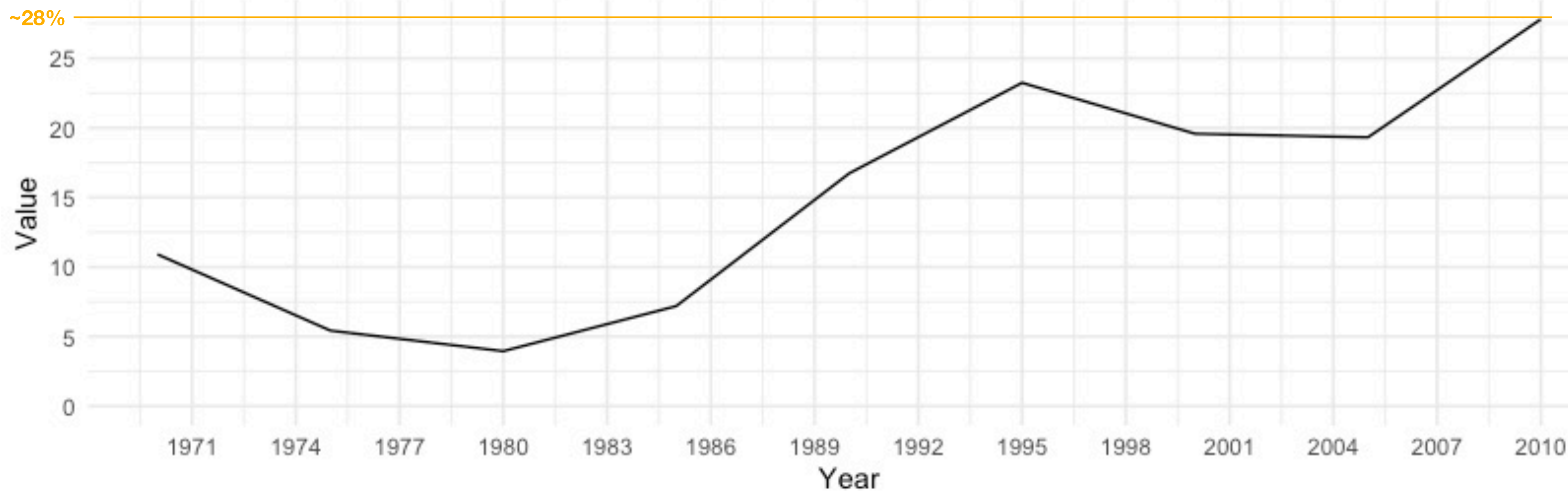


Primary School Completed

Percentage of Primary Education Completed of Thailand from 1970 - 2010

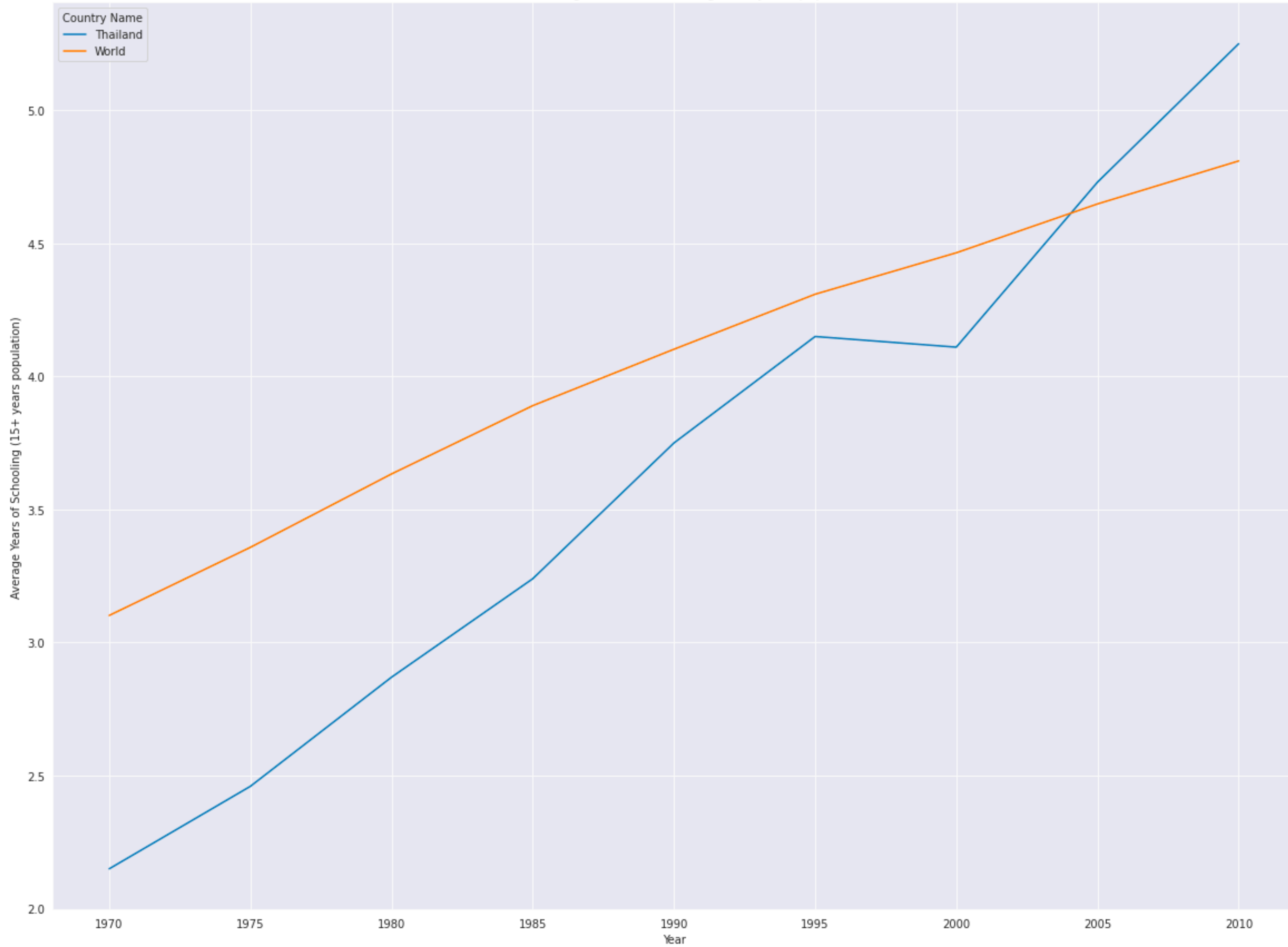


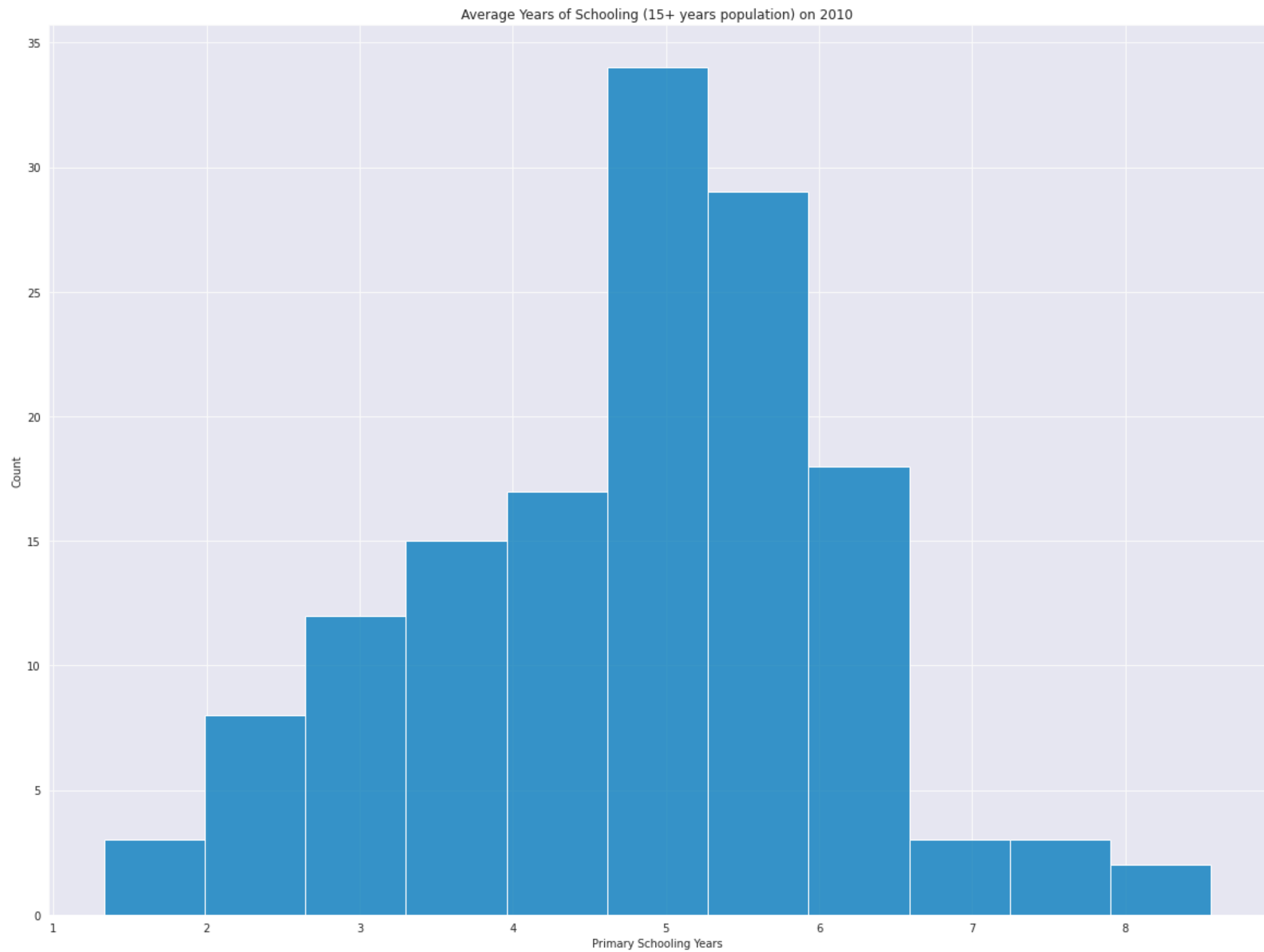
Percentage of Primary Education Completed of Thailand from 1970 - 2010

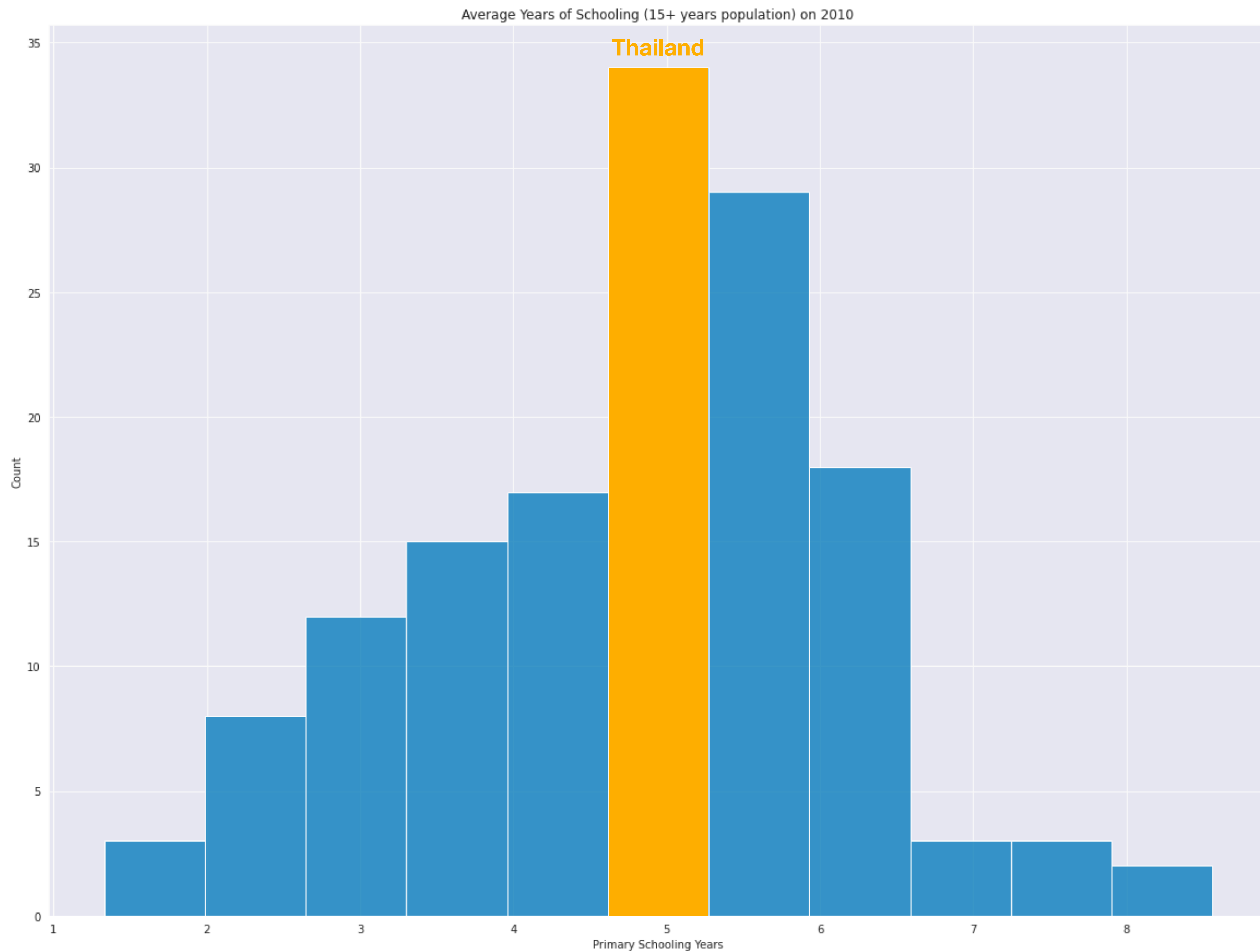


Average Primary Schooling Years (Population with age 15+)

Thailand Average Years of Schooling (15+ years population)

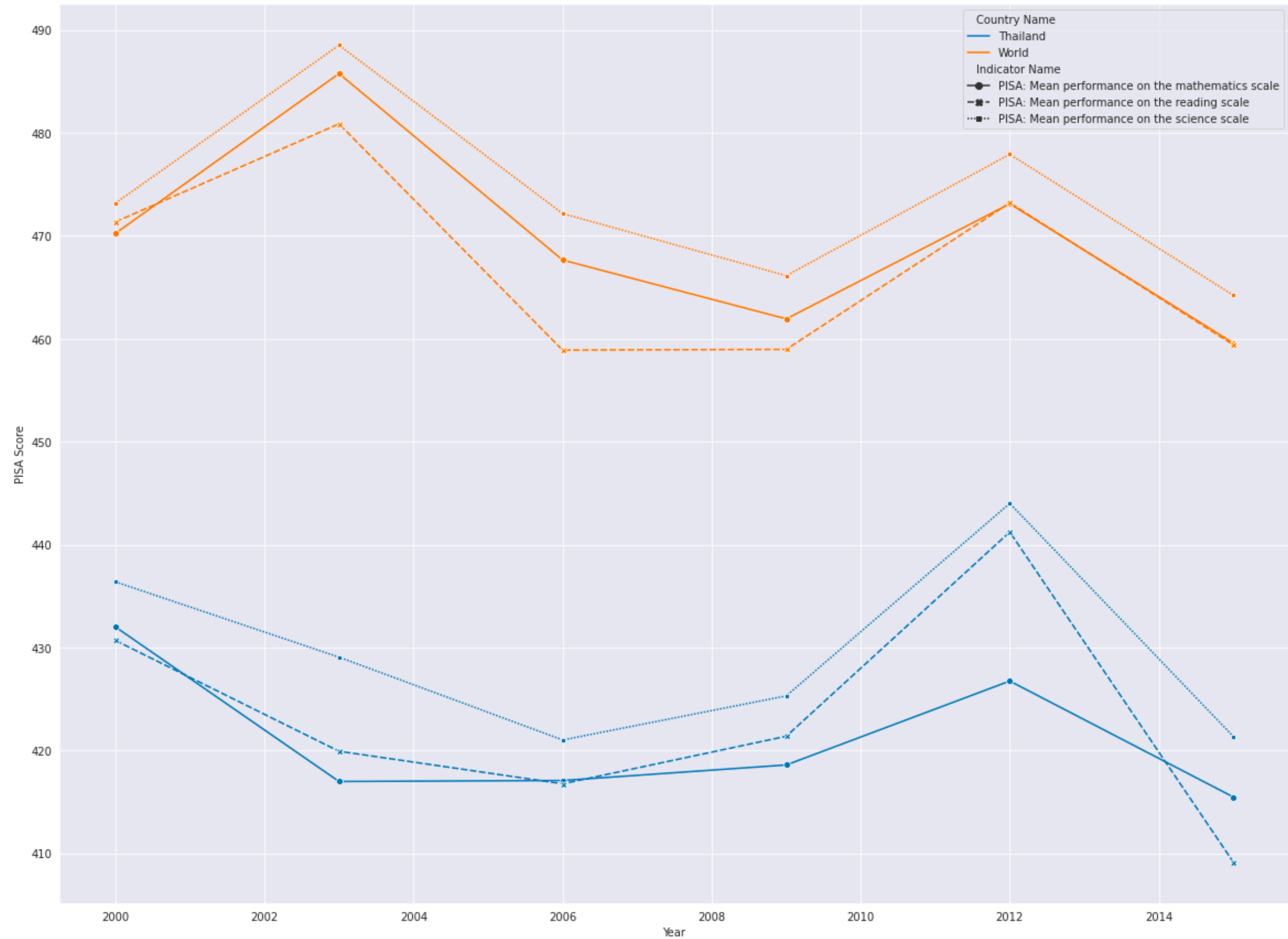






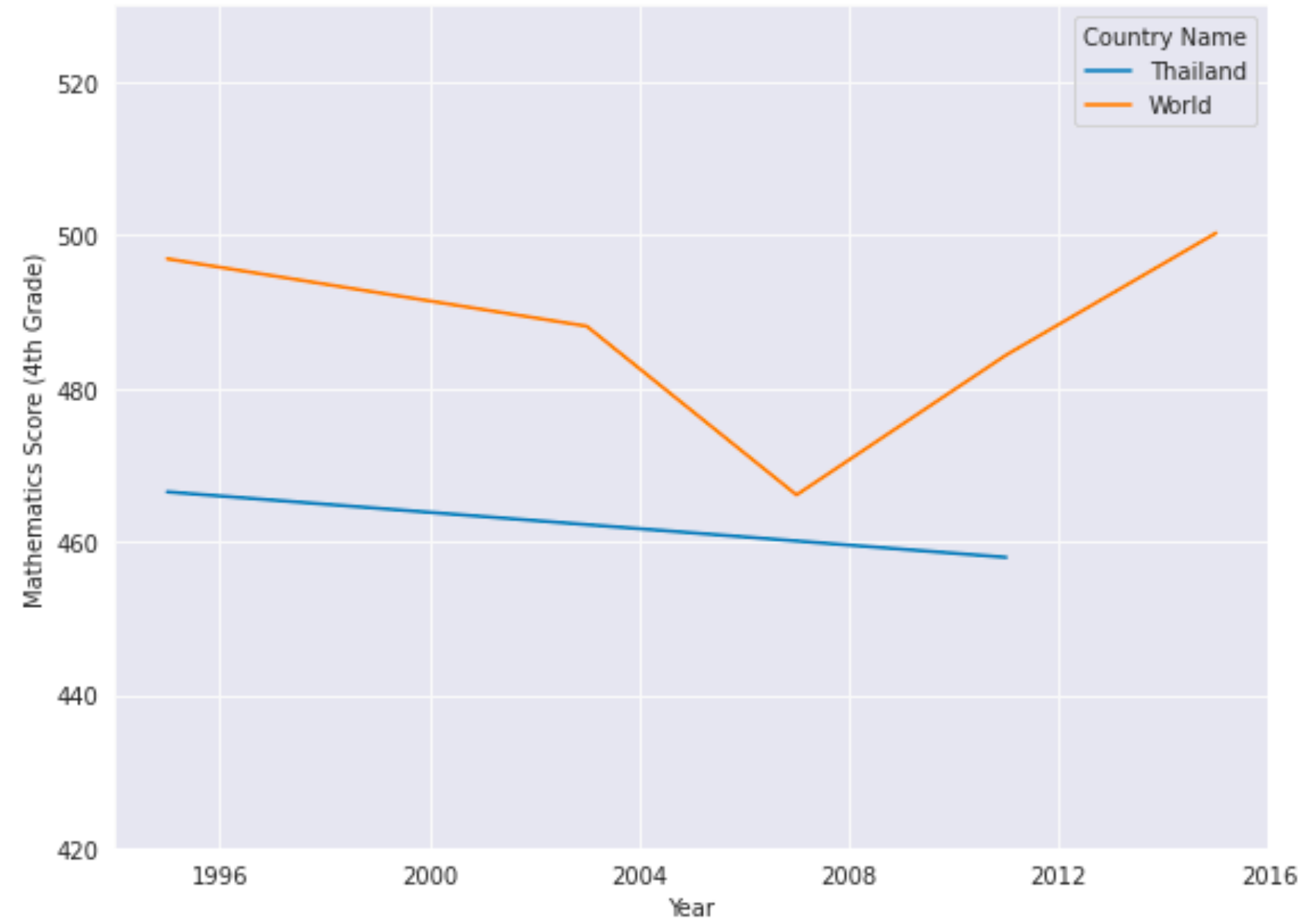
PISA

PISA Score of Thailand vs World from 2000 to 2015

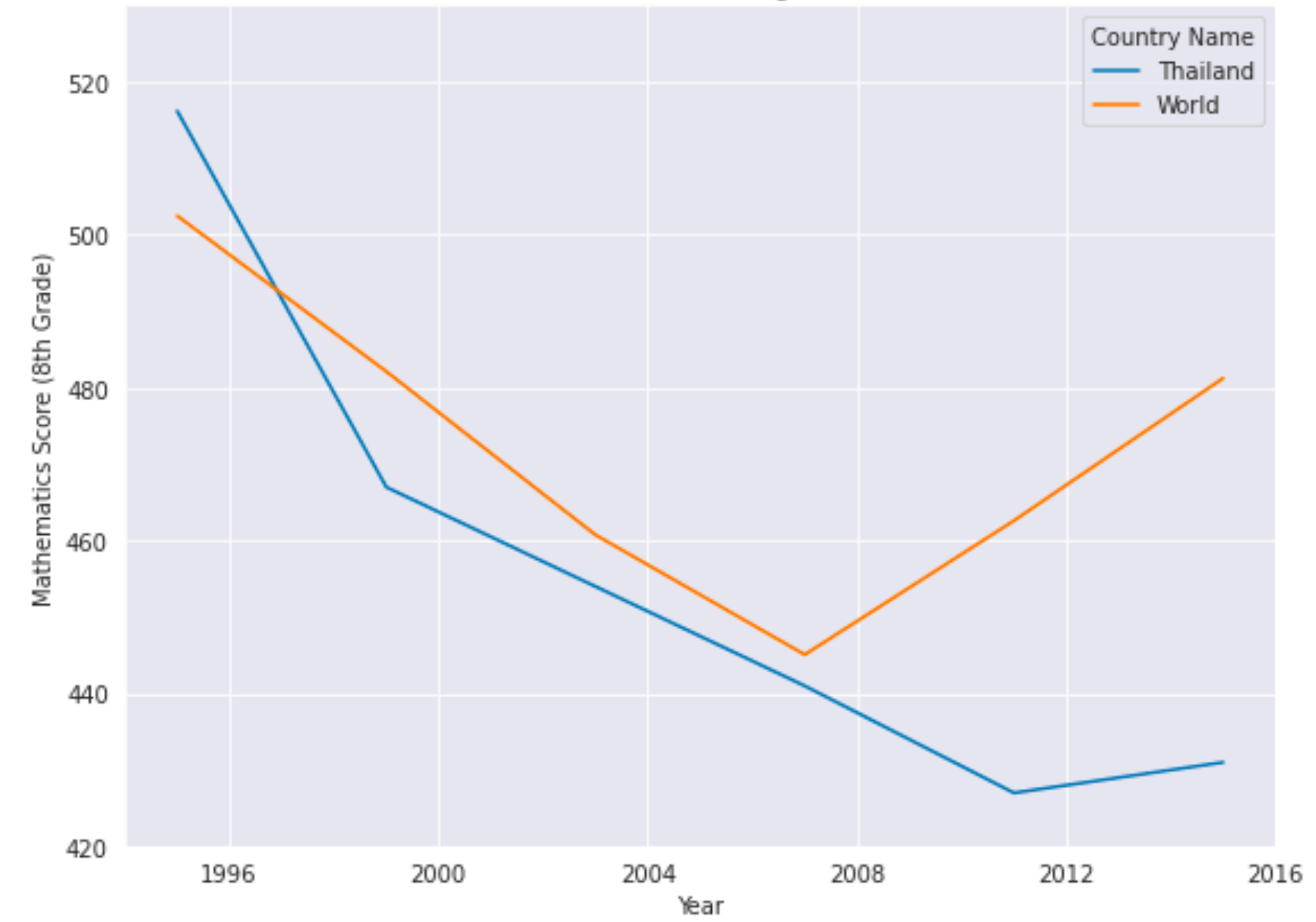


TIMSS

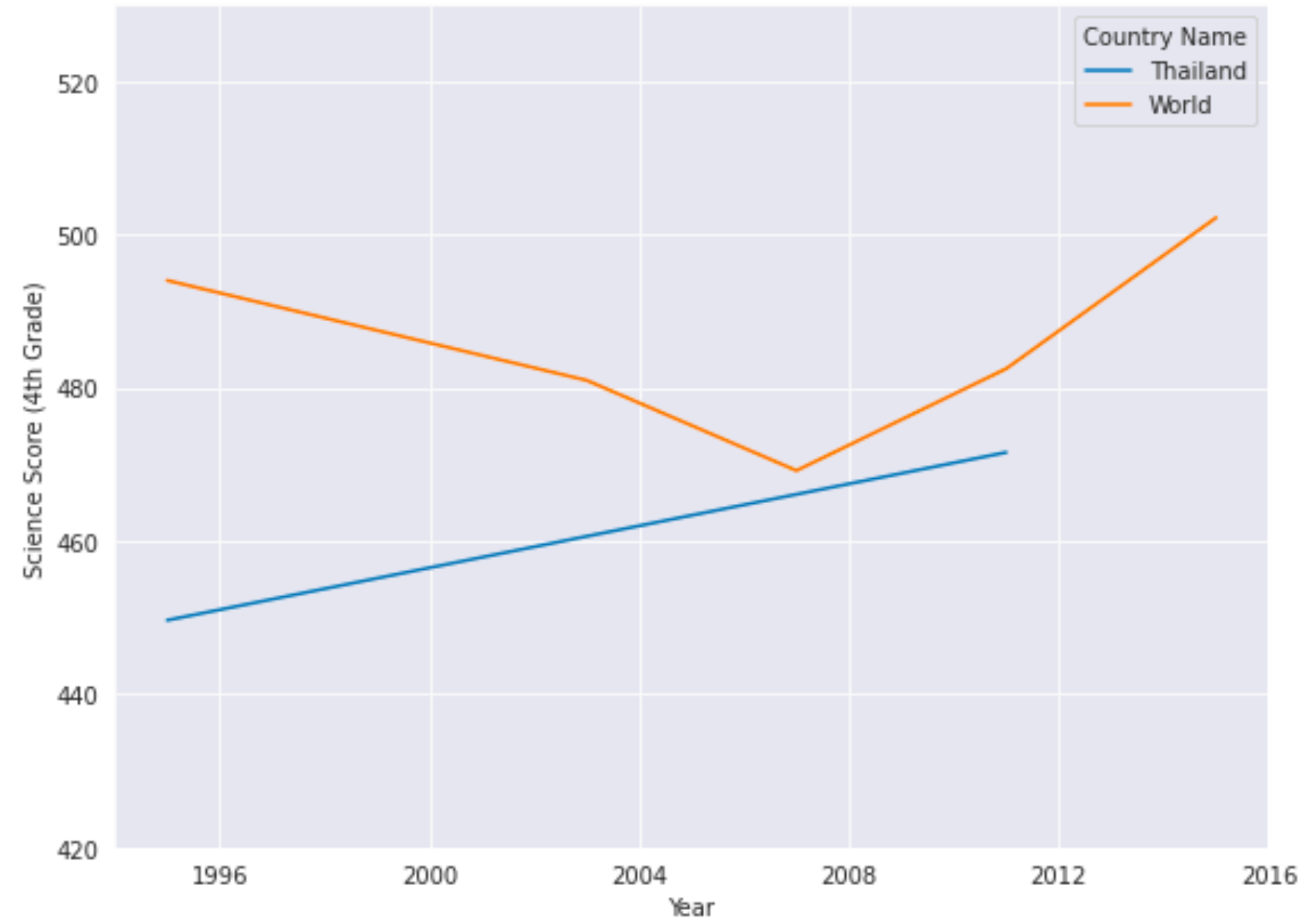
TIMSS Mathematics Score of Fourth Grade Student



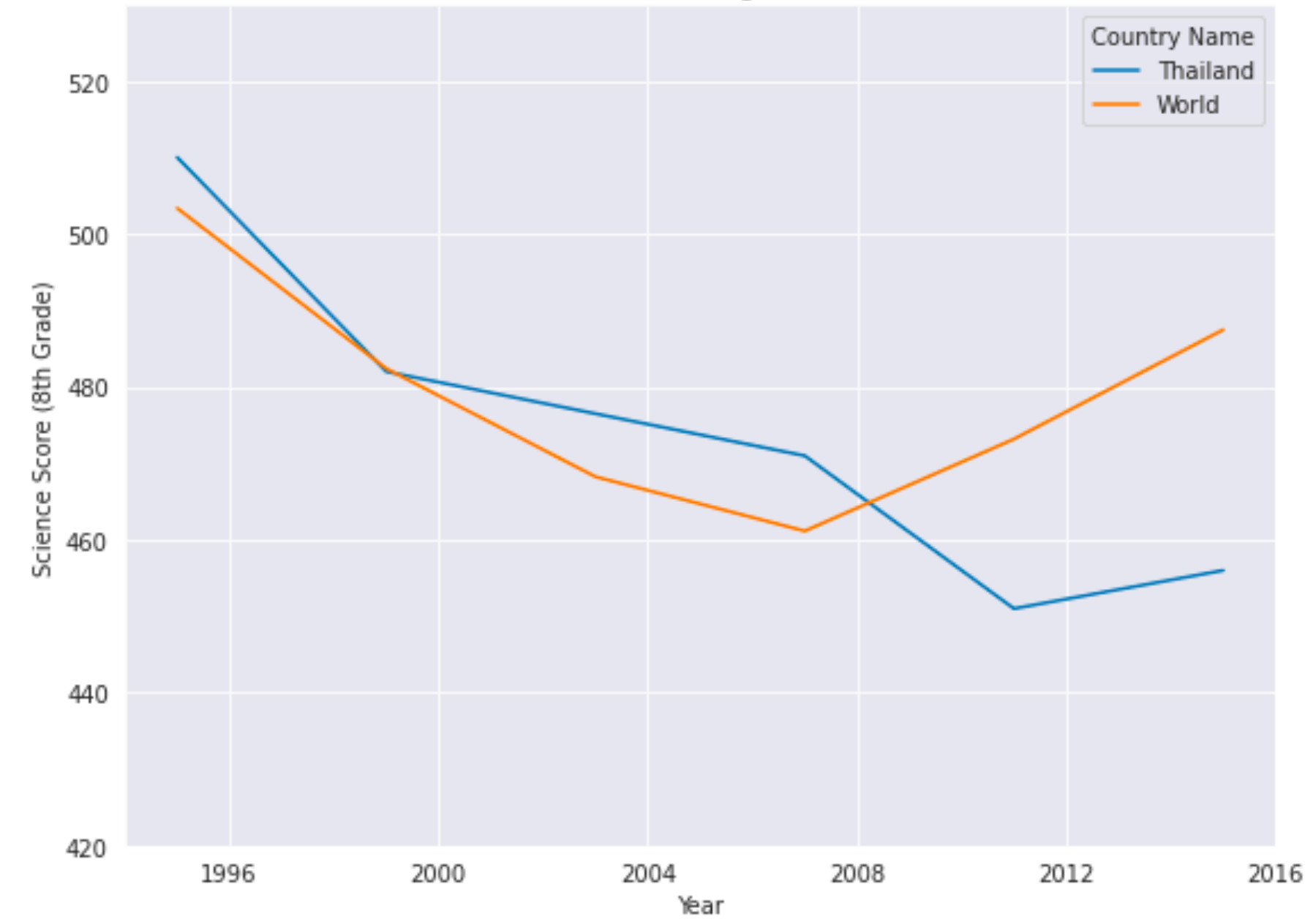
TIMSS Mathematics Score of Eighth Grade Student

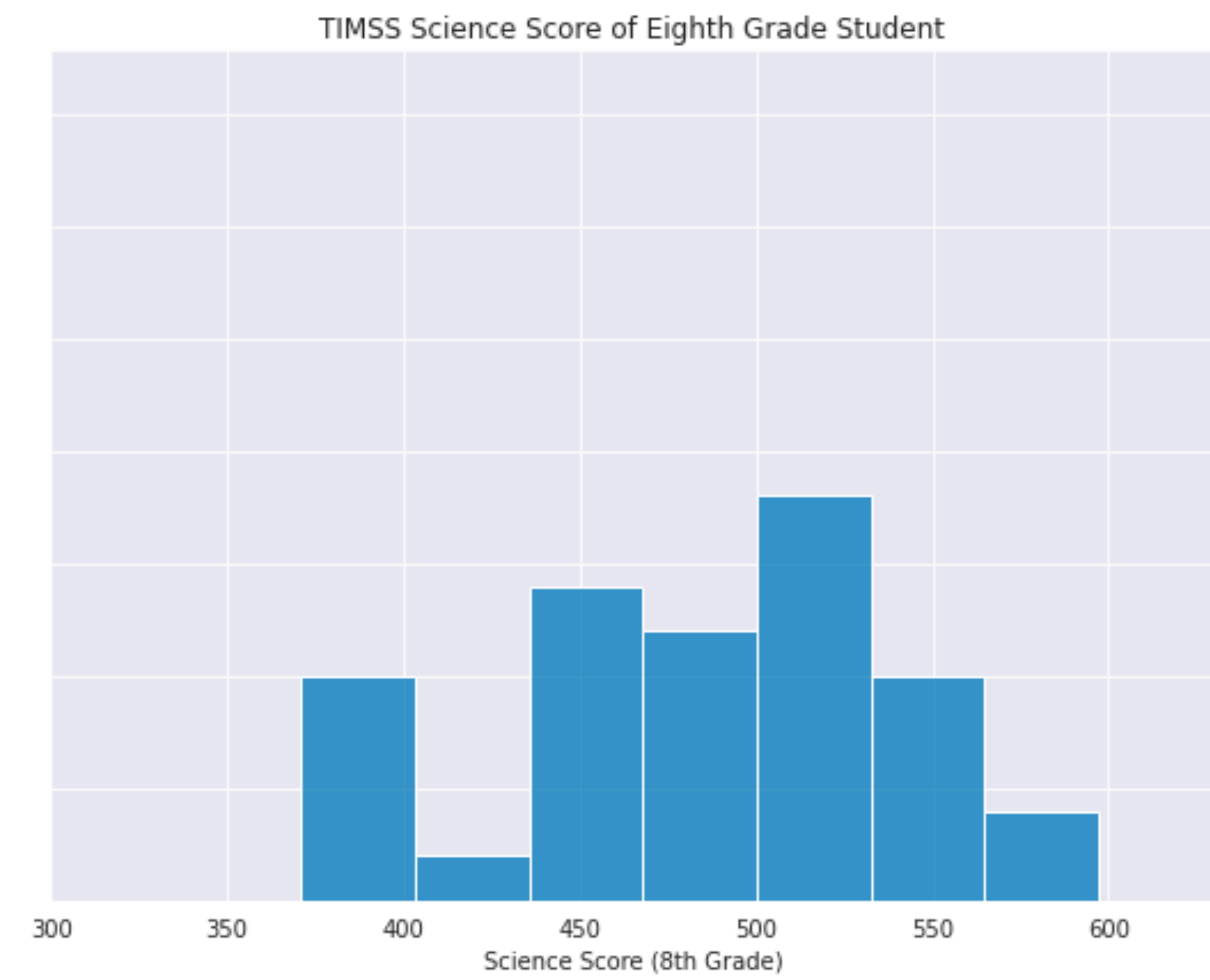
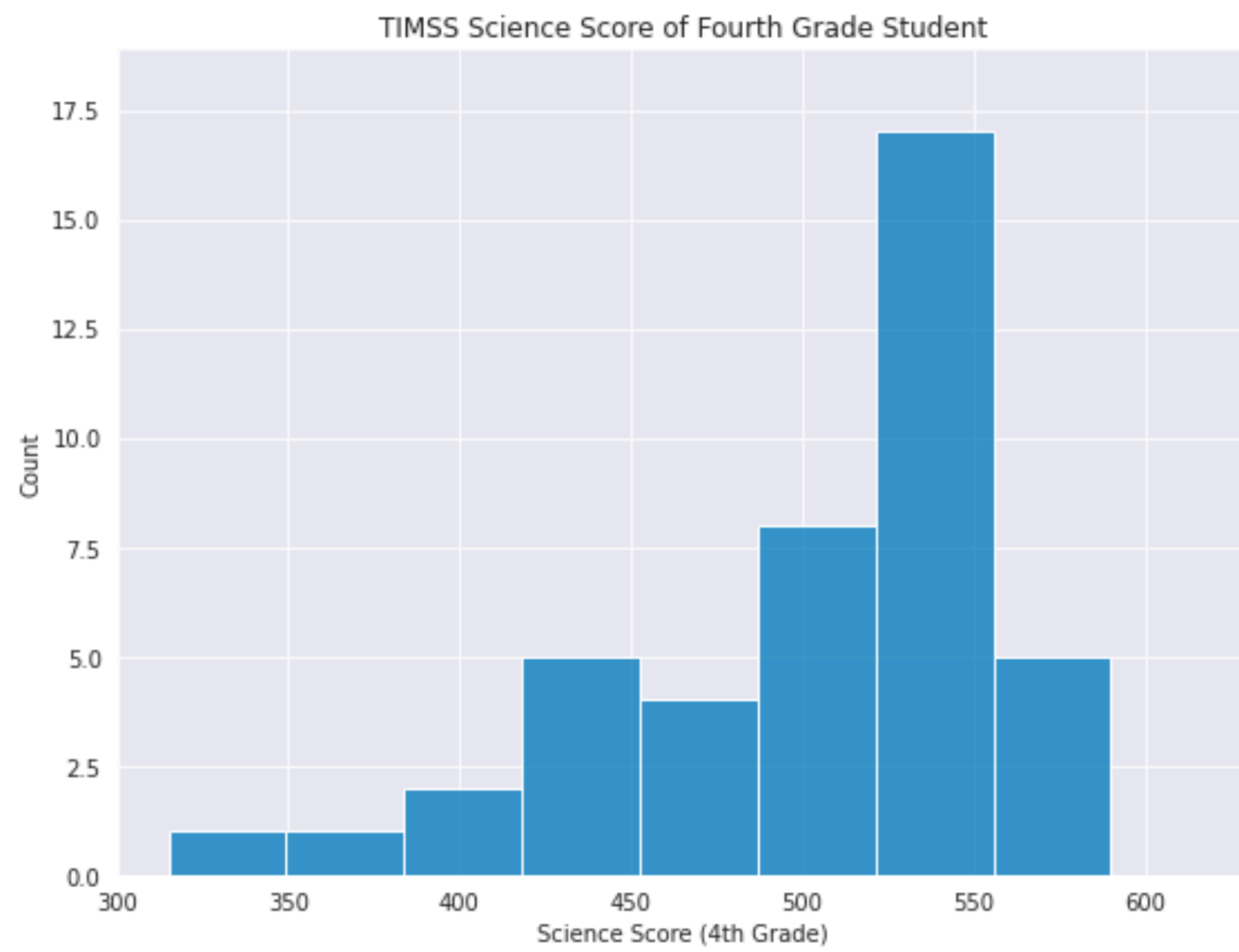
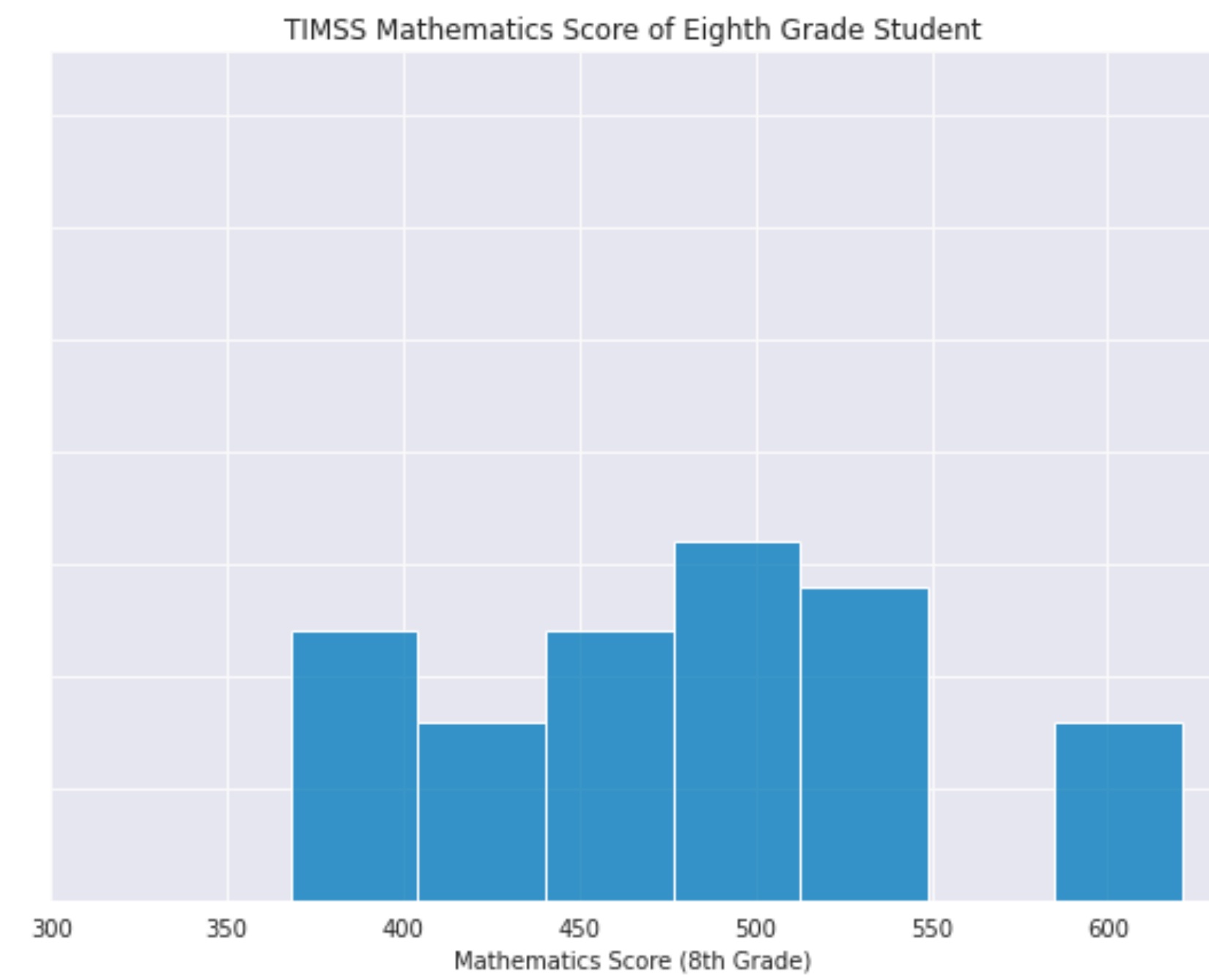
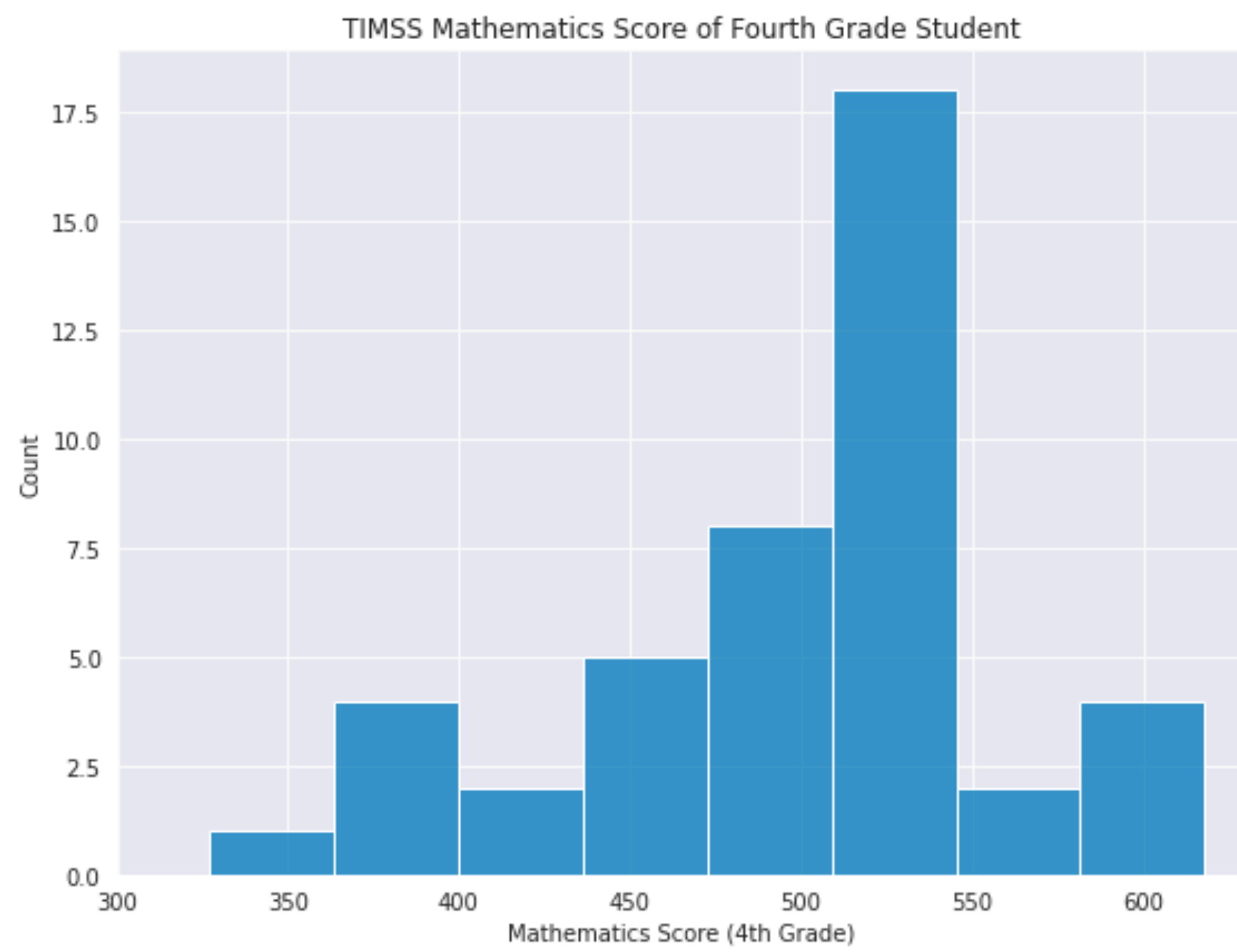


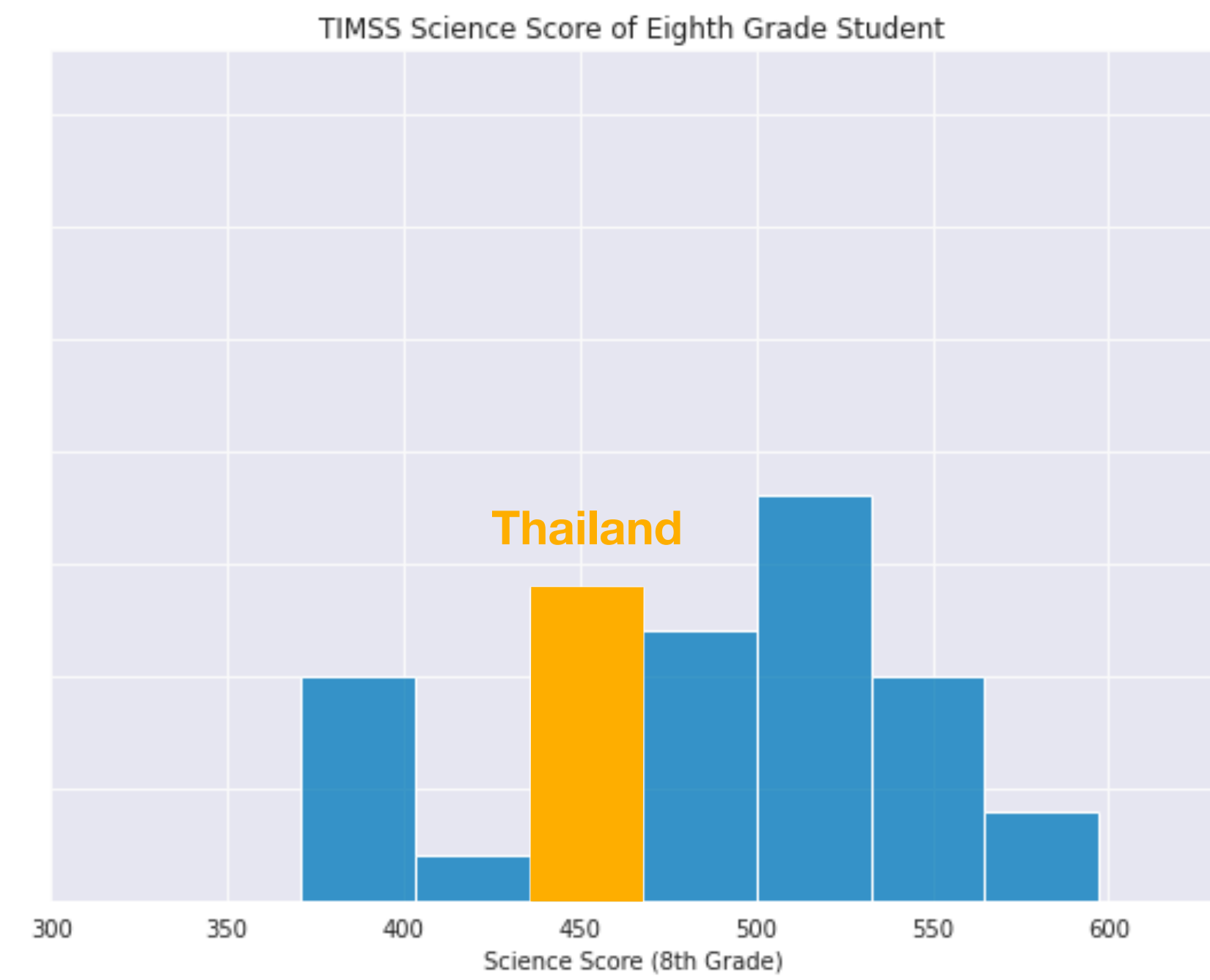
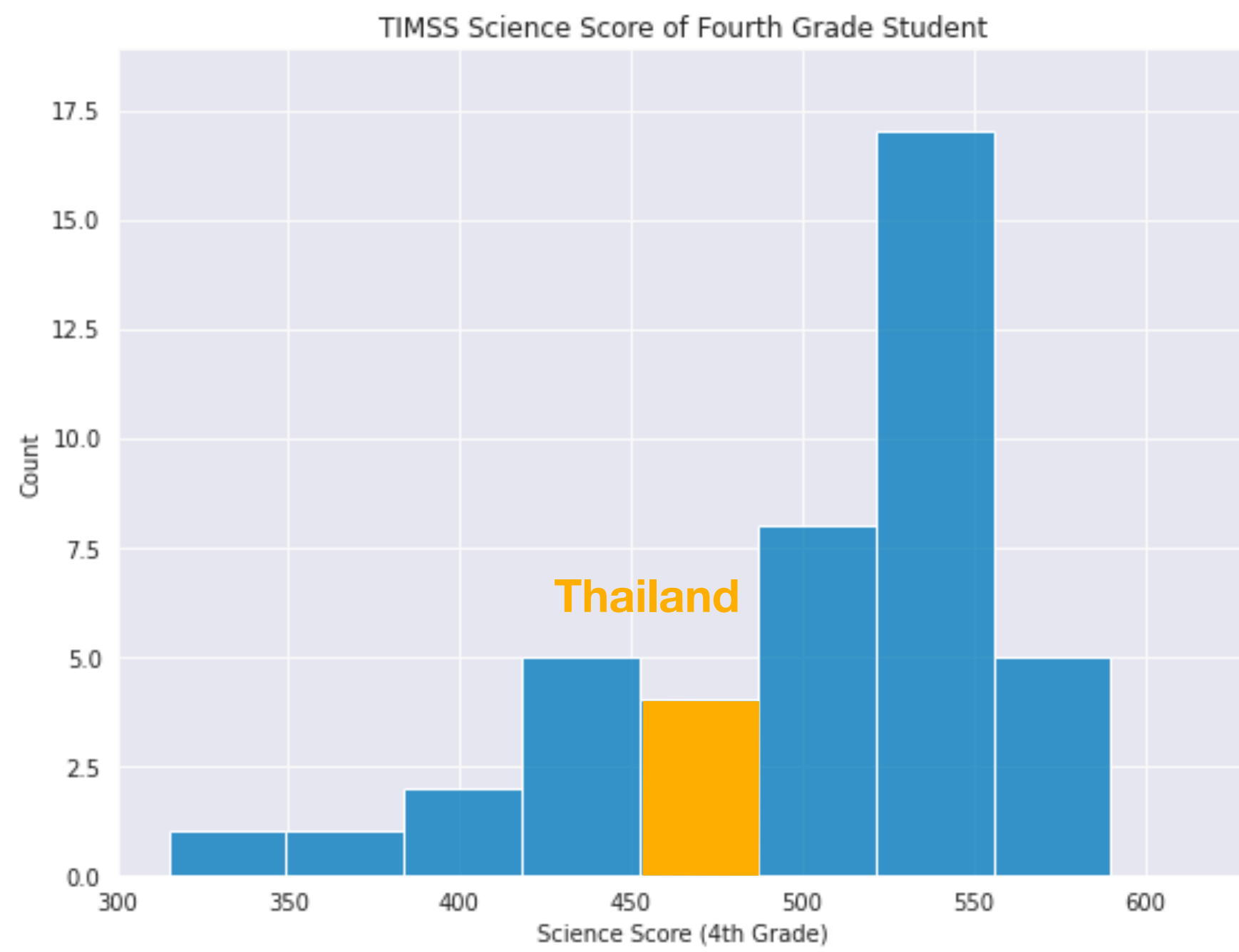
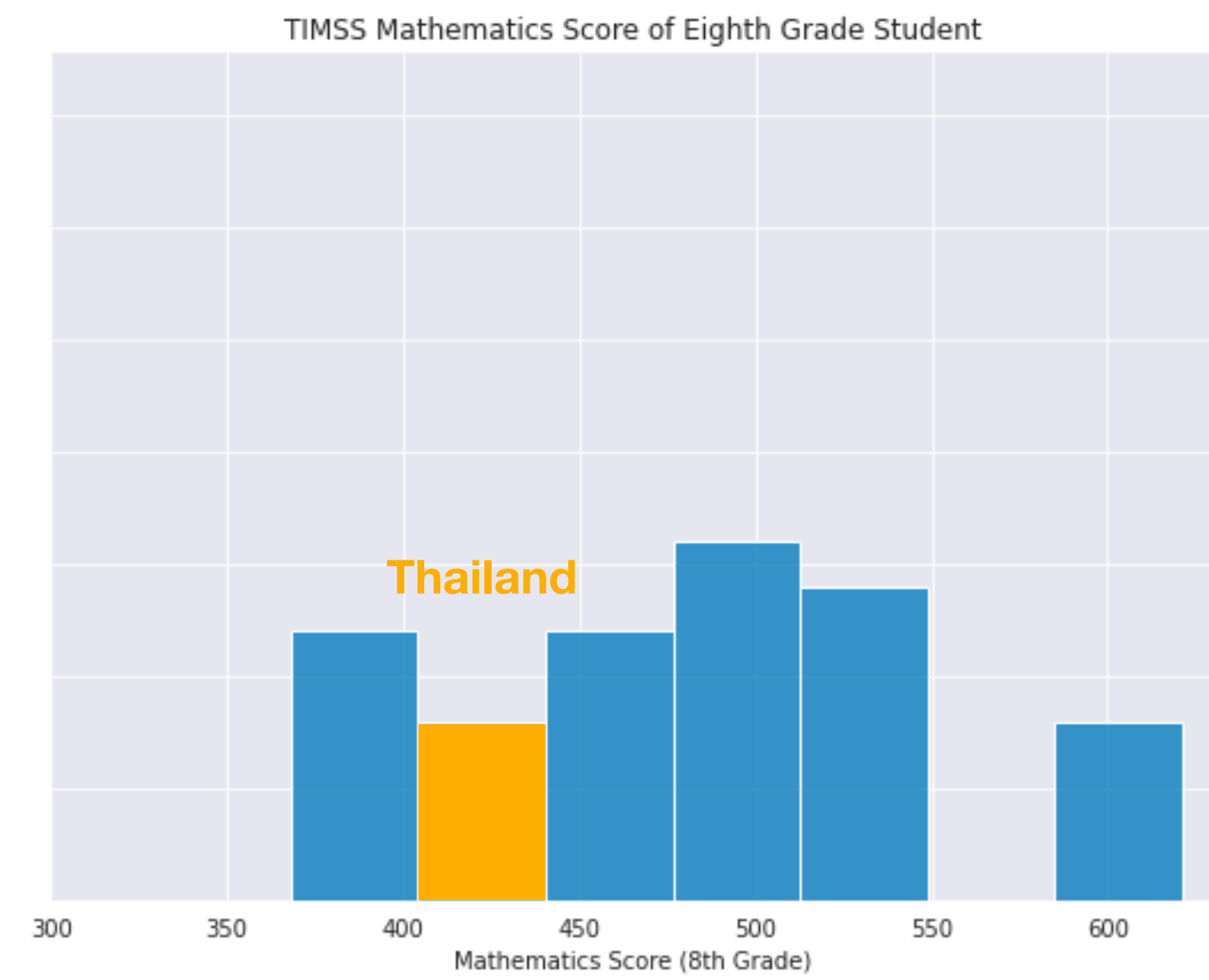
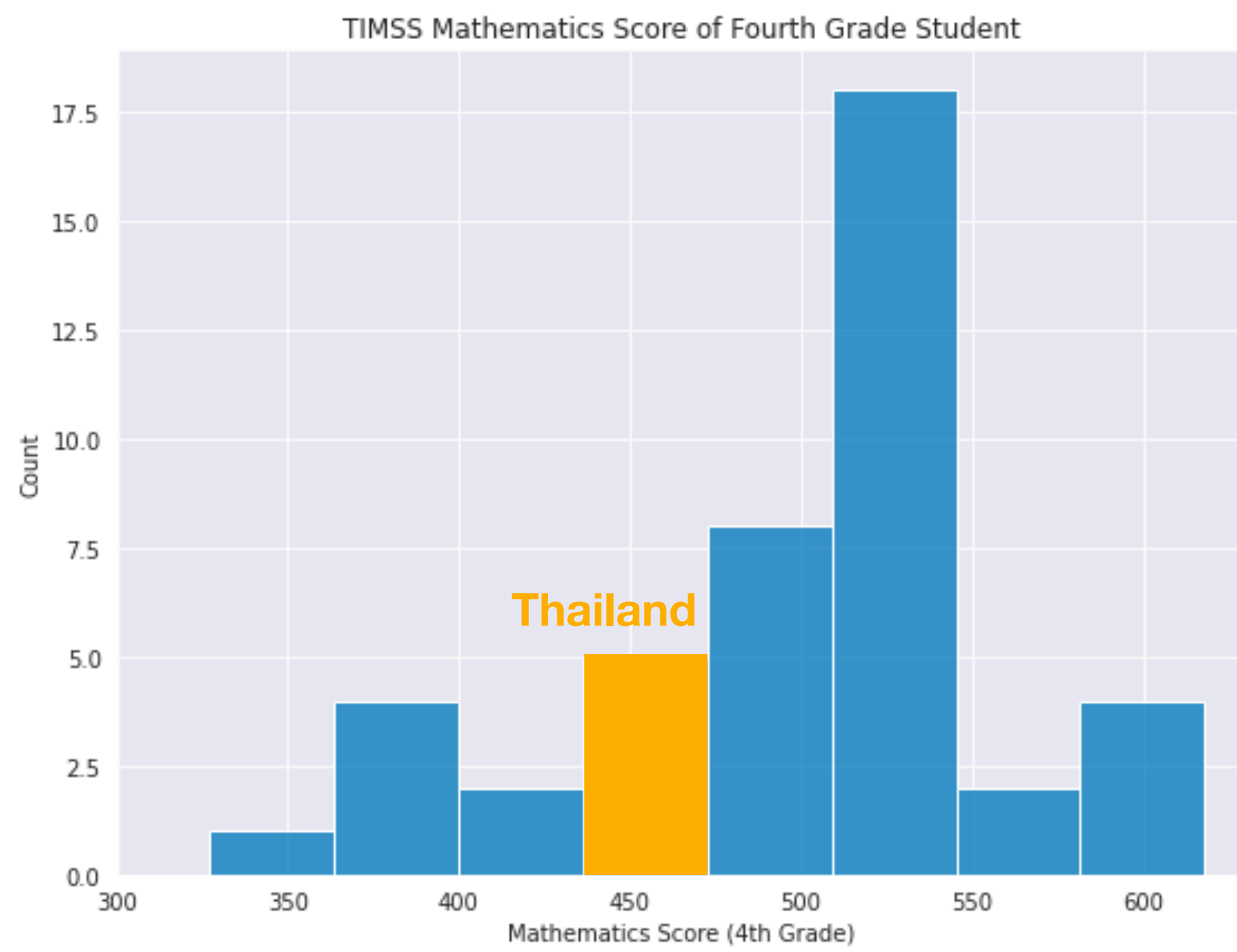
TIMSS Science Score of Fourth Grade Student

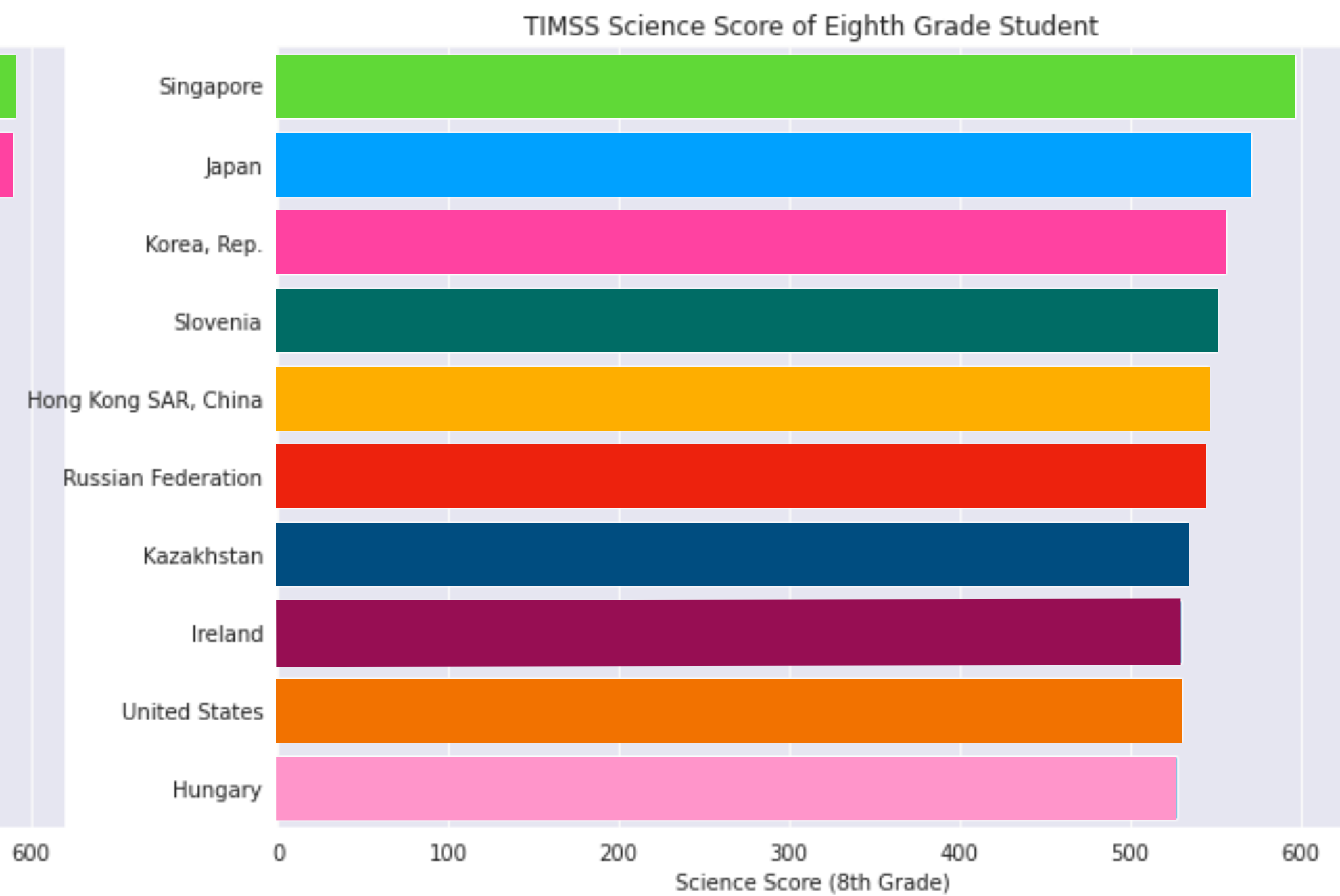
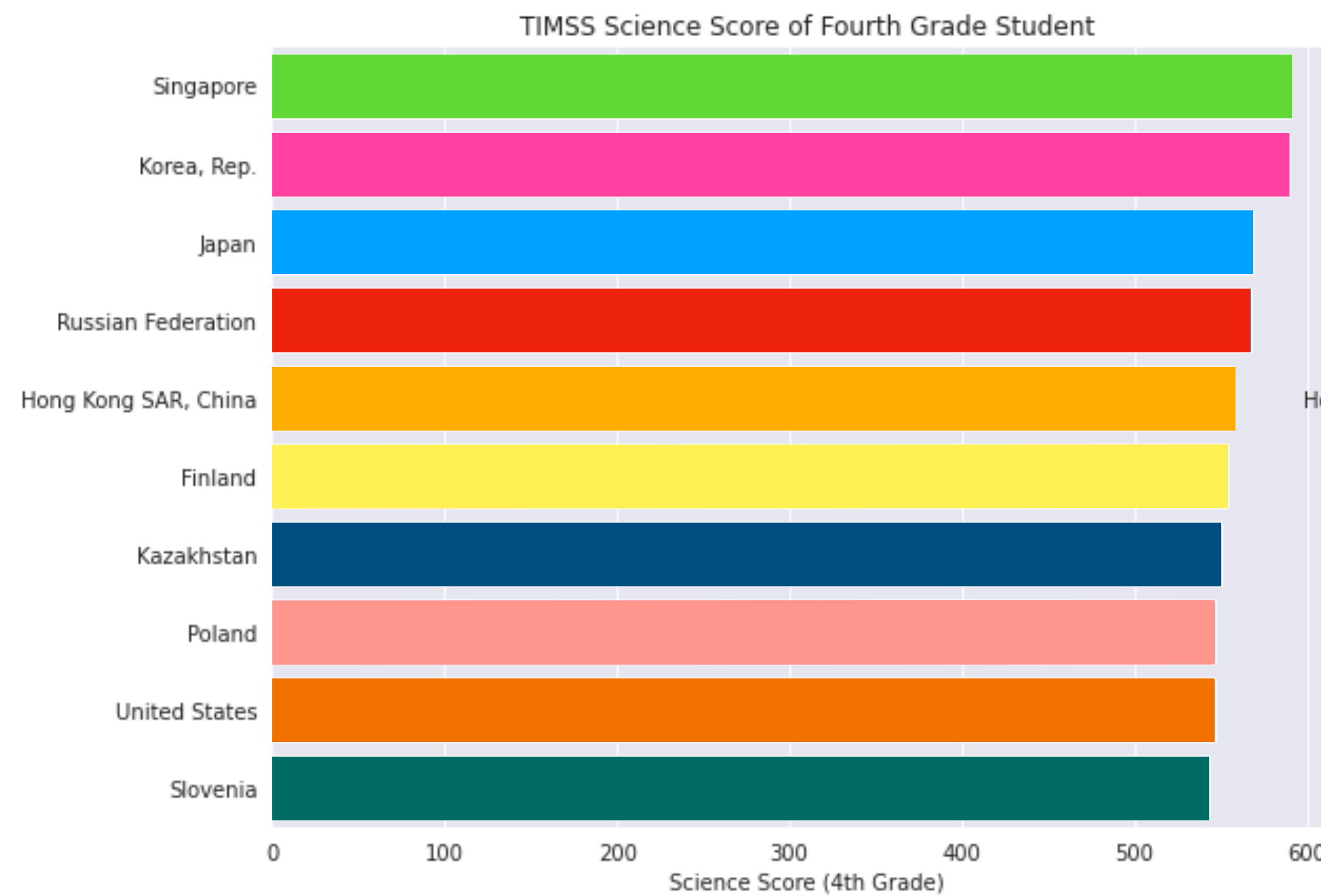
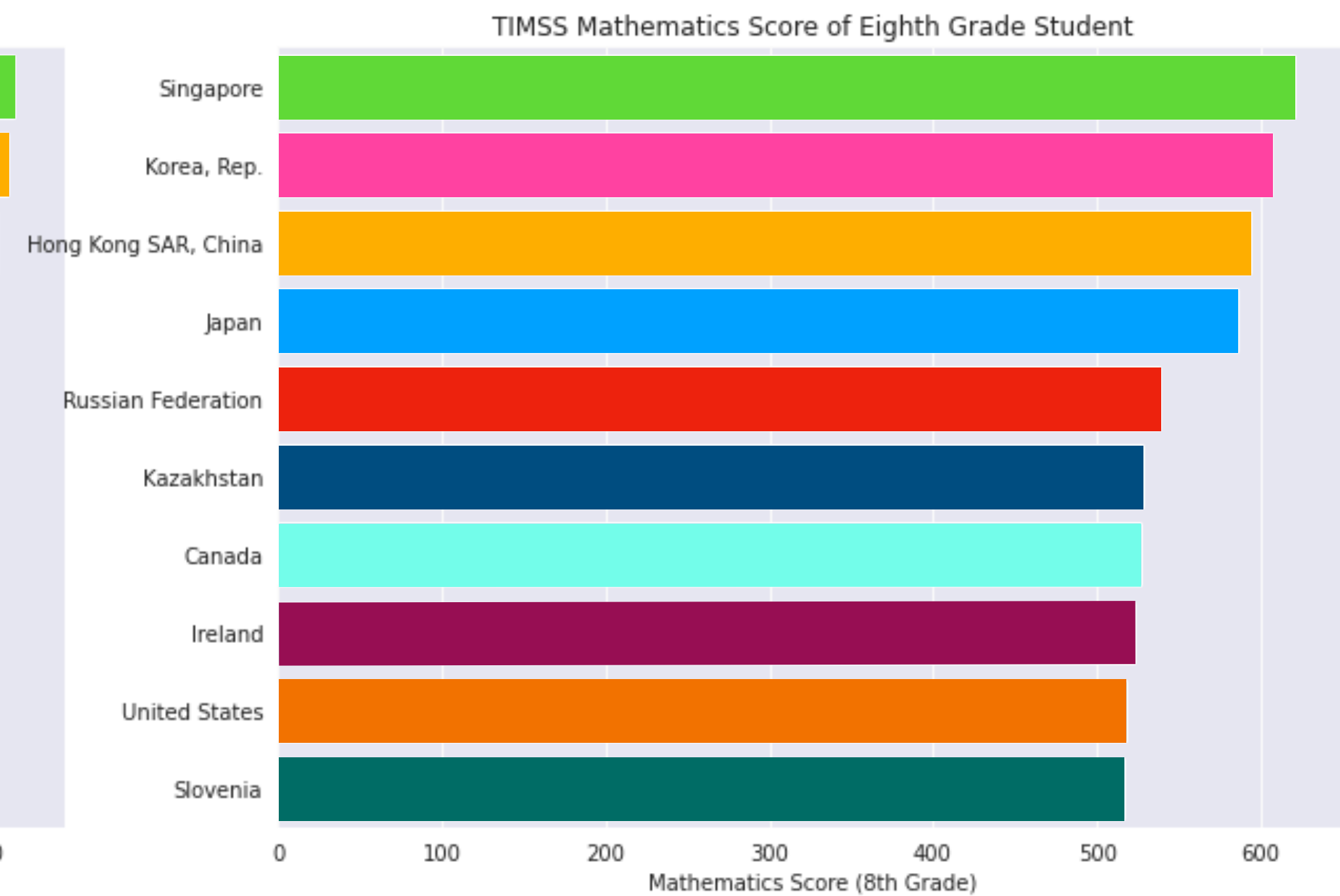
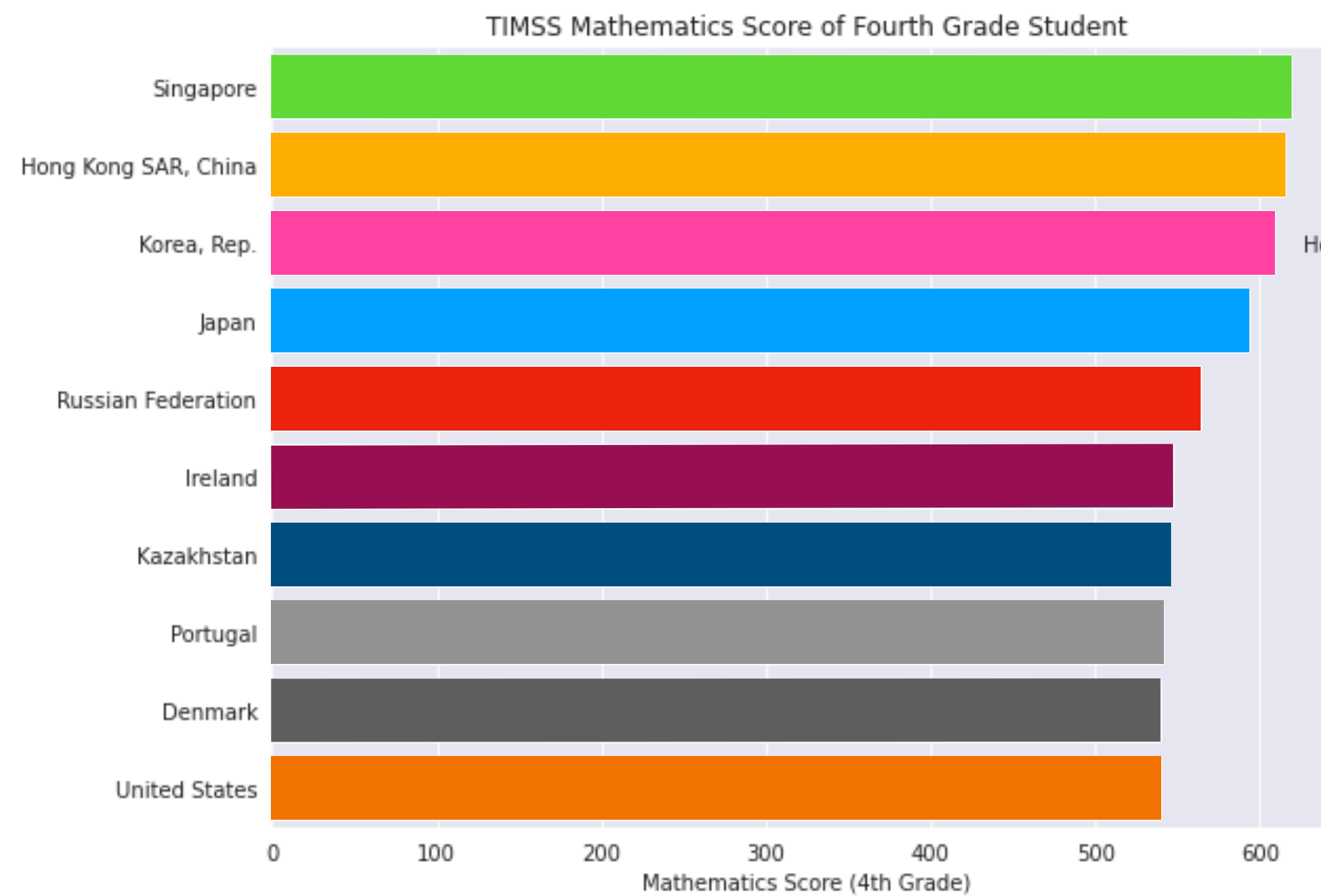


TIMSS Science Score of Eighth Grade Student









References

- Education Statistics Dataset <https://datacatalog.worldbank.org/dataset/education-statistics>
- Pandas <https://pandas.pydata.org/docs/>
- Numpy <https://numpy.org/doc/stable/>
- Matplotlib <https://matplotlib.org/stable/contents.html>
- Seaborn <https://seaborn.pydata.org/tutorial.html>
- ggplot <https://ggplot2.tidyverse.org>
- Orange <https://orangedatamining.com/widget-catalog/>

Thank you