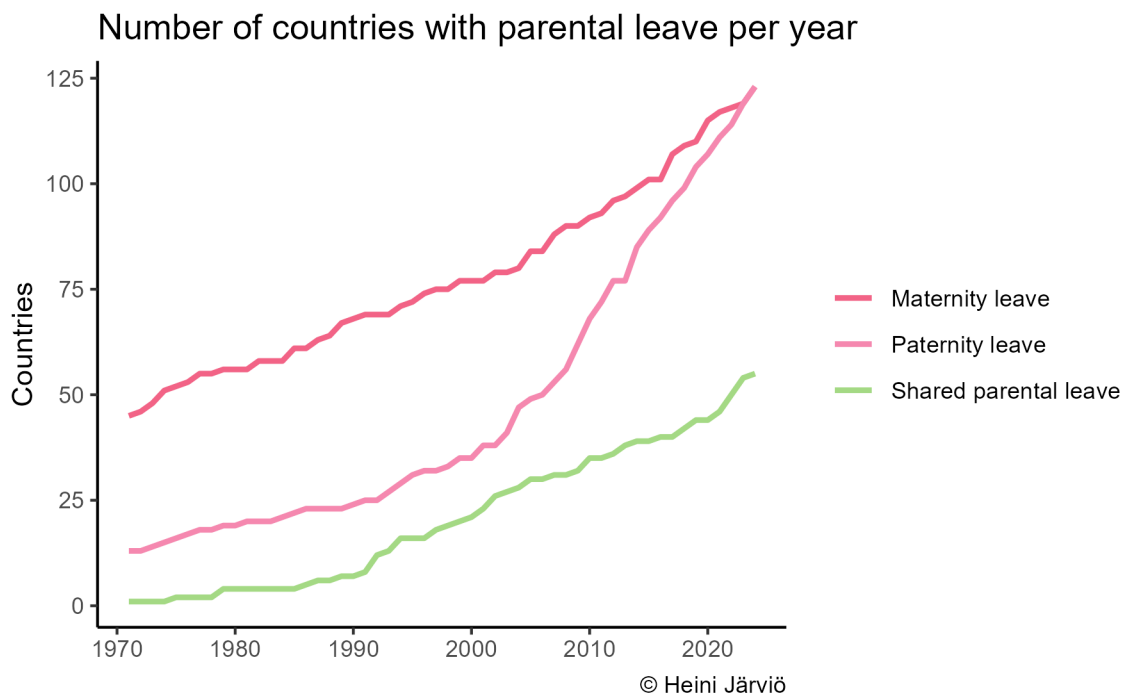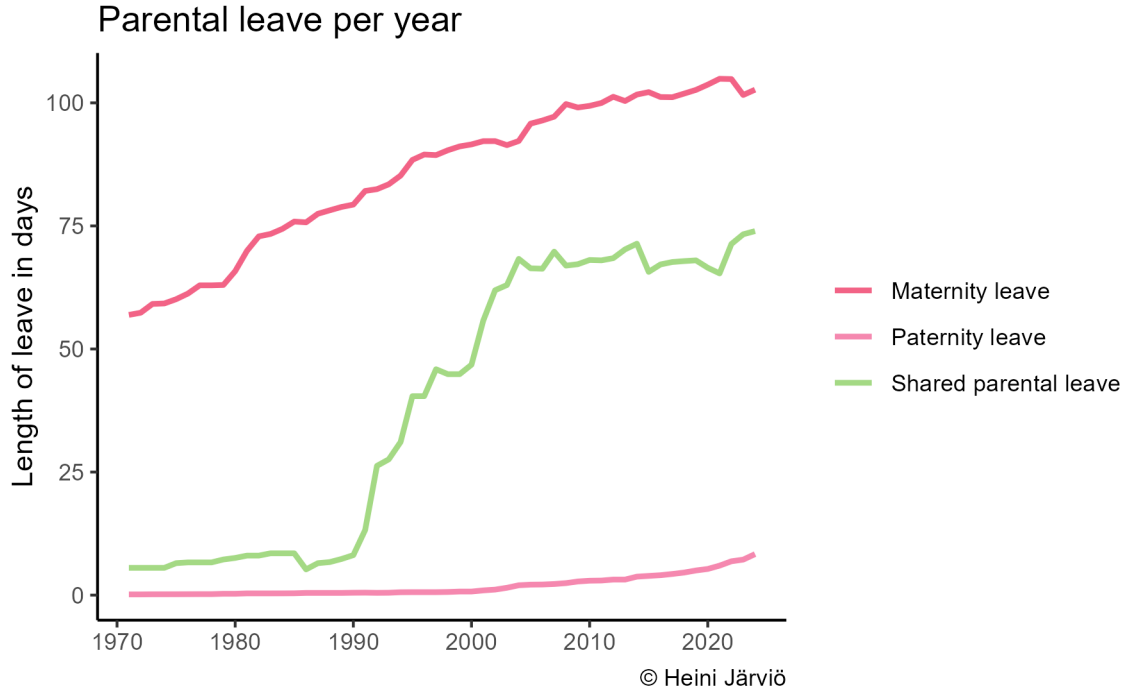# Project report: Introduction to R for Data Science and Computational Social Science - Parental leaves globally

Heini Järviö

This project uses a data from the 'Women, Business and Law' 2024 panel data provided by the World Bank. The dataset offers information on gender equality and equal opportunity on several domains. This project focuses on parenthood equality and parental leaves globally.

The report shows main visualisations and tables created for descriptive analysis of the project. The whole code including the steps taken to create the visualisations and tables can be found in the github repository. The repository also includes the data used in the analysis and the full-size images.

Number of countries with parental leave per year

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Parental leave per year

Length of leave in days

- Maternity leave
- Paternity leave
- Shared parental leave

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The number of countries offering paid parental leaves has sharply increased since the 70s. Currently, approximately as many countries are offering paid maternity and paternity leave, while the length of paternity leaves is clearly lagging behind. Countries offering shared leaves has increased from zero to around 50. The length of these leaves is also increasing, suggesting that countries are opting out to offer fathers an optional leave based on a decision made between the parents. Table 1 shows the development of the average length of different leave types per year.

Table 1: Average length of different leave types per year

year	Average.maternity.leave.length	Average.paternity.leave.length	Average.shared.leave.length
1971	57	0	6
1972	57	0	6
1973	59	0	6
1974	59	0	6
1975	60	0	6
1976	61	0	7
1977	63	0	7
1978	63	0	7
1979	63	0	7
1980	66	0	8
1981	70	0	8

1982	73	0	8
1983	73	0	8
1984	74	0	8
1985	76	0	8
1986	76	0	5
1987	77	0	6
1988	78	0	7
1989	79	0	7
1990	79	0	8
1991	82	0	13
1992	82	0	26
1993	83	0	28
1994	85	1	31
1995	88	1	40
1996	90	1	40
1997	89	1	46
1998	90	1	45
1999	91	1	45
2000	92	1	47
2001	92	1	56
2002	92	1	62
2003	91	1	63
2004	92	2	68
2005	96	2	66
2006	96	2	66
2007	97	2	70
2008	100	2	67
2009	99	3	67
2010	99	3	68
2011	100	3	68
2012	101	3	68
2013	100	3	70
2014	102	4	71
2015	102	4	66
2016	101	4	67
2017	101	4	68
2018	102	5	68
2019	103	5	68
2020	104	5	66
2021	105	6	65

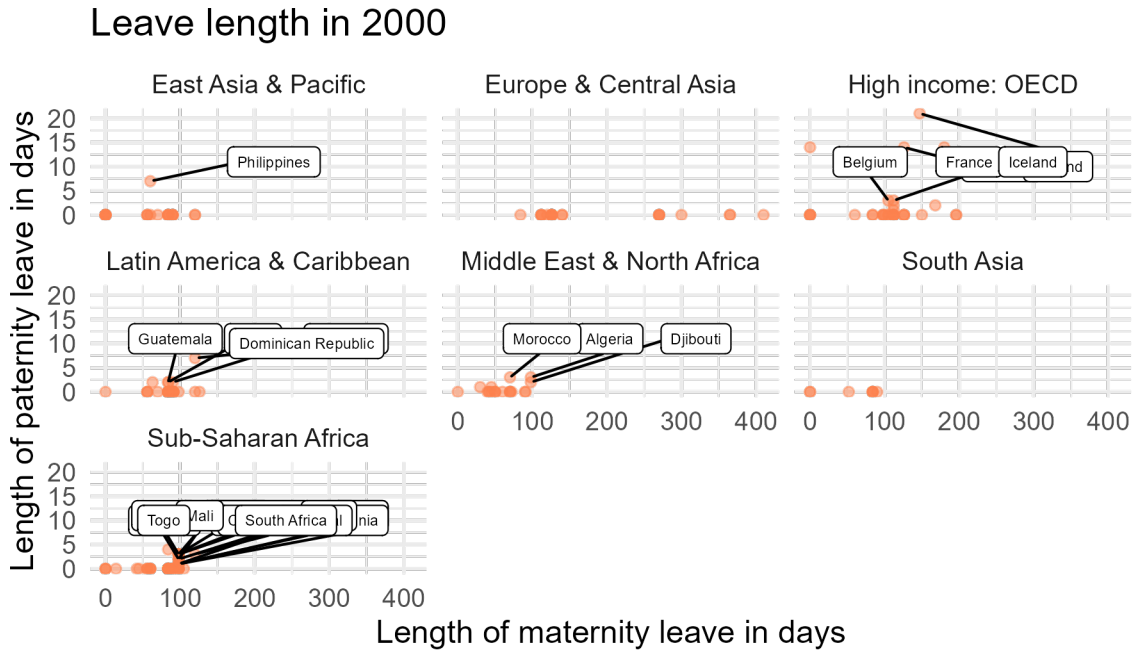| 2022 | 105 | 7 | 71 |
| 2023 | 102 | 7 | 73 |
| 2024 | 103 | 8 | 74 |

Table 2: Average leave lengths in income groups

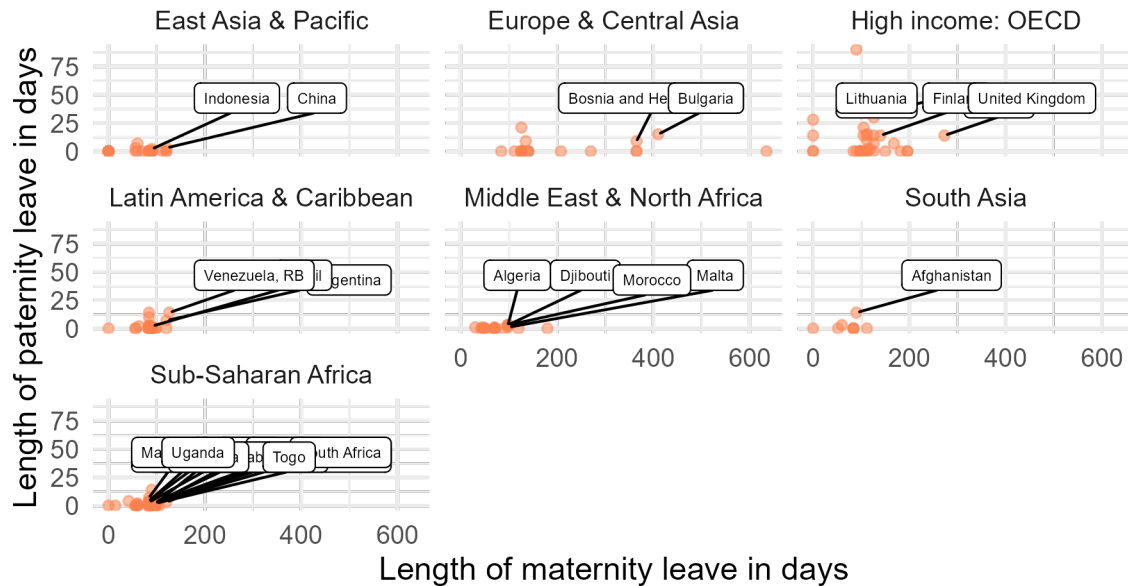| income_group	mean_maternityleave	mean_paternityleave	mean_parentalleave
Not classified	182	14	0
Upper middle income	119	4	114
High income	97	18	110
Lower middle income	95	3	33
Low income	93	5	0

Table 2 shows the average length of different leave types between countries in different income groups. The github repository offers also an animation that shows the development of maternity and paternity leaves throughout time. A simple comparison shows that higher income countries offer longer leaves than lower income countries and this difference is more pronounced in paternity leaves.

Finally, a comparison was made between the average length of maternity and paternity leaves in different regions in three comparison years represented in the following images. Countries that offer above average length leaves for both mothers and fathers are labeled.
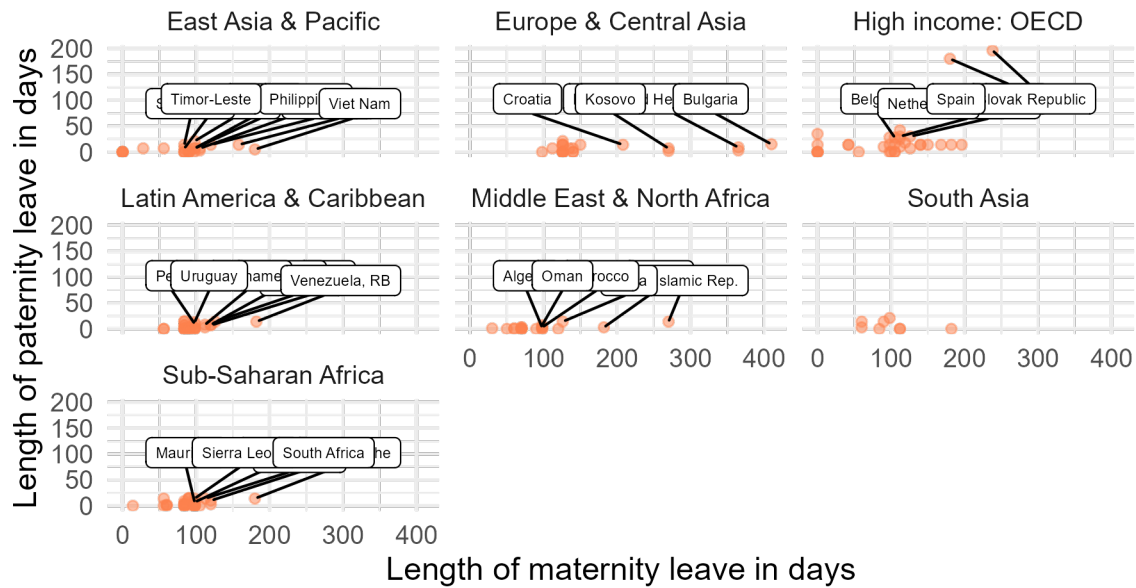

Leave length in 2000

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Leave length in 2010

Leave length in 2024

The images show that as the average length of the different leaves grows, the top countries offering the longest leaves also varies with time. Please refer to the full-size images for a more

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detailed view of the countries offering above-average length leaves.