

ESSnet Big Data II

<https://webgate.ec.europa.eu/fpfis/mwikis/essnetbigdata>
https://ec.europa.eu/eurostat/cros/content/essnetbigdata_en

Workpackage WPB Online Job Vacancies

**Data visualization breakdown
on several variables
available in Cedefop data**

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This document was built on CEDEFOP data. R and RStudio was used with the following packages: sparklyr, dplyr and ggplot2. The results are contained by a number of graphs related to number of online job ads and a break down by different categories of variables (data collection period, economic sector, educational level, esco_level_1 and experience requirements).

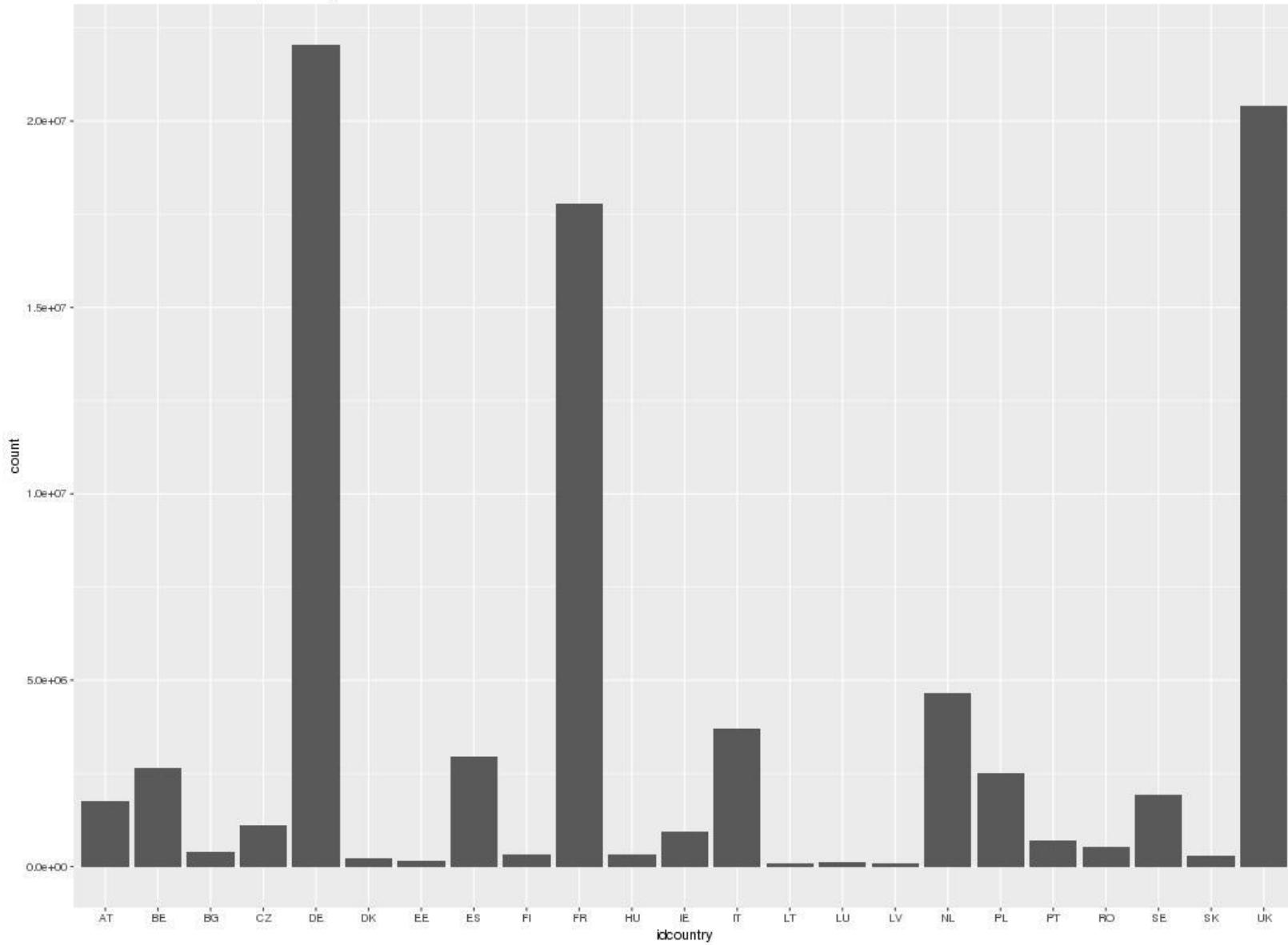
It was generally observed that the collection process is not uniformly applied to all targeted countries (EU MS).

For a better representation of the results, some graphs were plotted against logged count values.

Main findings:

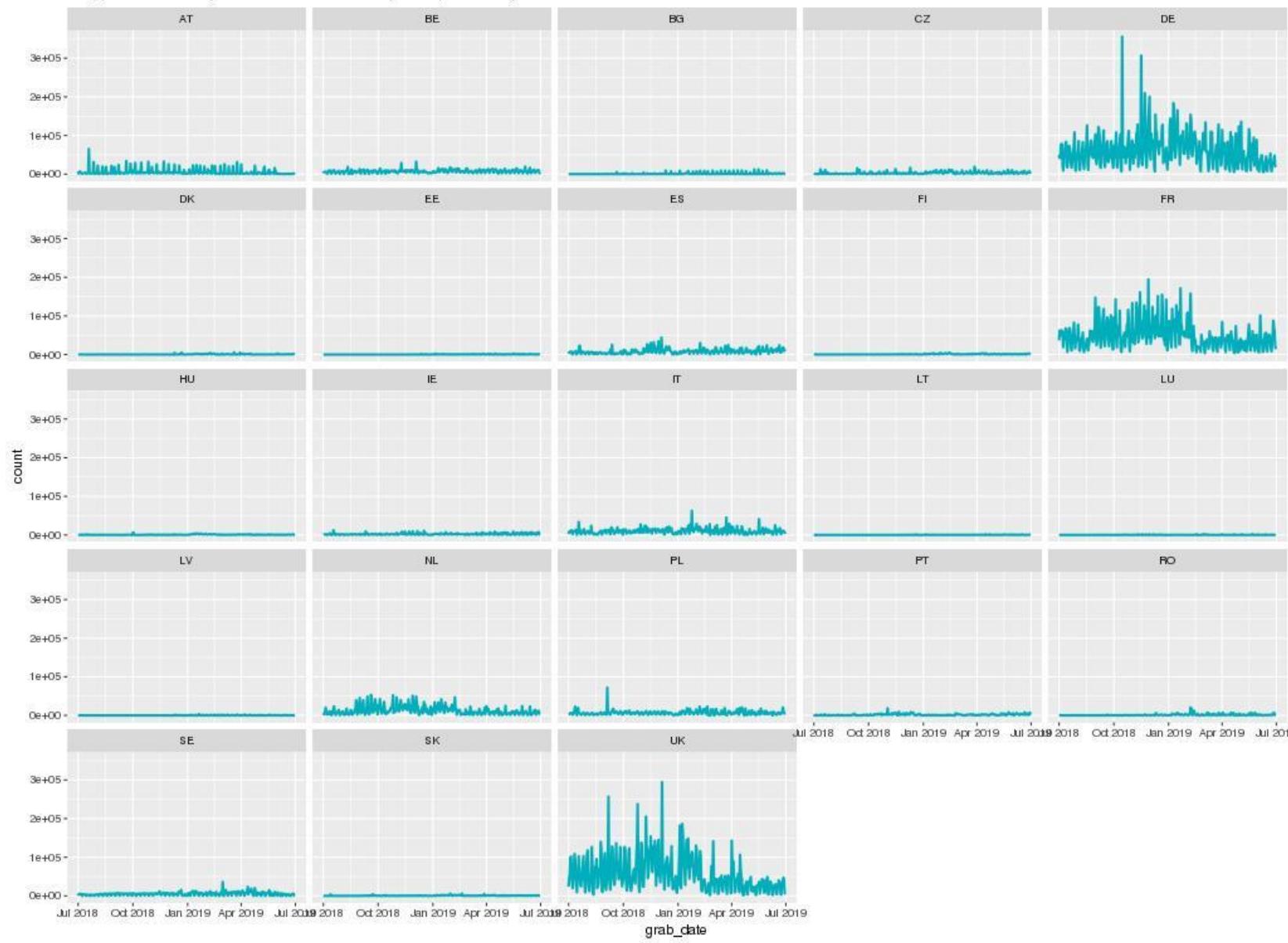
- a) Apparently, the collection process seems uneven between countries and periods.
- b) For some countries (e.g. NL) a significant number of ads were collected from foreign websites. (a new possible statistical indicator, if not already calculated, could be the number/percentage of foreign workers per economy/country)
- c) Job ads per category sector are in line with the “economical reality“, as described by the three-sector model. ([EUROSTAT, 2019](#))
- d) Job ads per experience required suggests that „up to 1 year“ of experience is over represented in the total number of job ads.
- e) Job ads per esco_level_1 shows that job ads addressed to professionals, technicians and associate professionals are over represented. This seems logical taking into consideration point c) above.
- f) In relation to the case study „Romanian websites as data sources“ the data generally follows the real economic trends for migrating workforce, except the information for some countries (ie. Spain, Italy) for which the well known high provision of Romanian workforce is clearly under represented by ads. A possible explanation for this is that for these countries the supply of workforce is directed towards agriculture and manufacturing, correlated with point c).

Number of collected ads per country



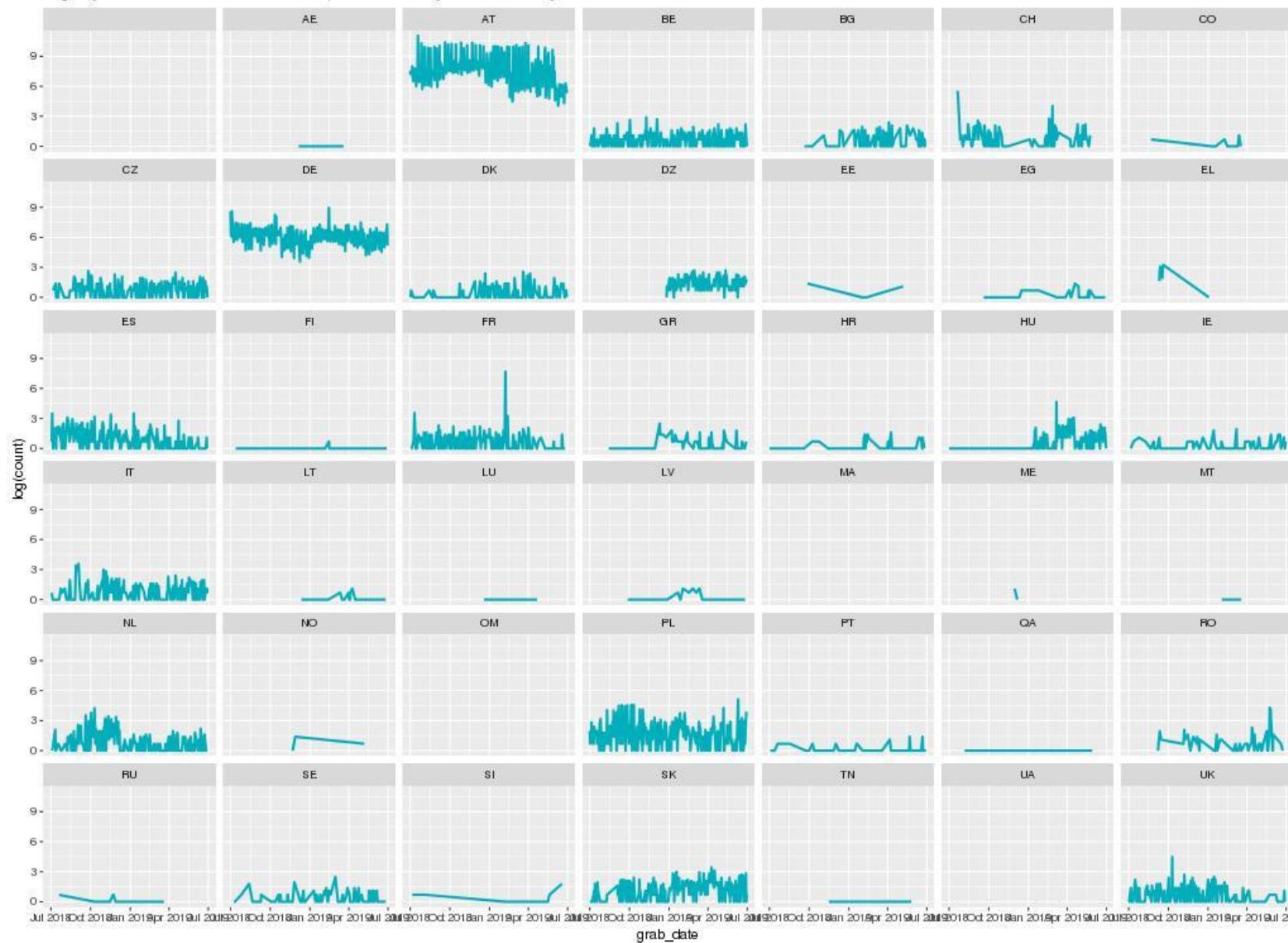
Number of job ads within reference period per country

Col_per/Number of job ads within reference period per country

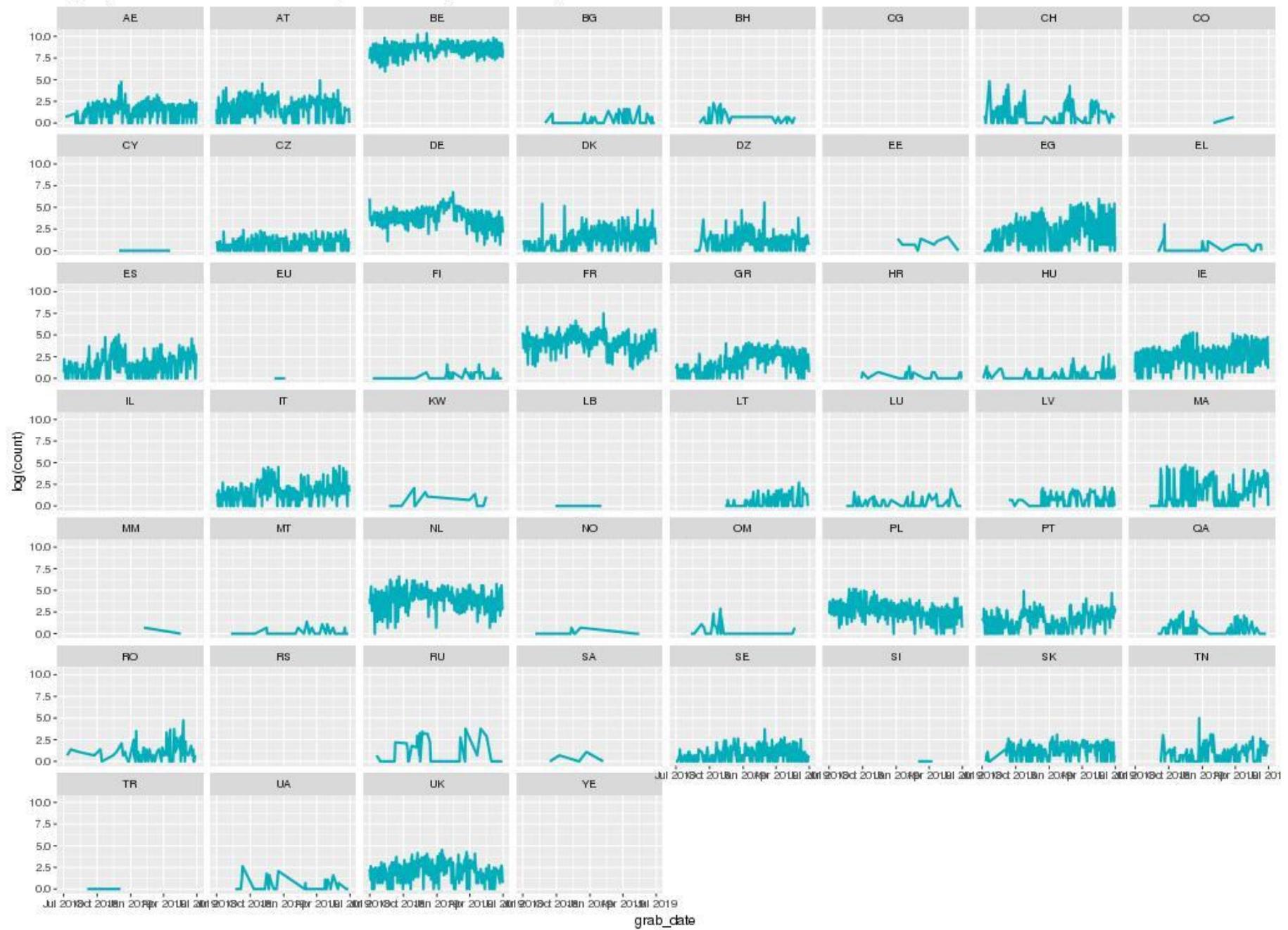


Number of job ads within reference period by source country (*logarithm of counts*)

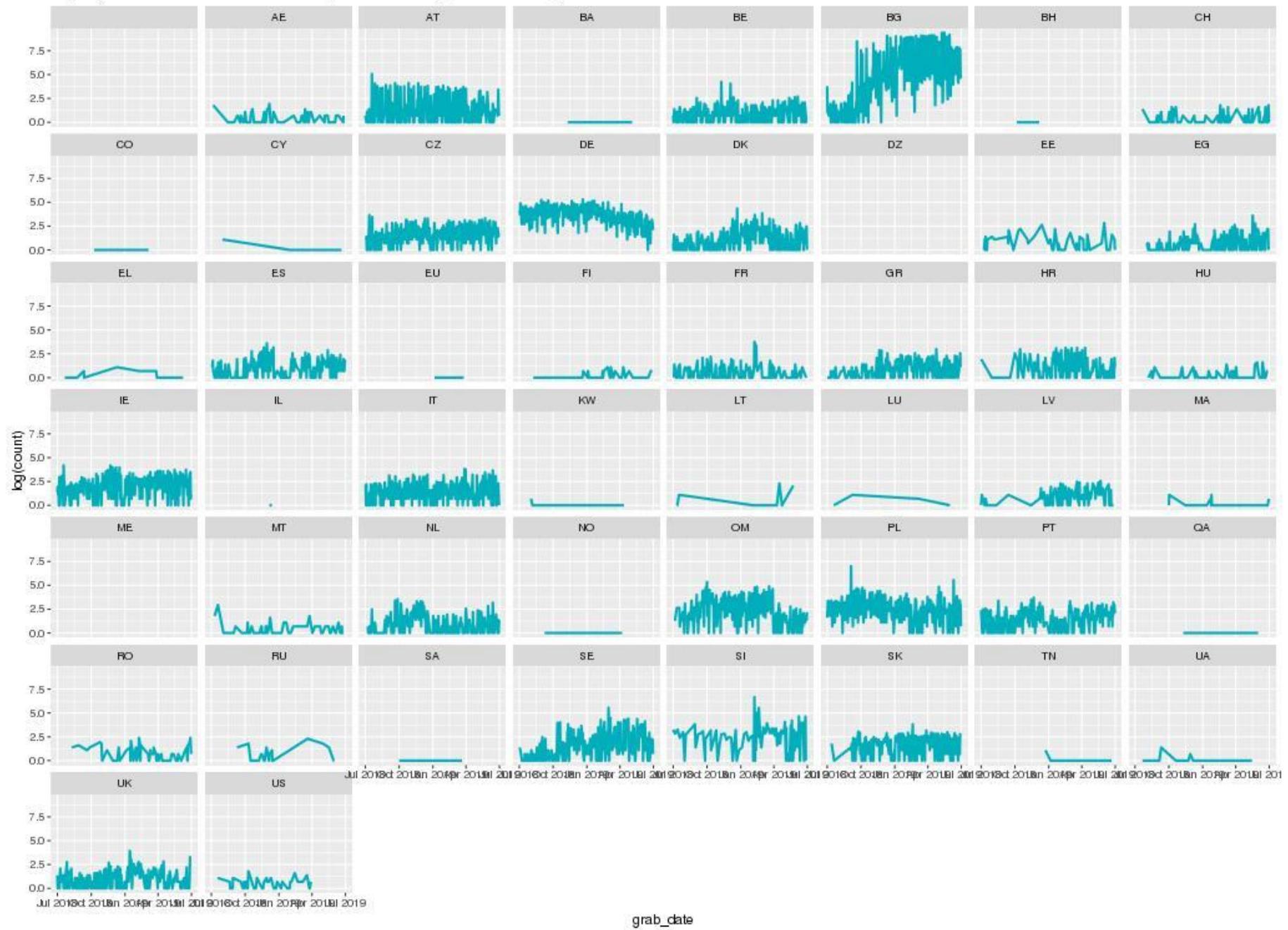
Log of job ads counts within reference period for AT by source country



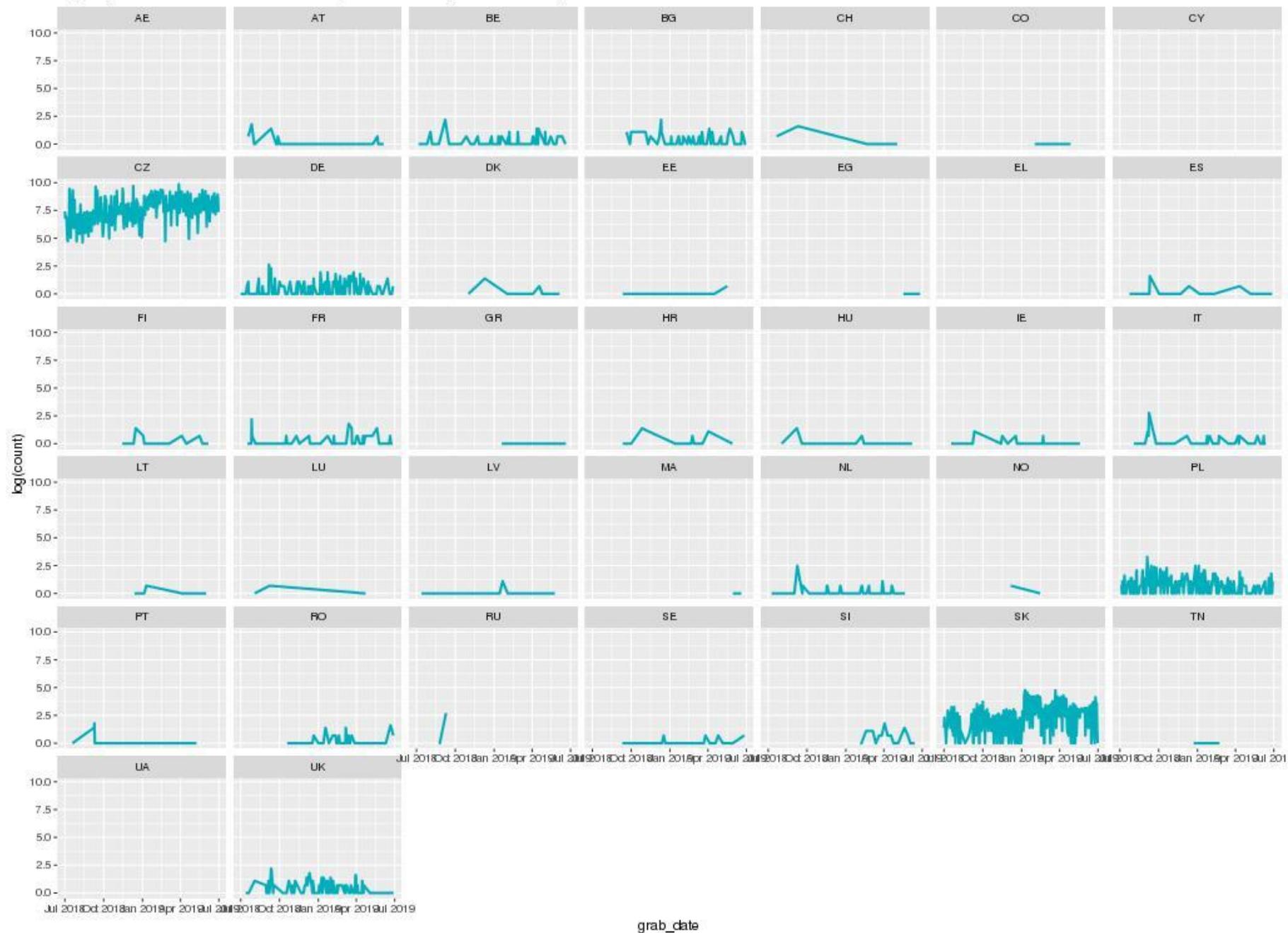
Log of job ads counts within reference period for BE by source country



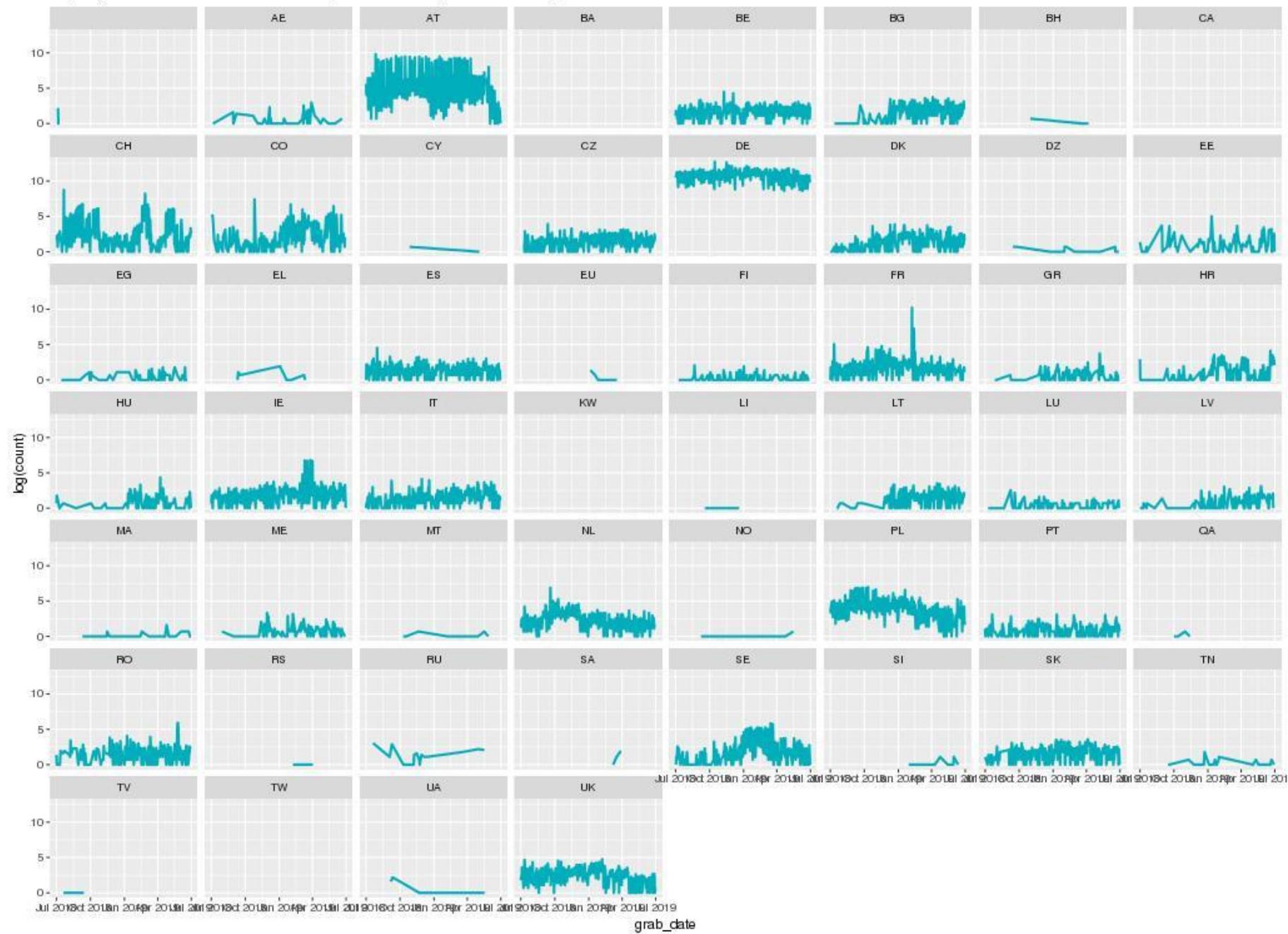
Log of job ads counts within reference period for BG by source country



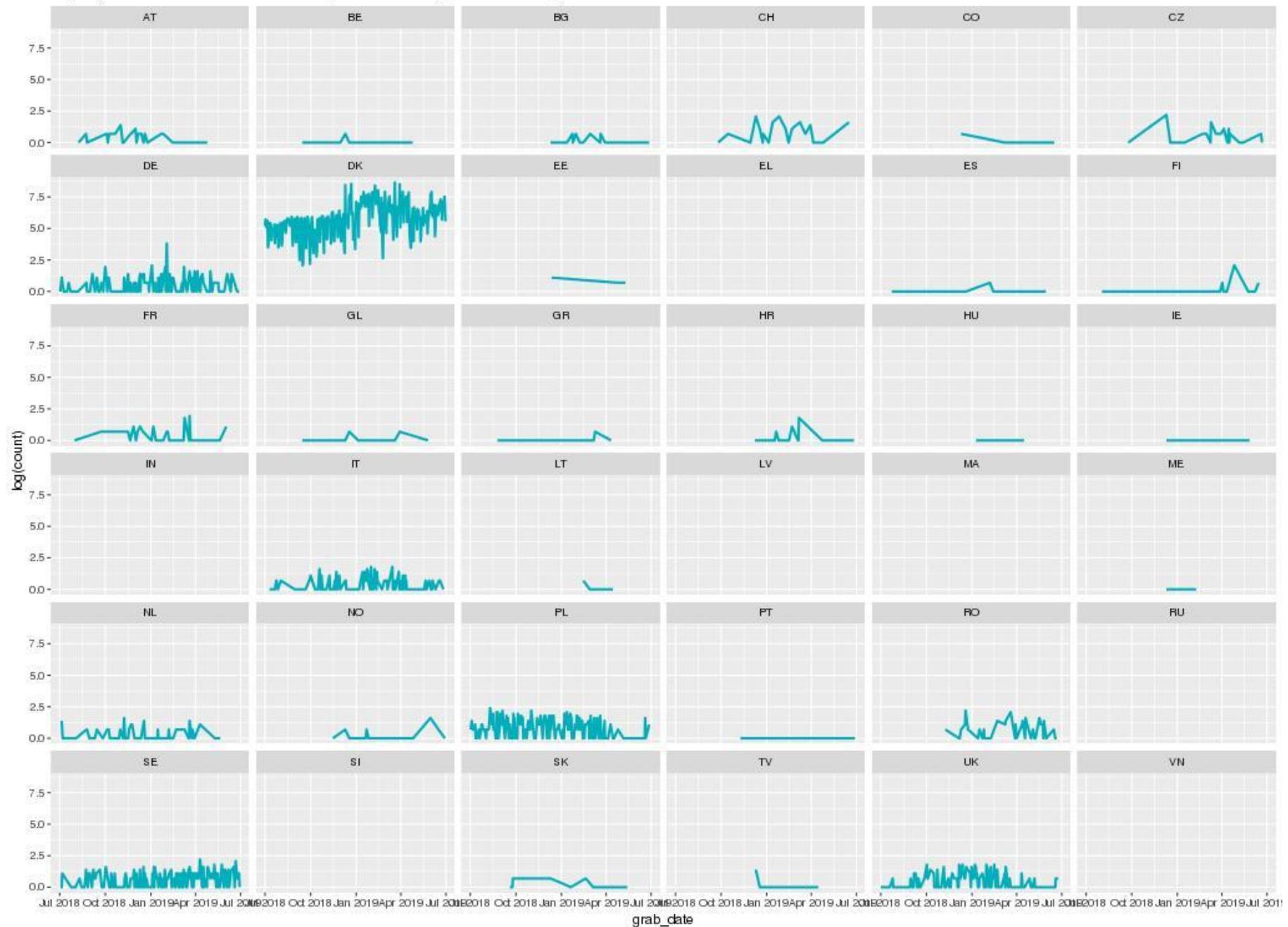
Log of job ads counts within reference period for CZ by source country



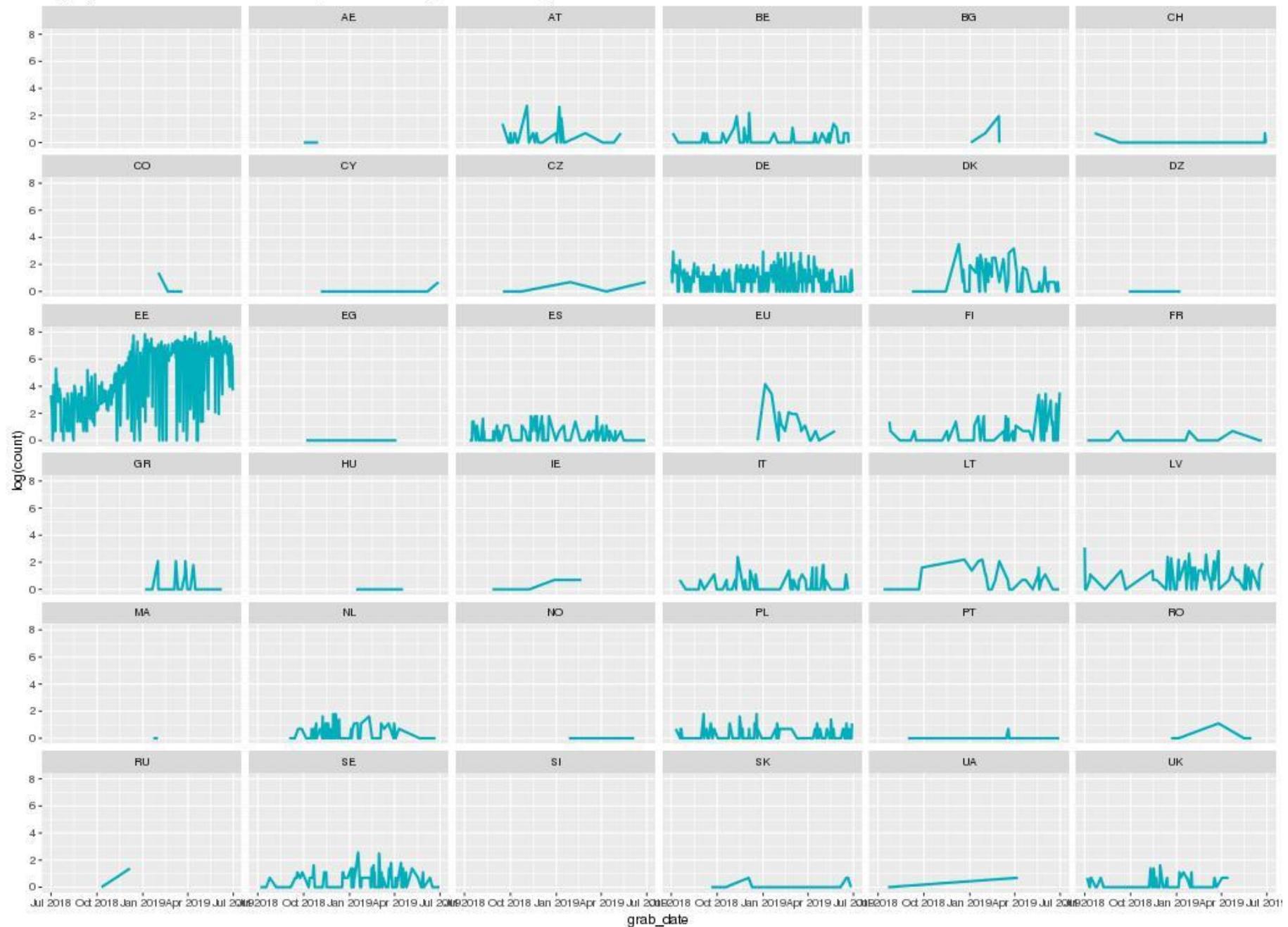
Log of job ads counts within reference period for DE by source country



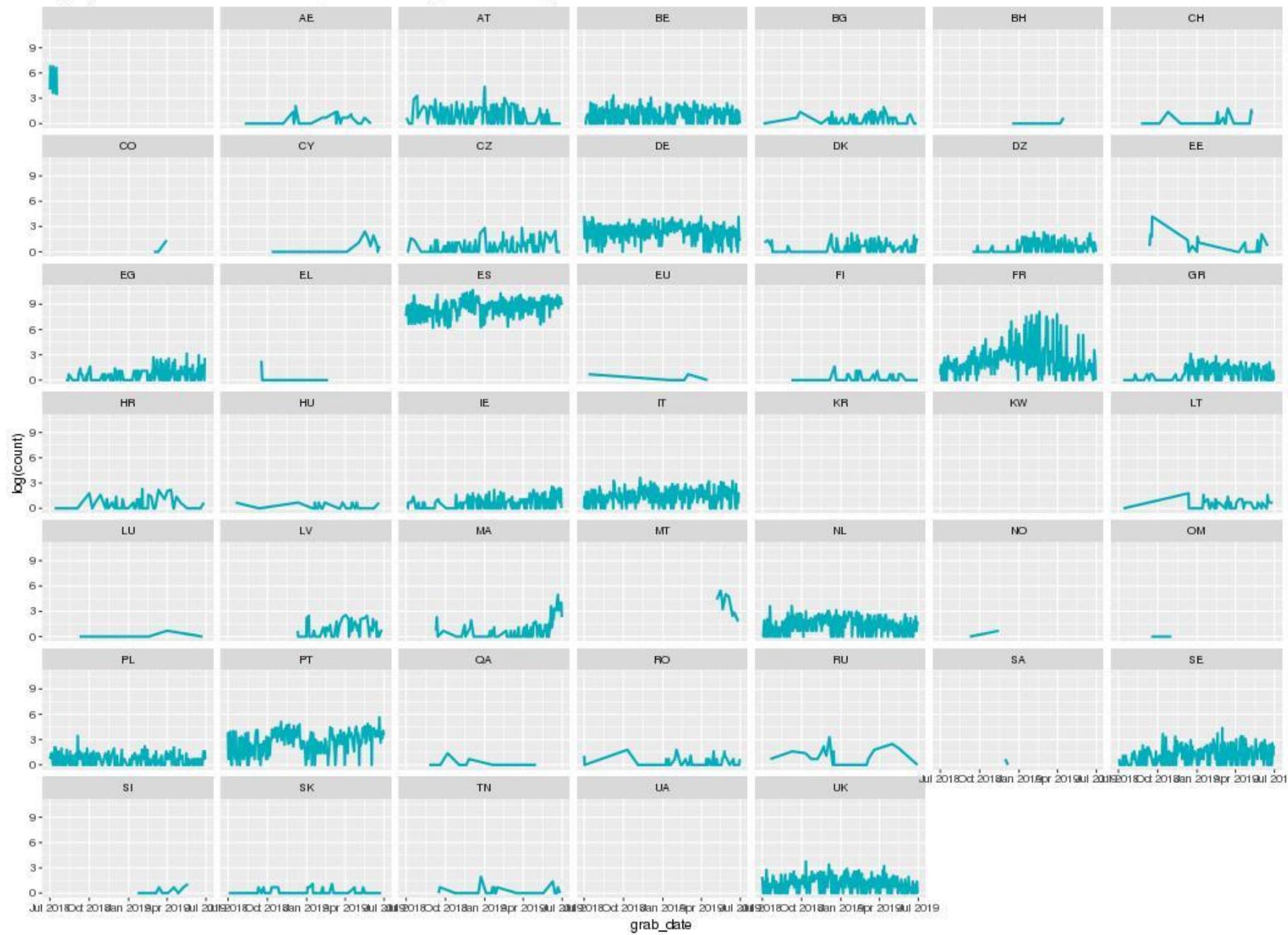
Log of job ads counts within reference period for DK by source country



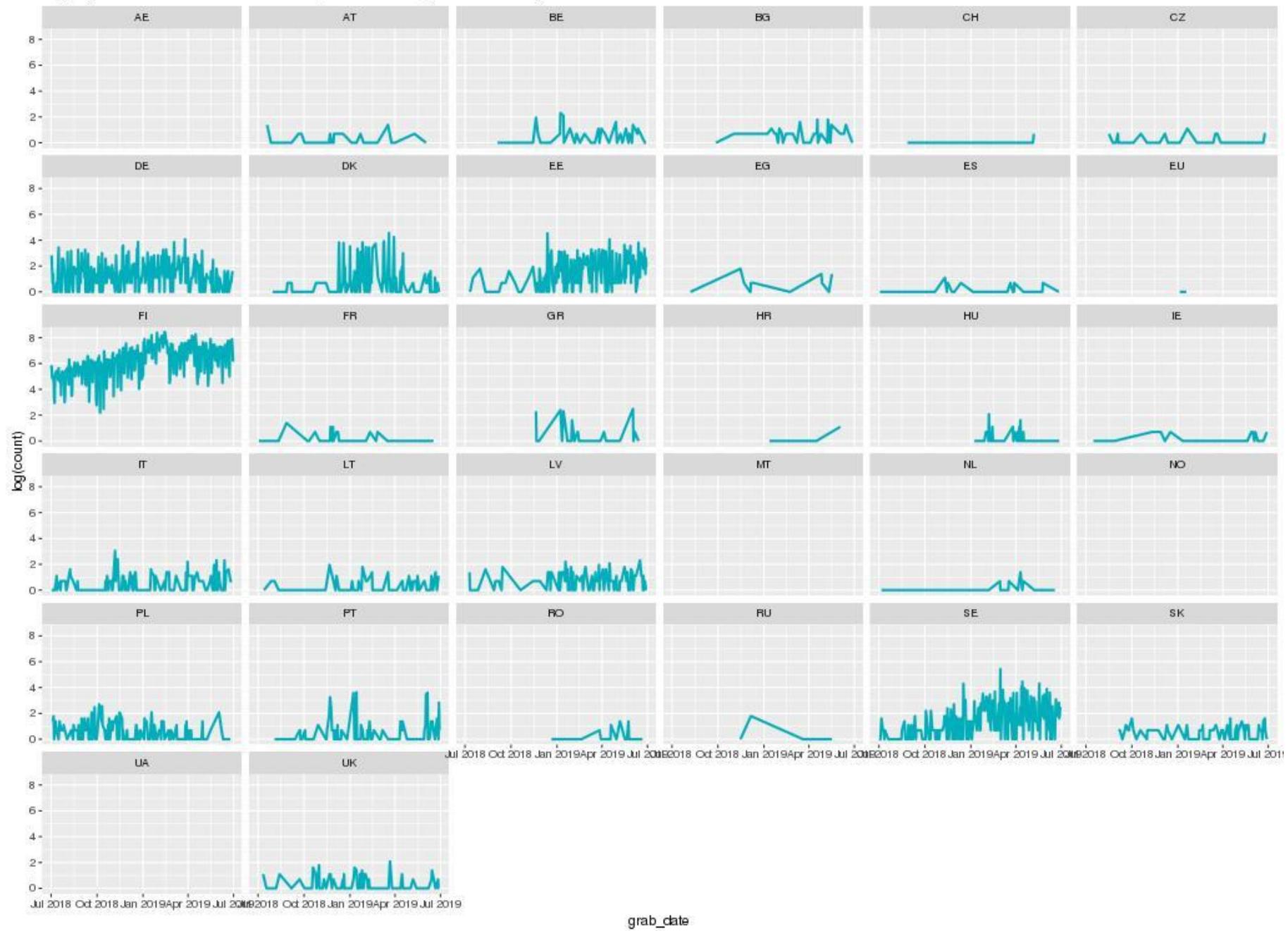
Log of job ads counts within reference period for EE by source country



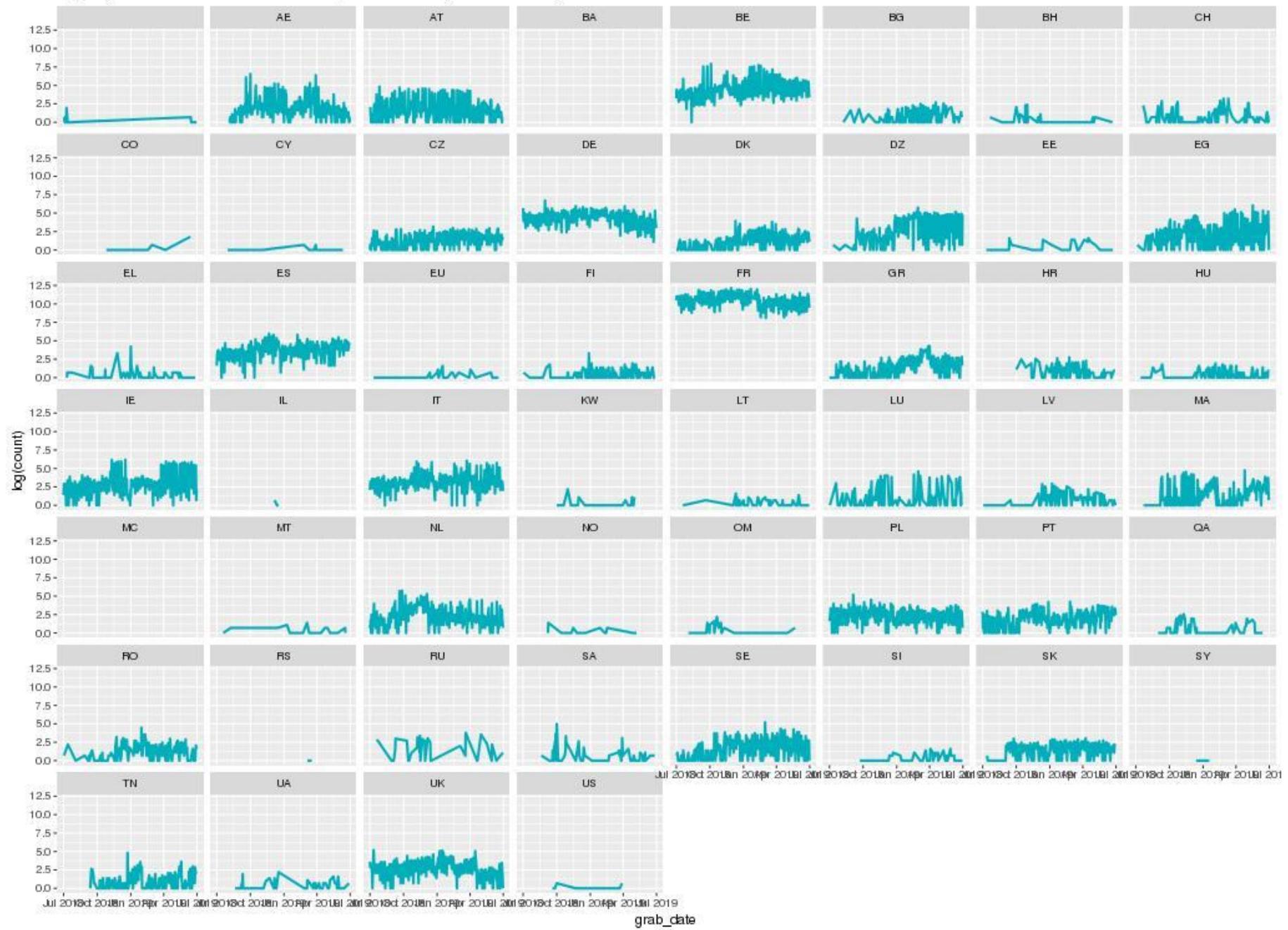
Log of job ads counts within reference period for ES by source country



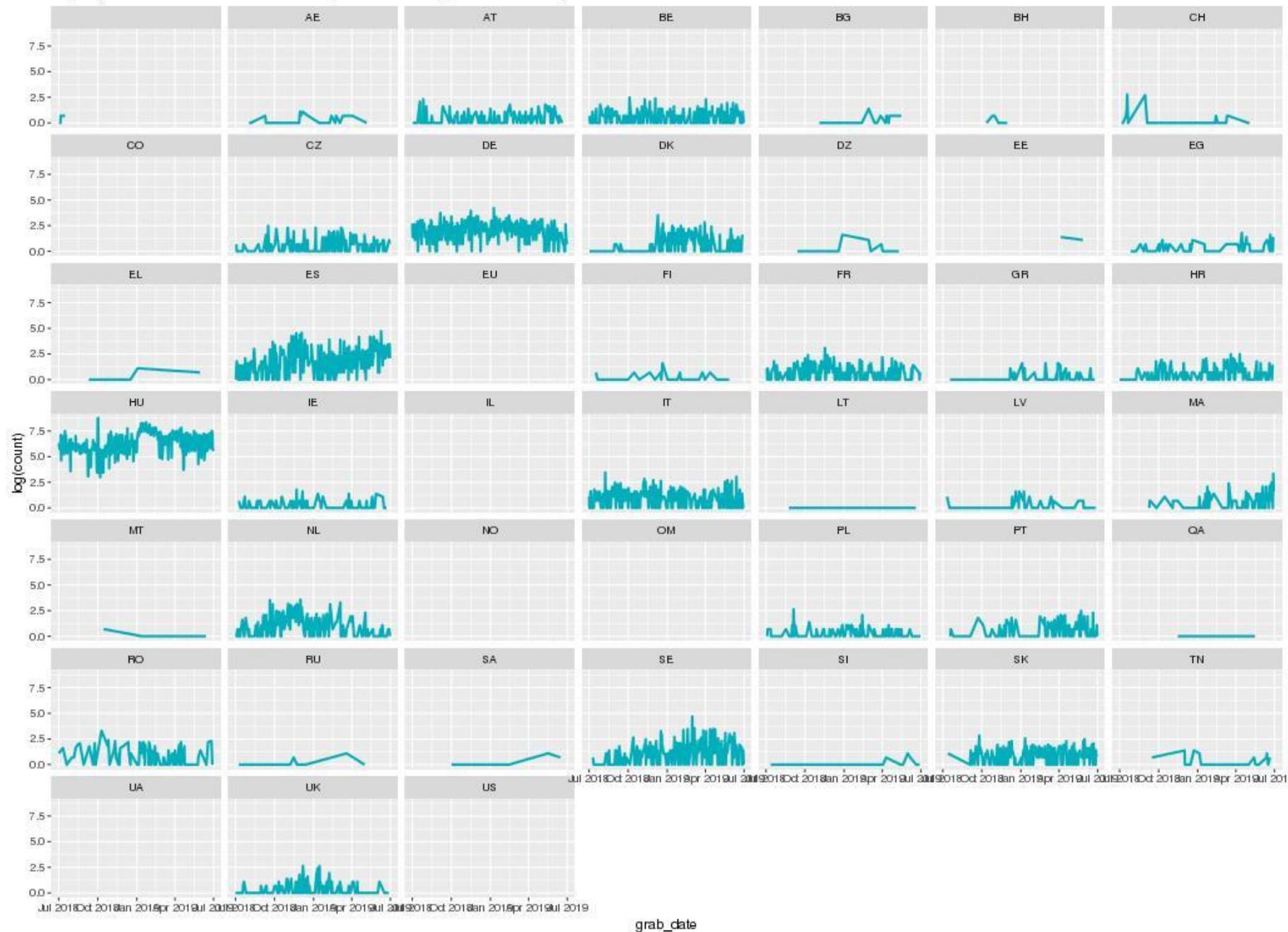
Log of job ads counts within reference period for FI by source country



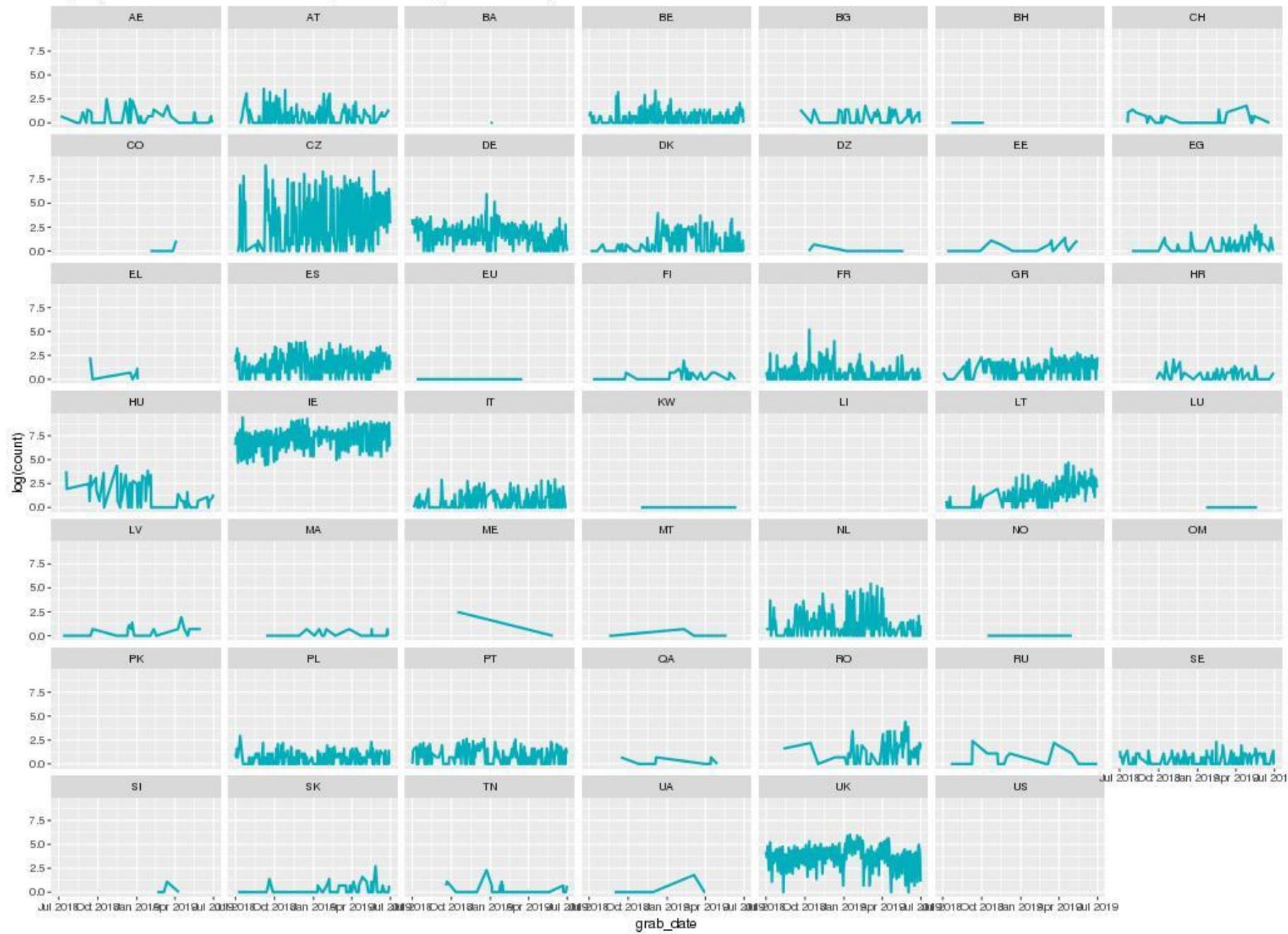
Log of job ads counts within reference period for FR by source country



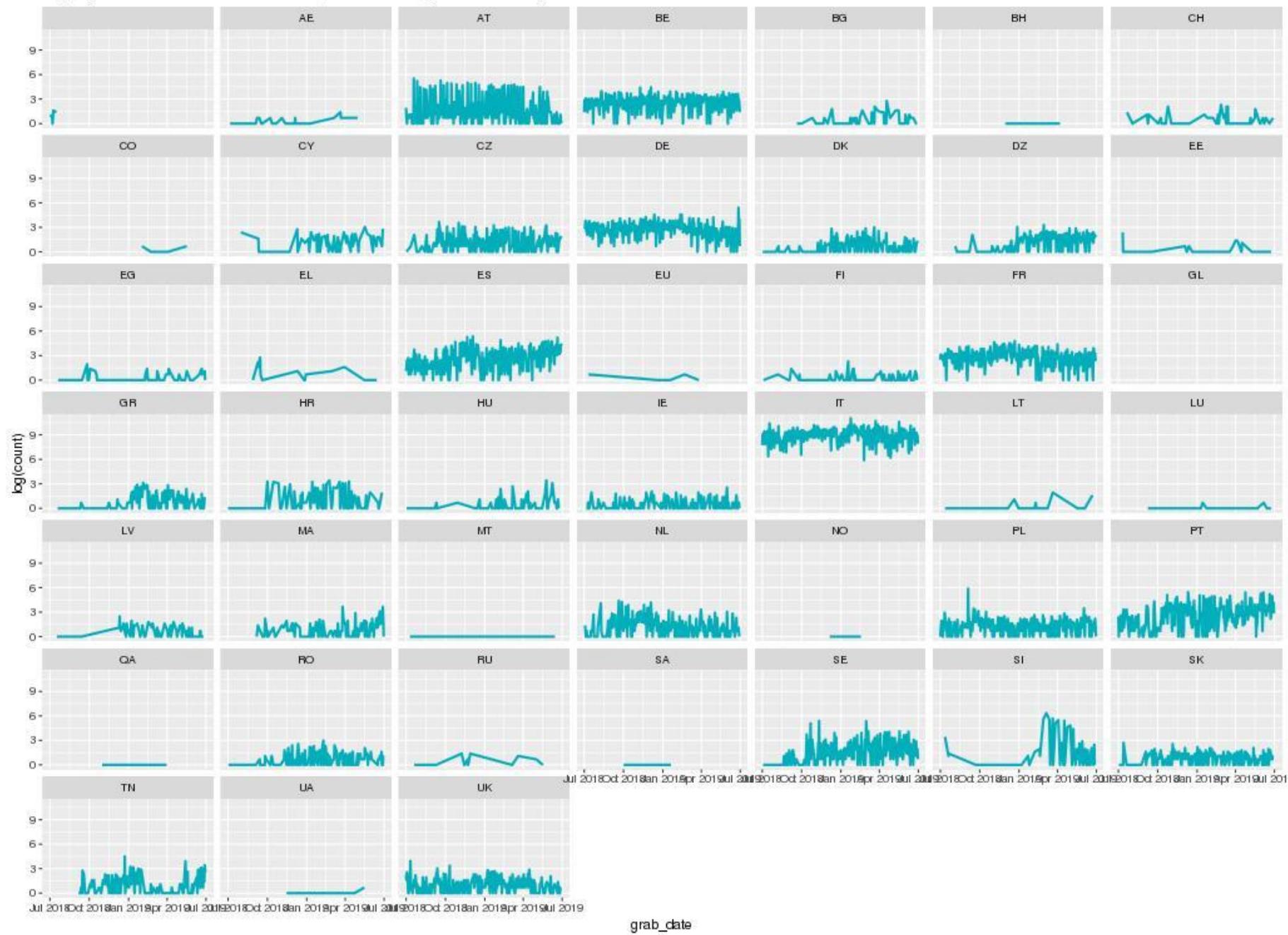
Log of job ads counts within reference period for HU by source country



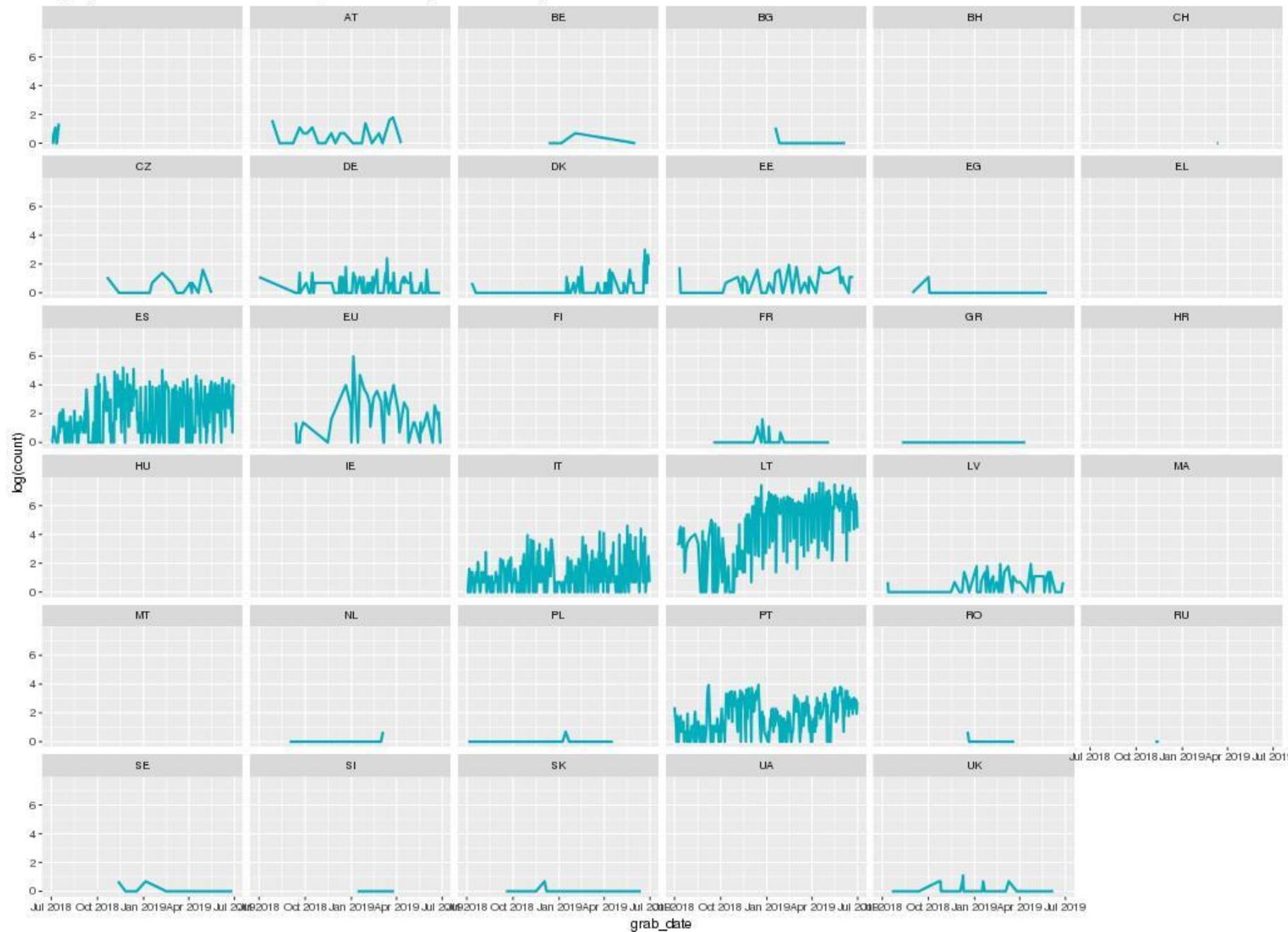
Log of job ads counts within reference period for IE by source country



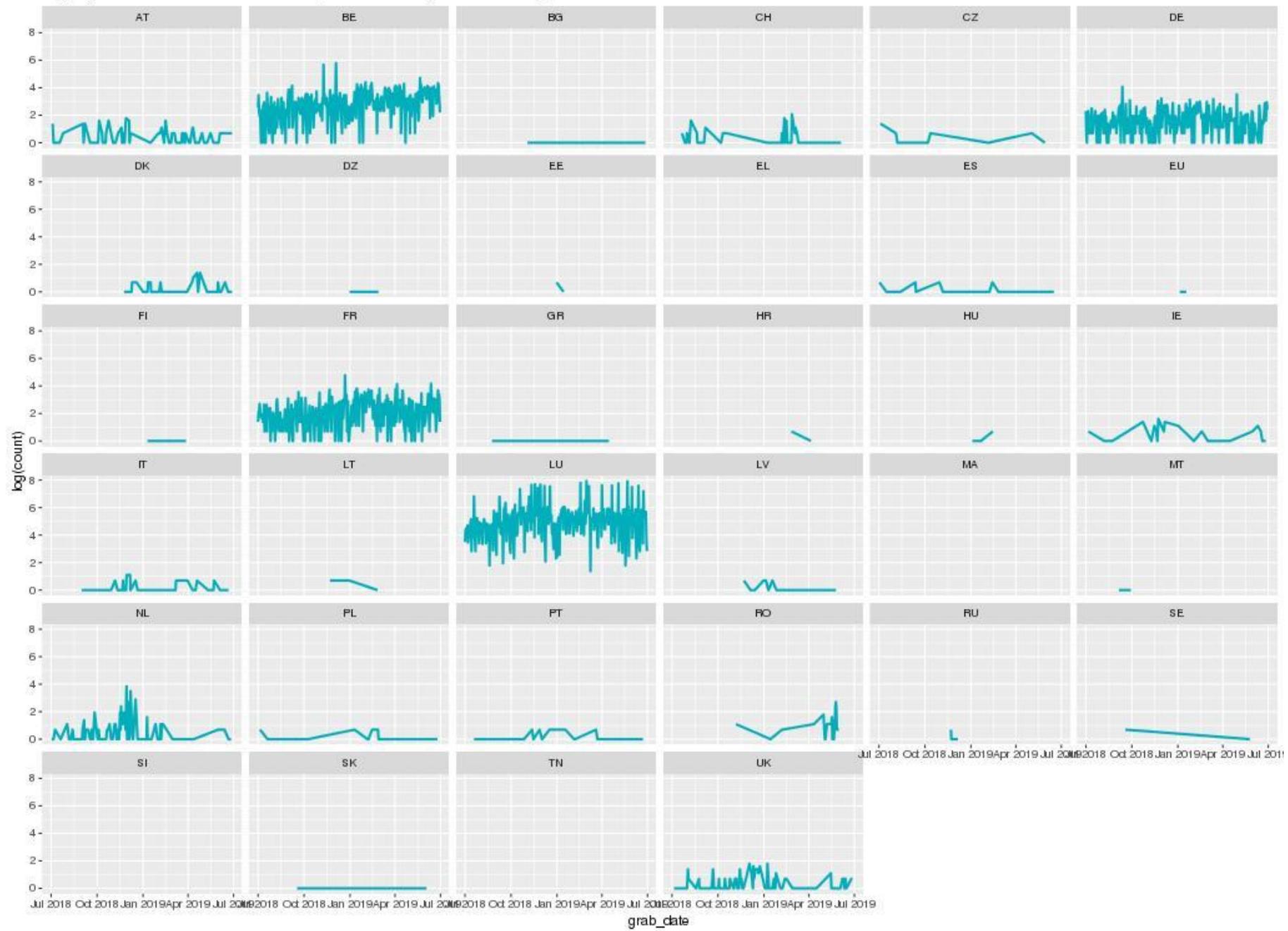
Log of job ads counts within reference period for IT by source country



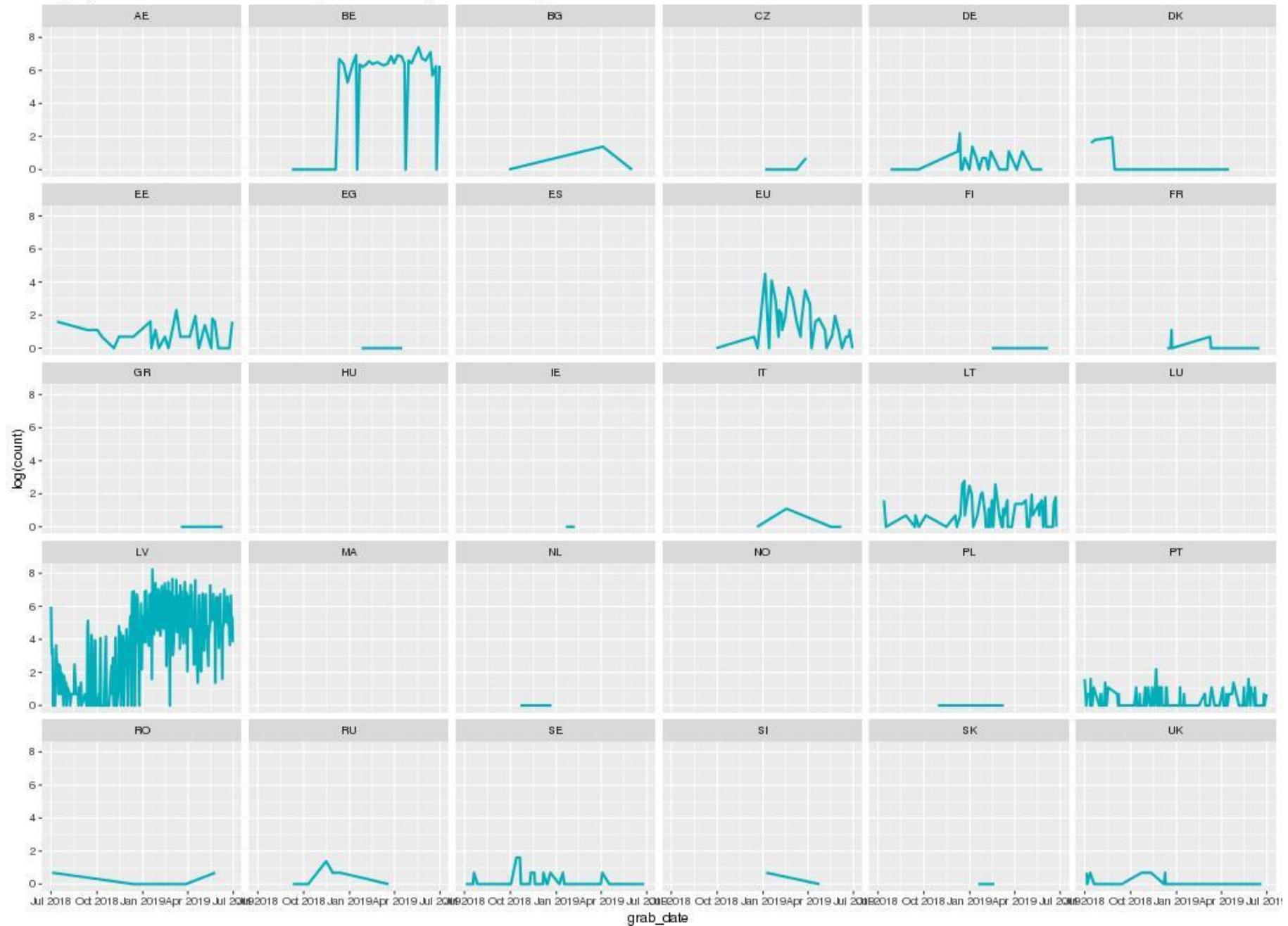
Log of job ads counts within reference period for LT by source country



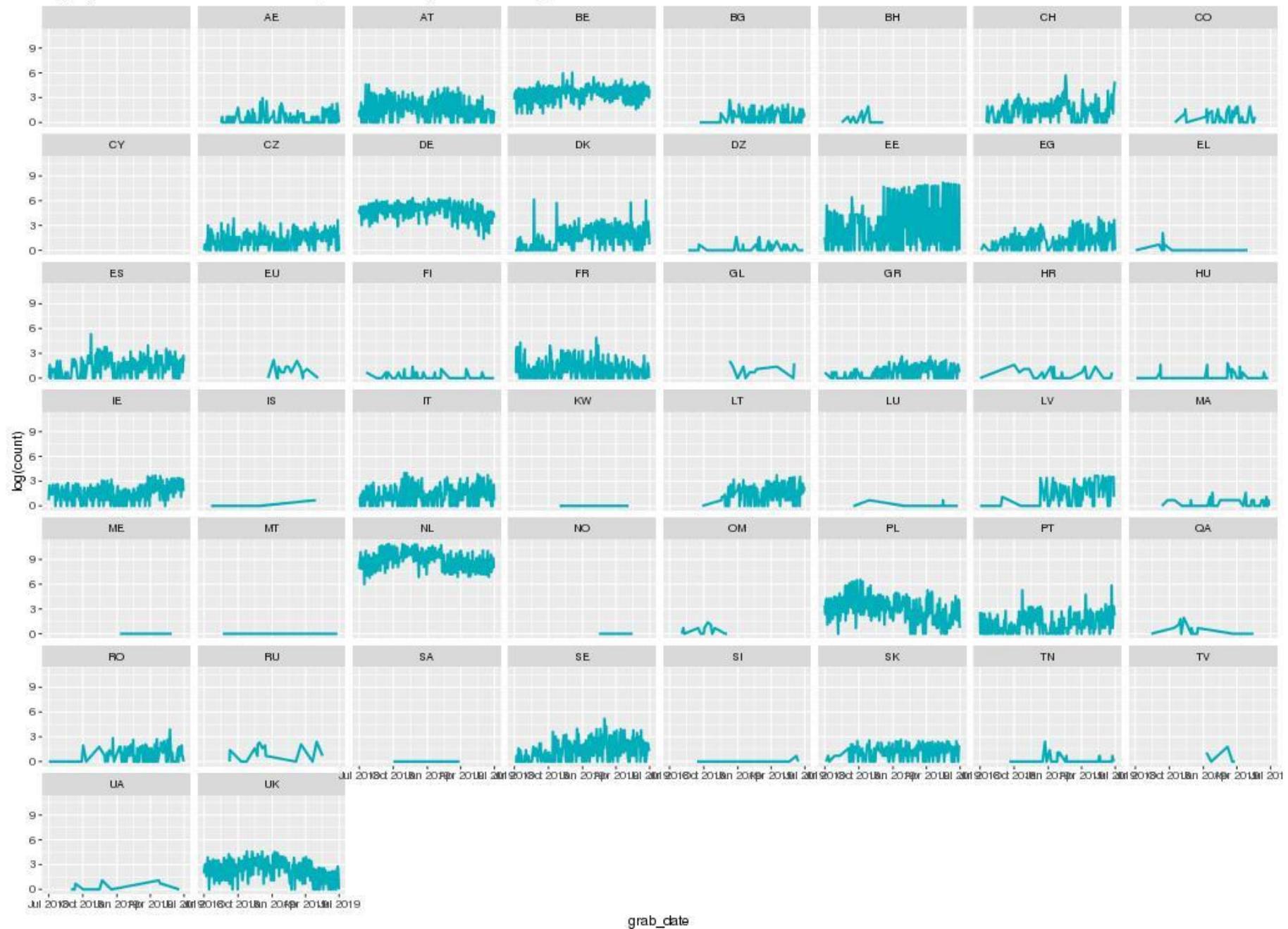
Log of job ads counts within reference period for LU by source country



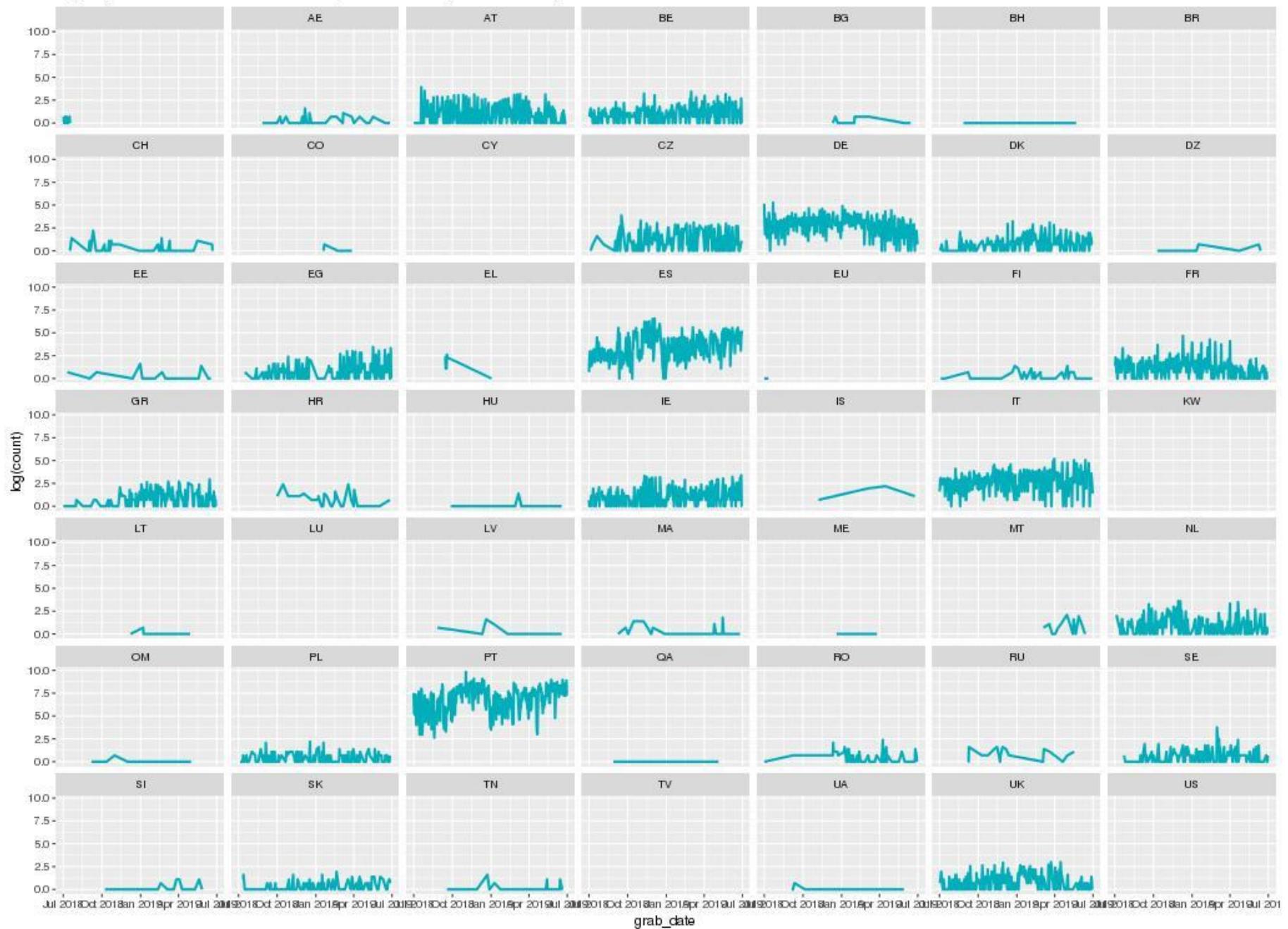
Log of job ads counts within reference period for LV by source country



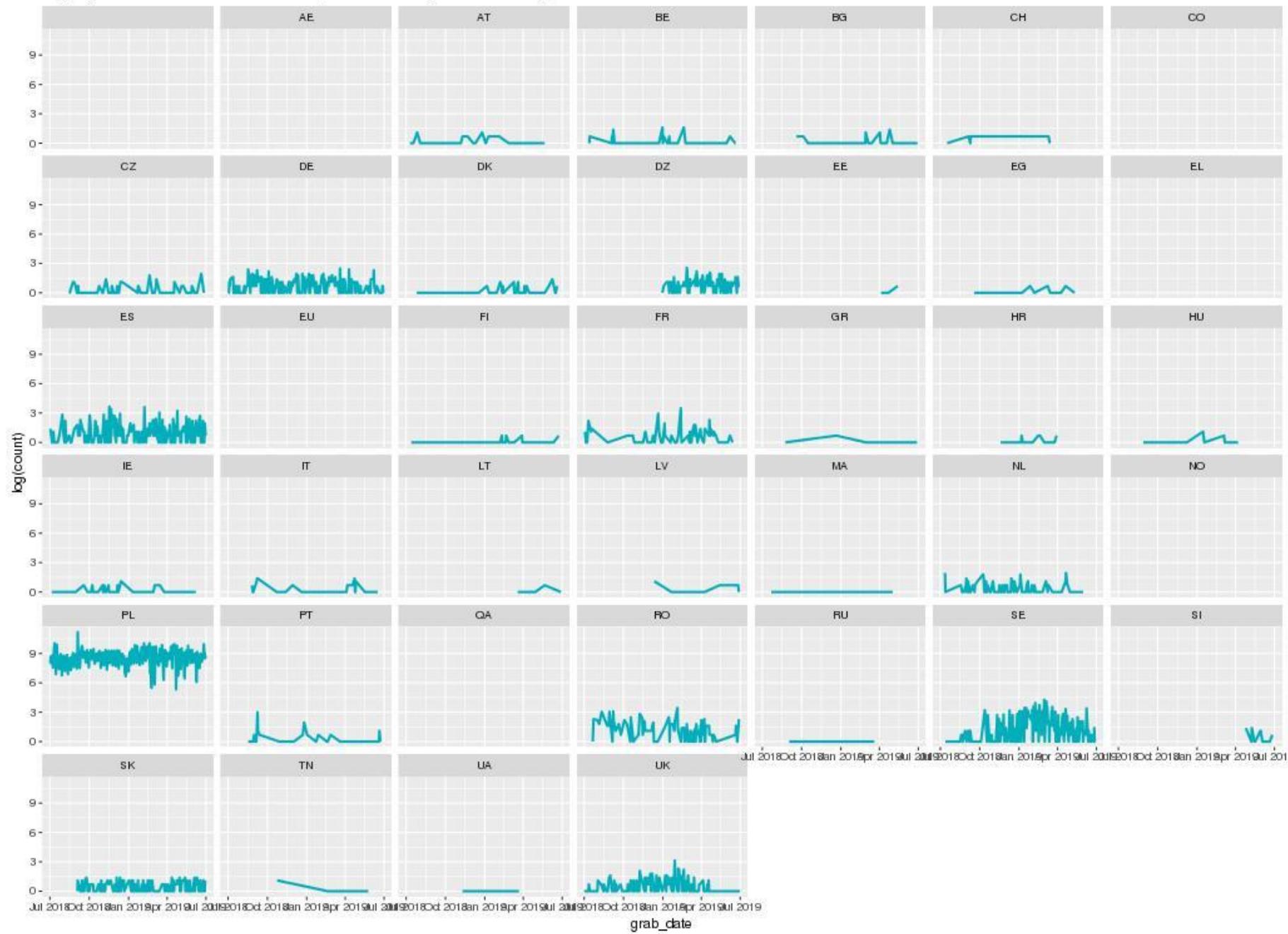
Log of job ads counts within reference period for NL by source country



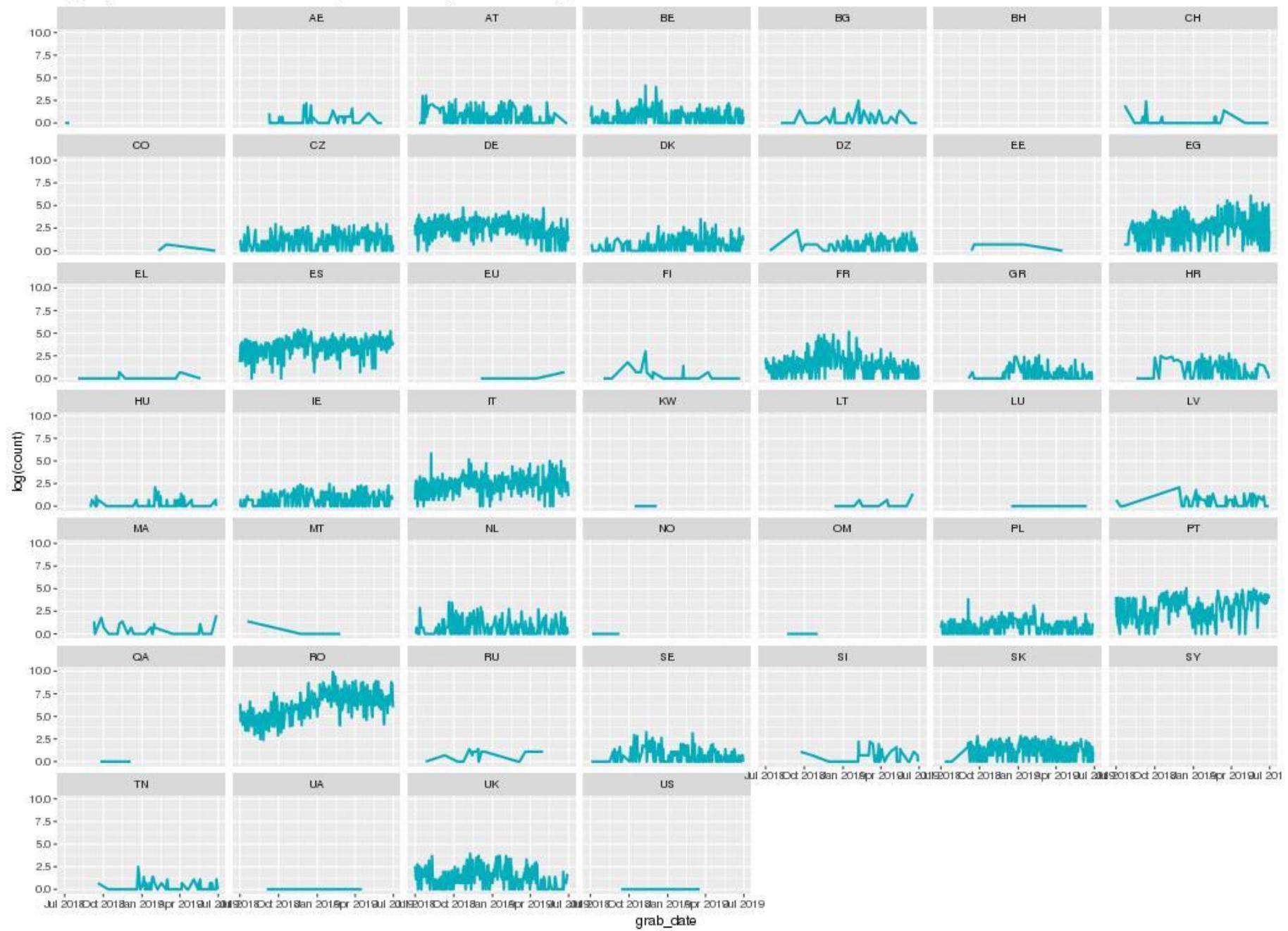
Log of job ads counts within reference period for PT by source country



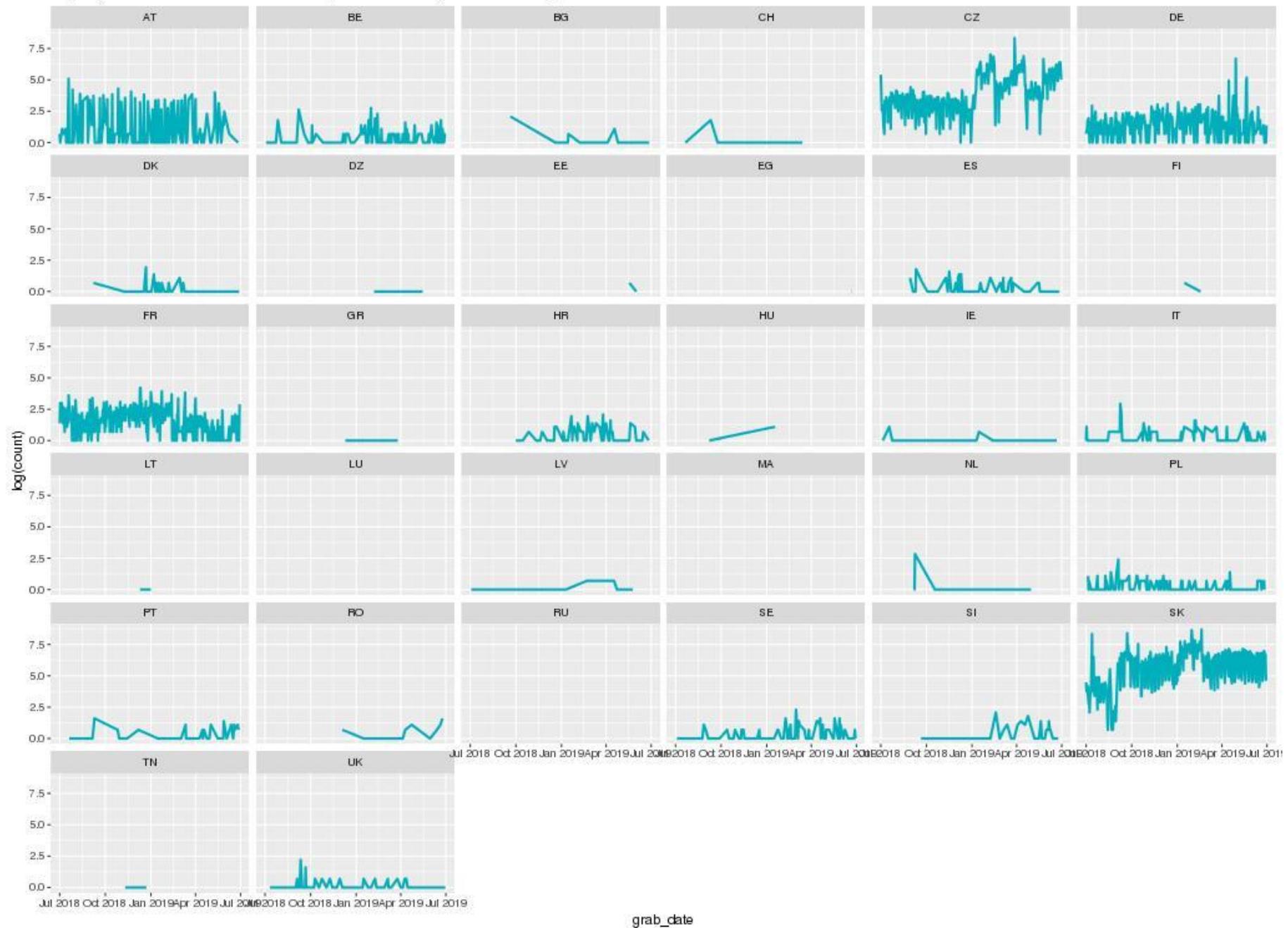
Log of job ads counts within reference period for PL by source country



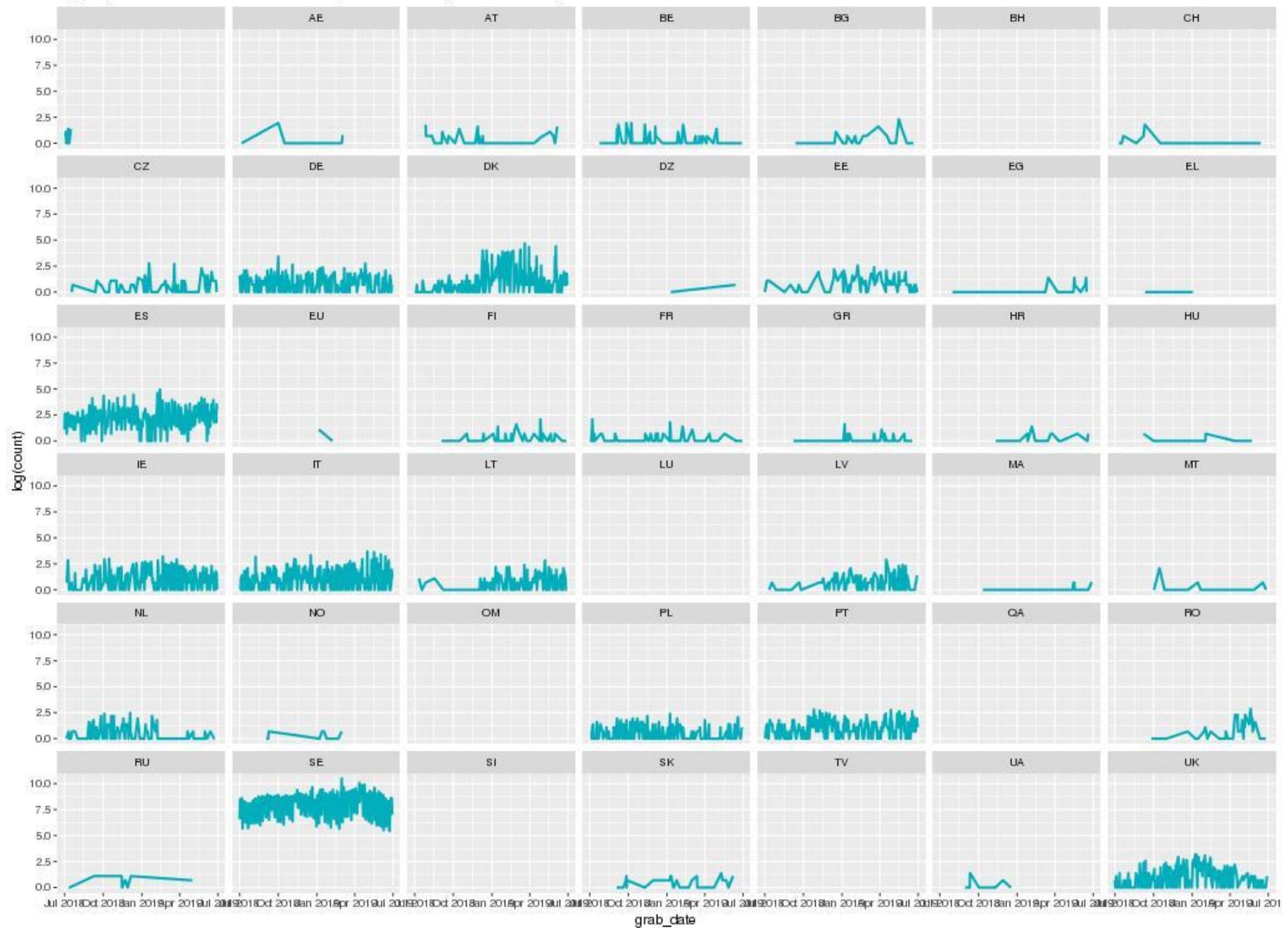
Log of job ads counts within reference period for RO by source country



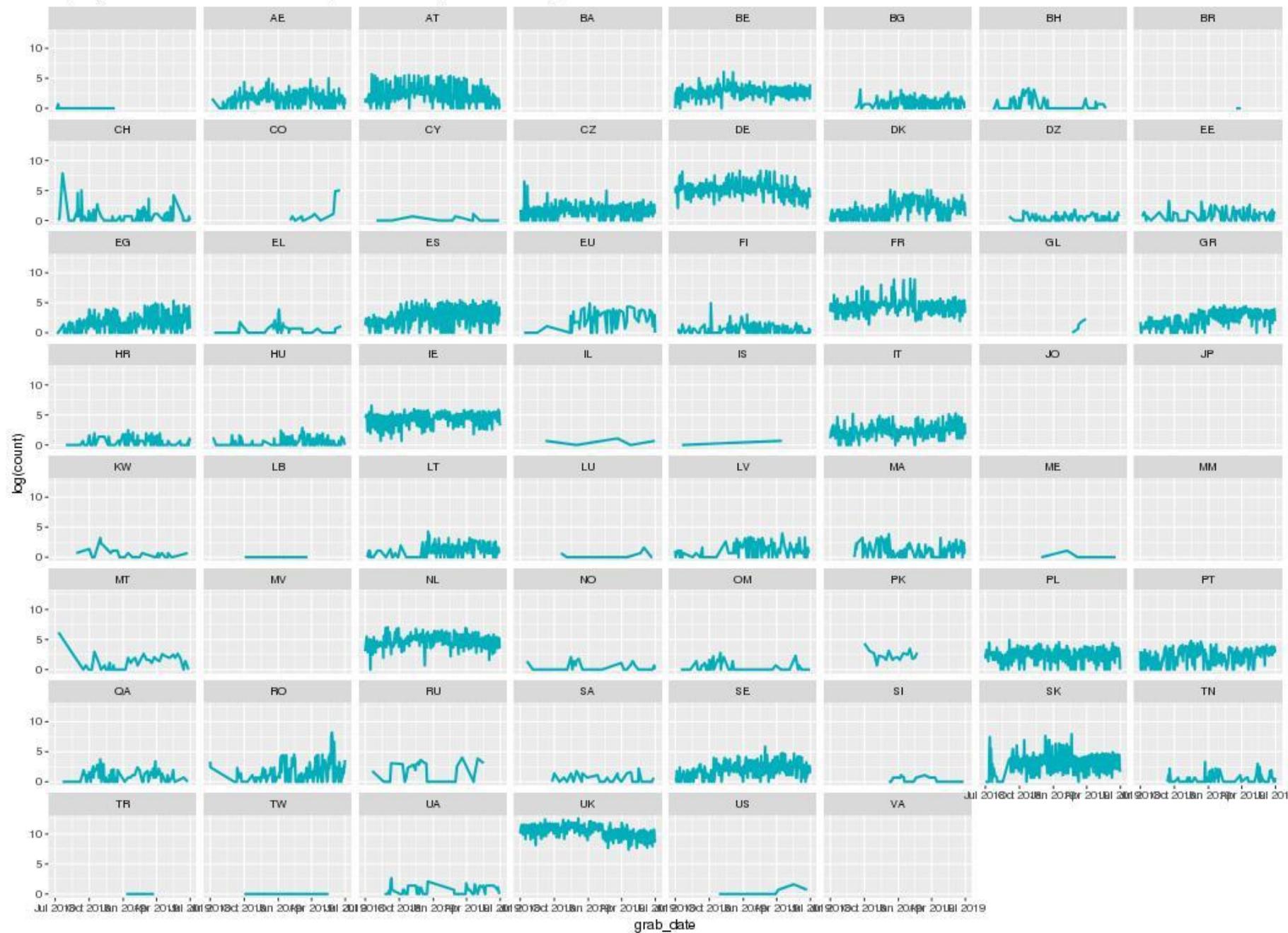
Log of job ads counts within reference period for SK by source country



Log of job ads counts within reference period for SE by source country

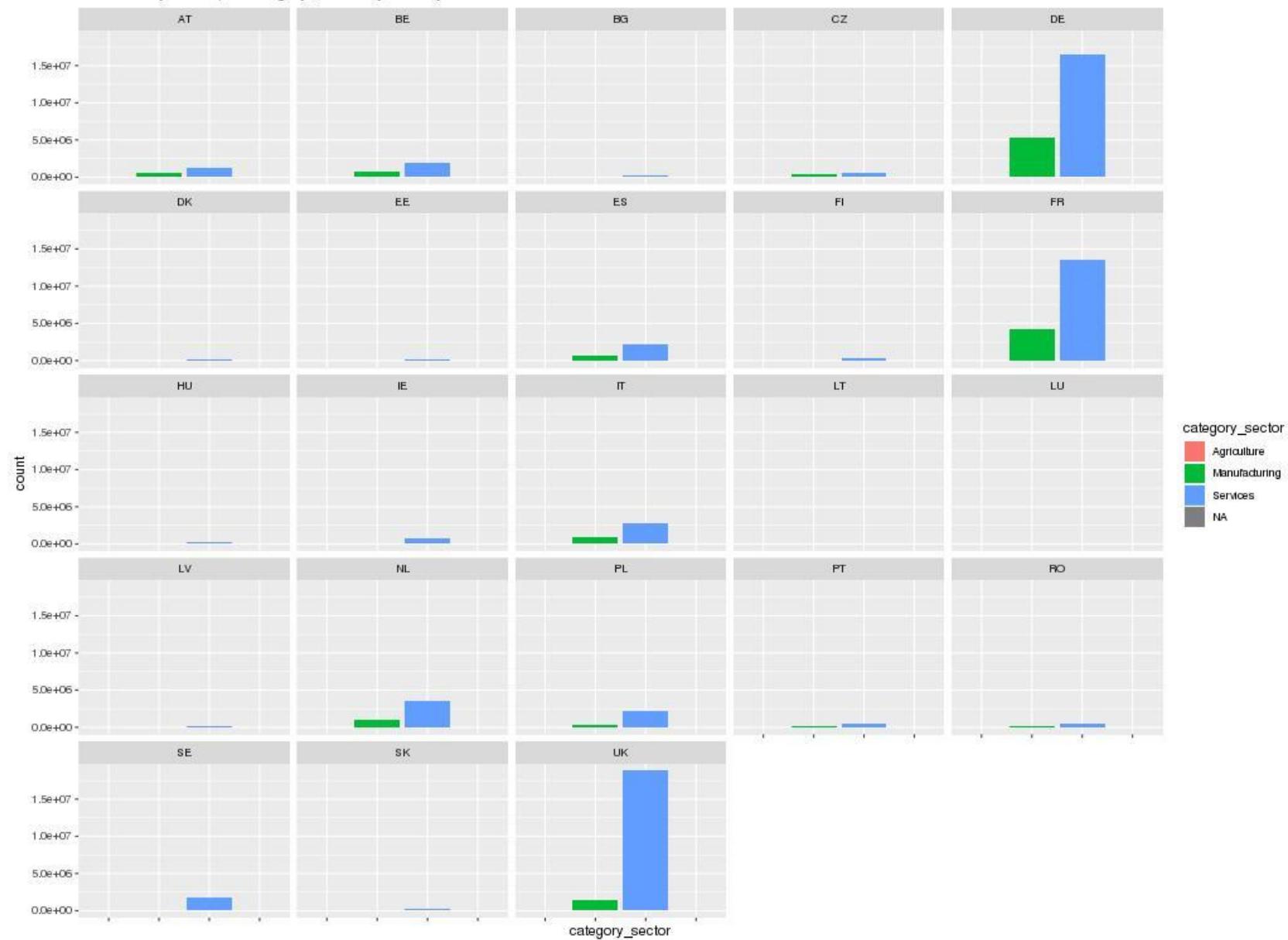


Log of job ads counts within reference period for UK by source country



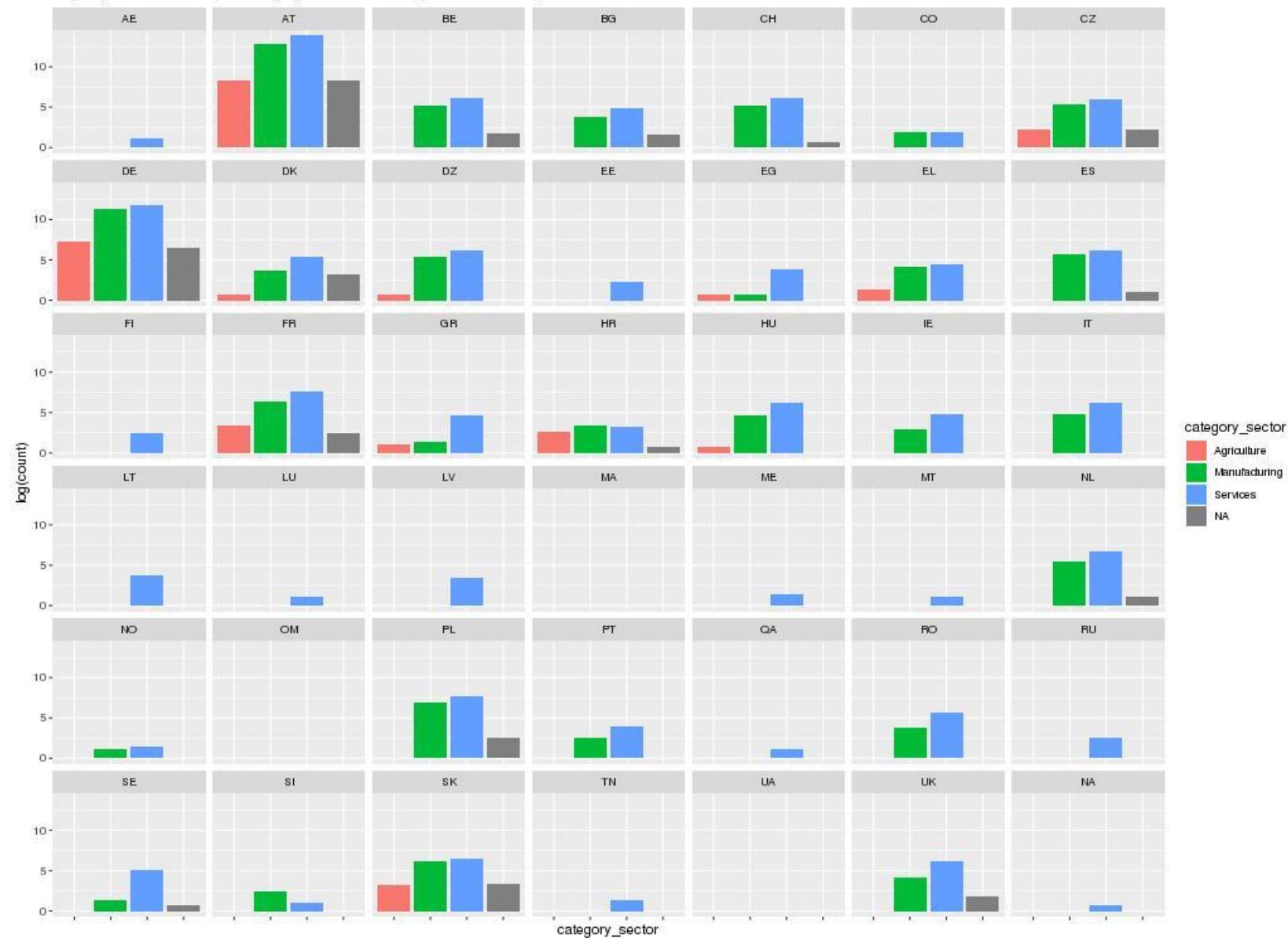
Number of job ads per category sector per country

Number of job ads per category_sector by country

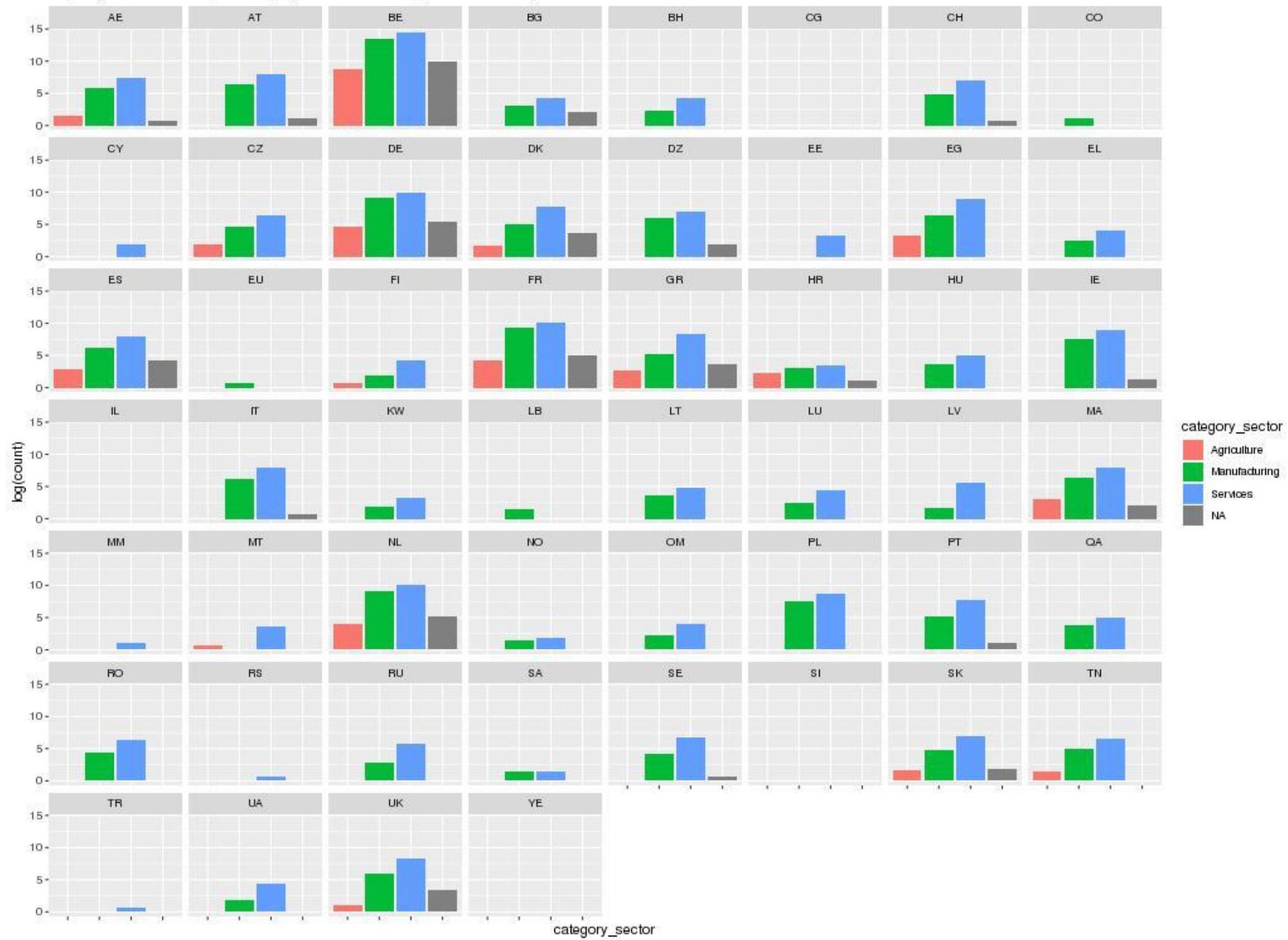


Number of job ads per category sector by source country (*logarithm of counts*)

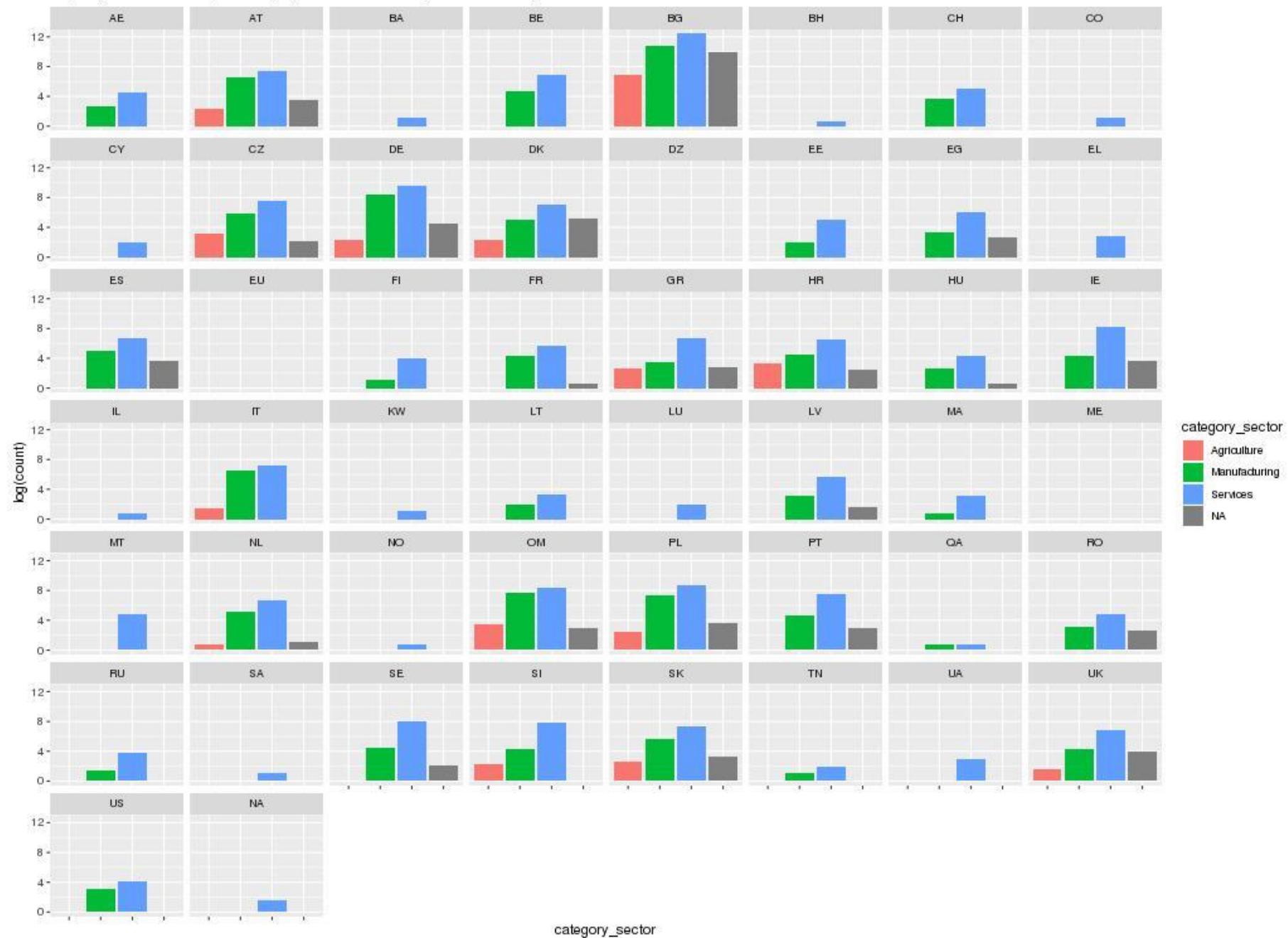
Log of job ads counts per category sector for AT by source country



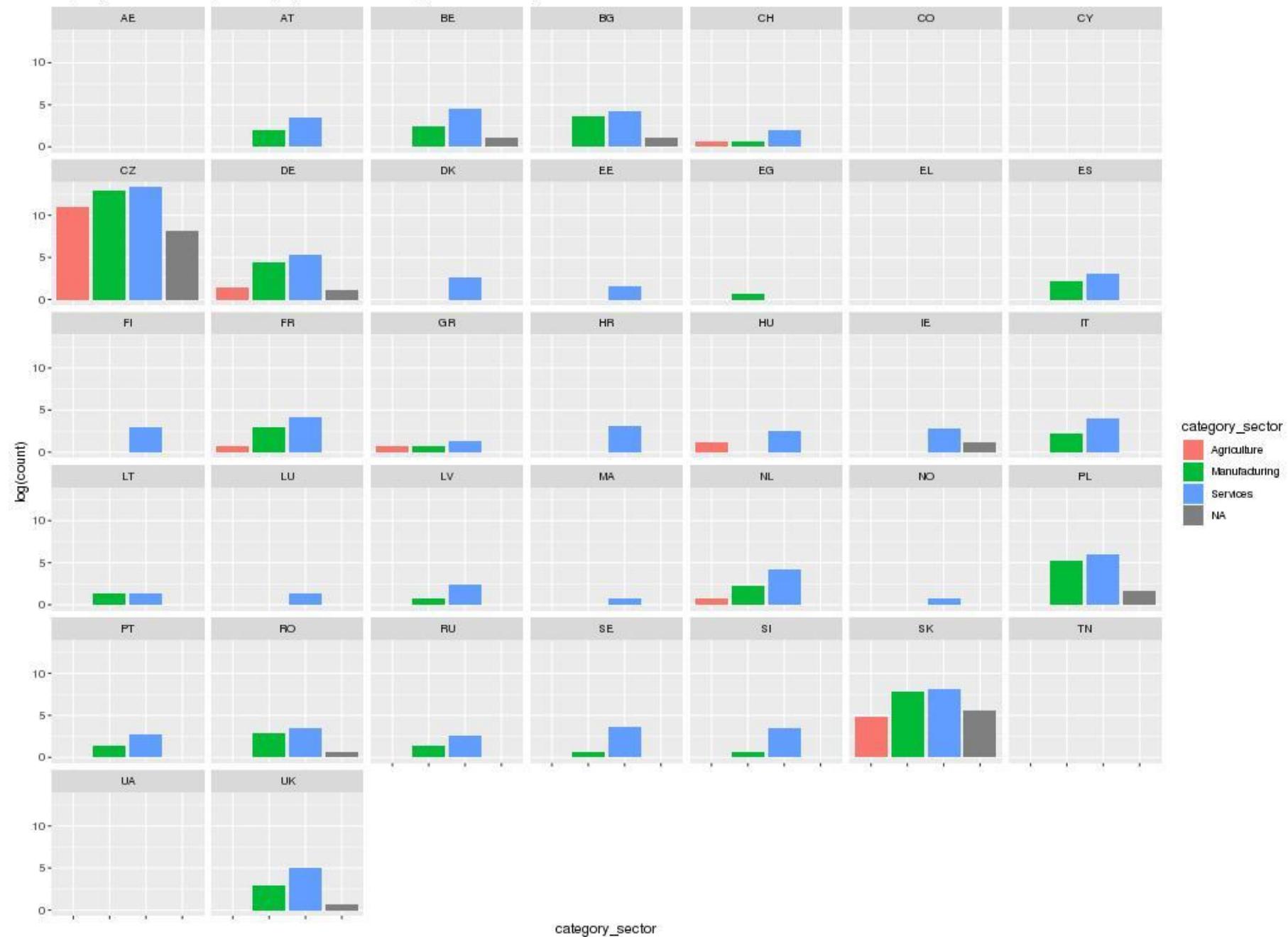
Log of job ads counts per category sector for BE by source country



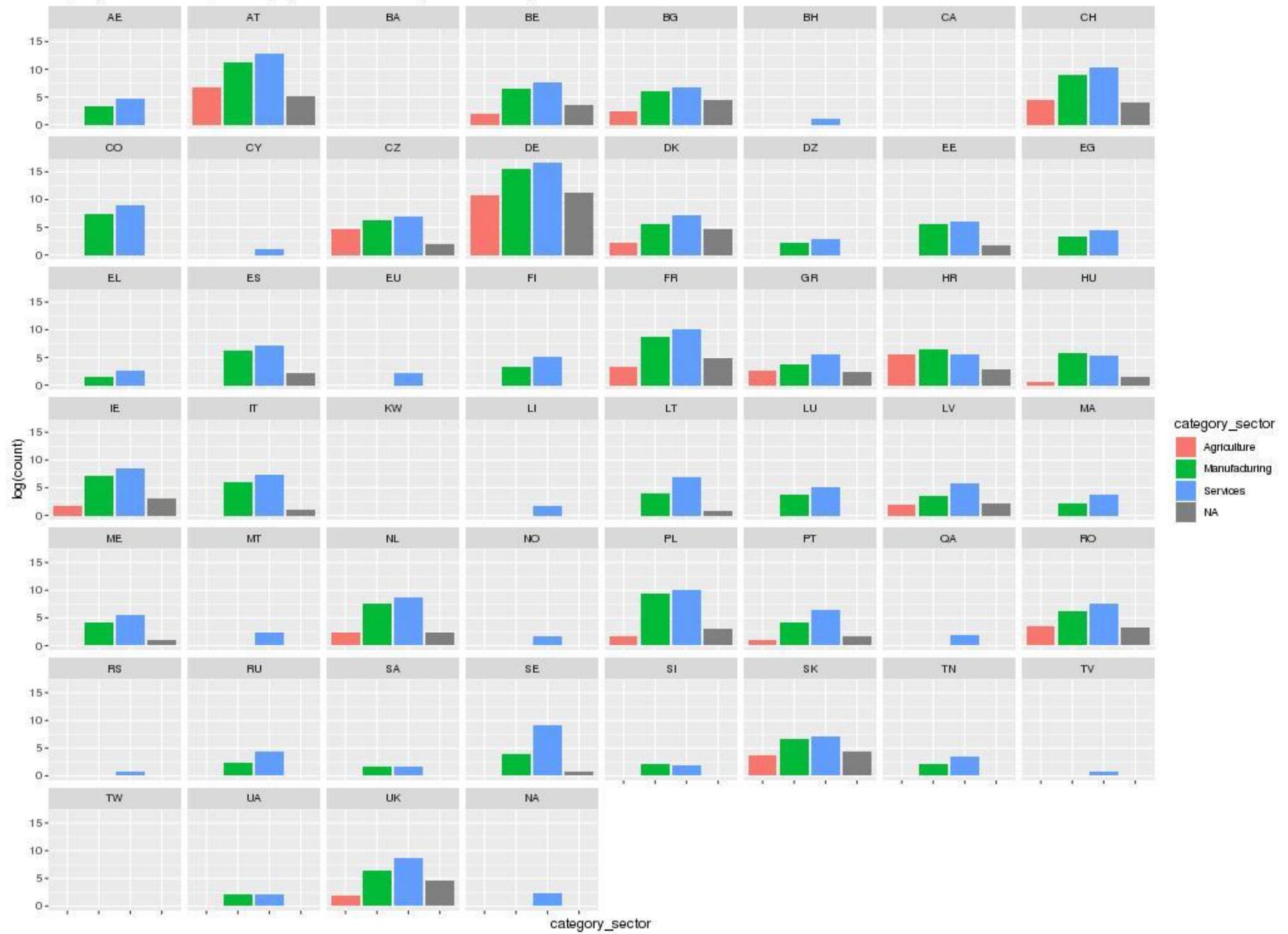
Log of job ads counts per category sector for BG by source country



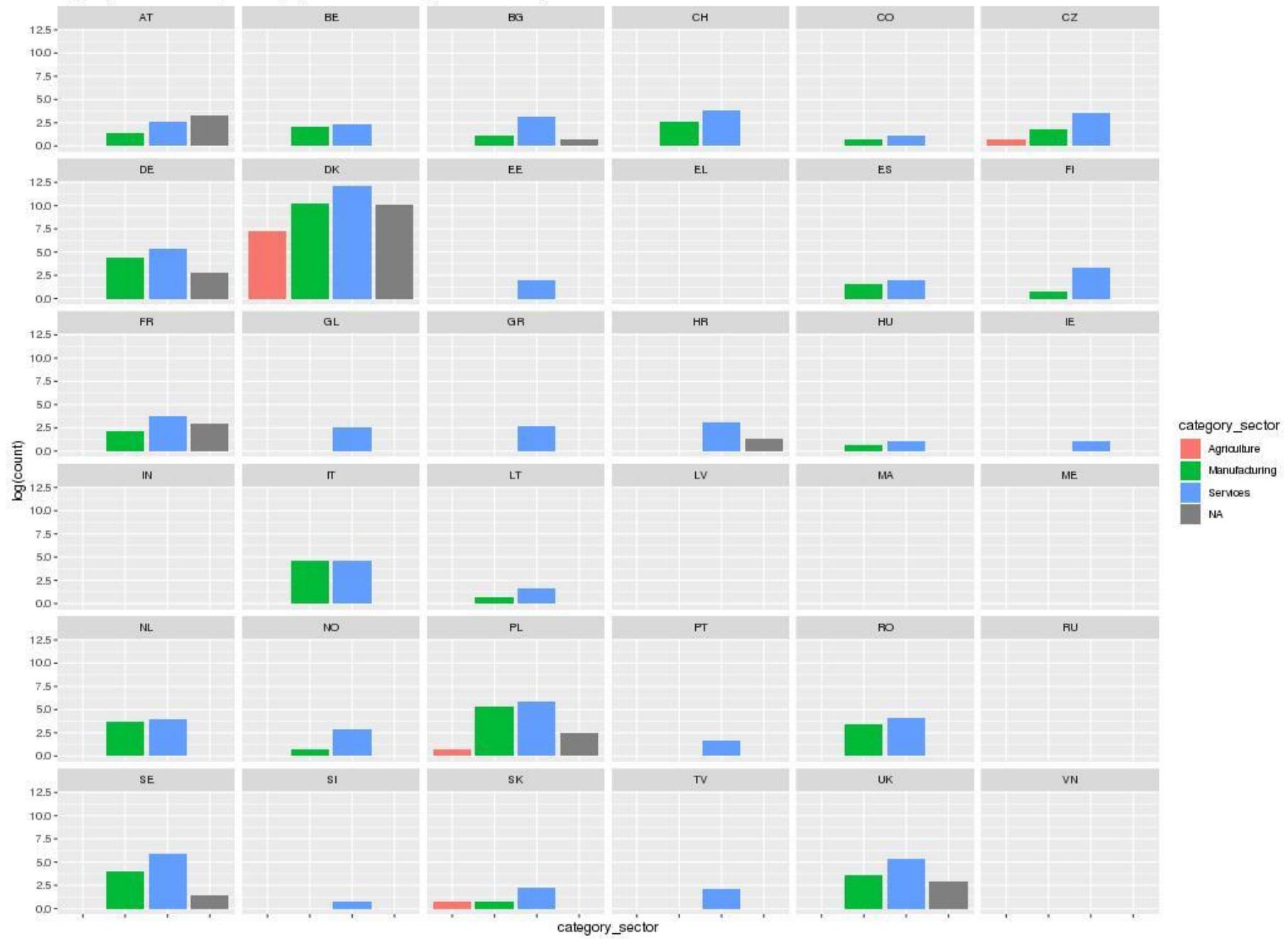
Log of job ads counts per category sector for CZ by source country



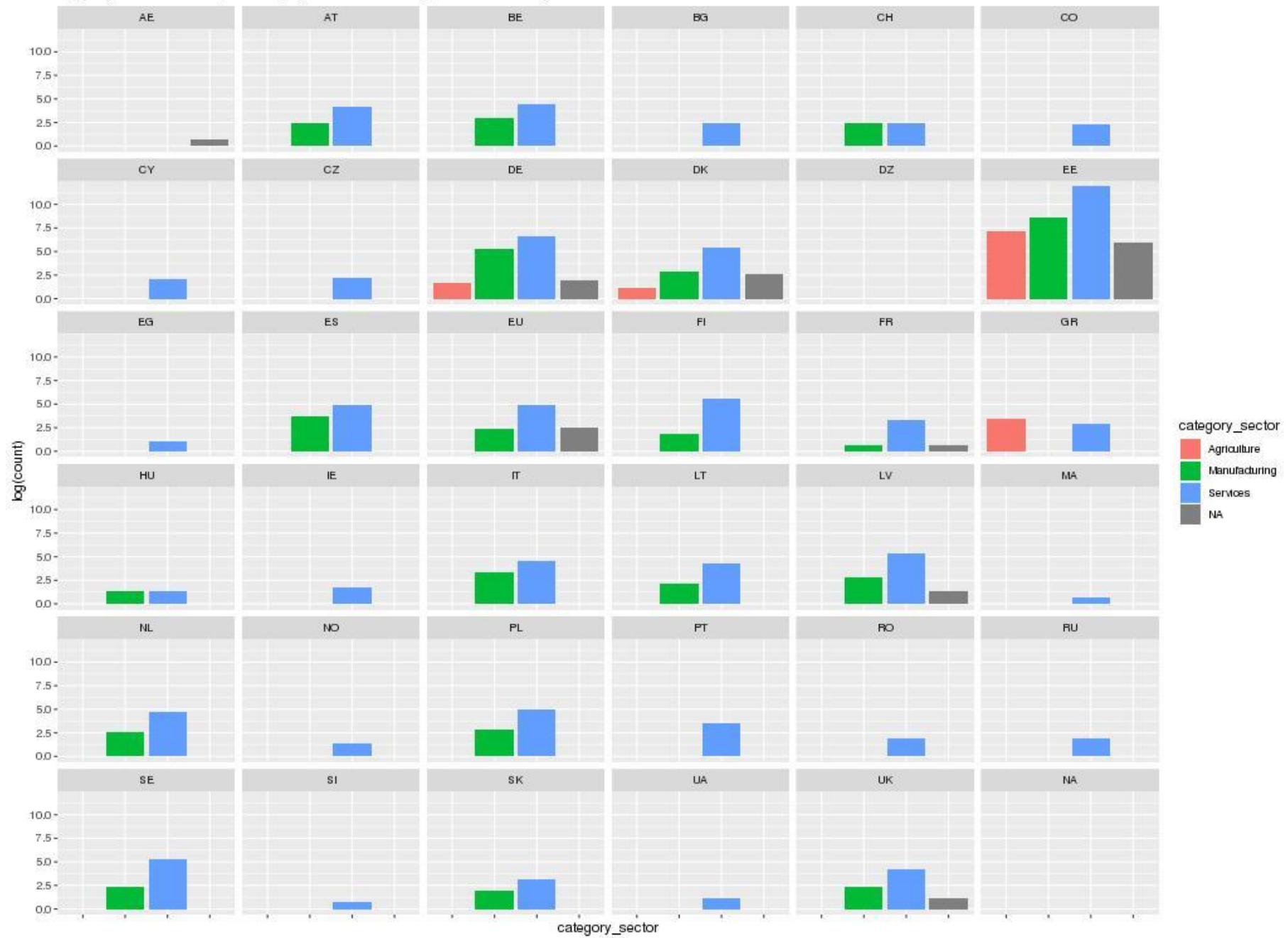
Log of job ads counts per category sector for DE by source country



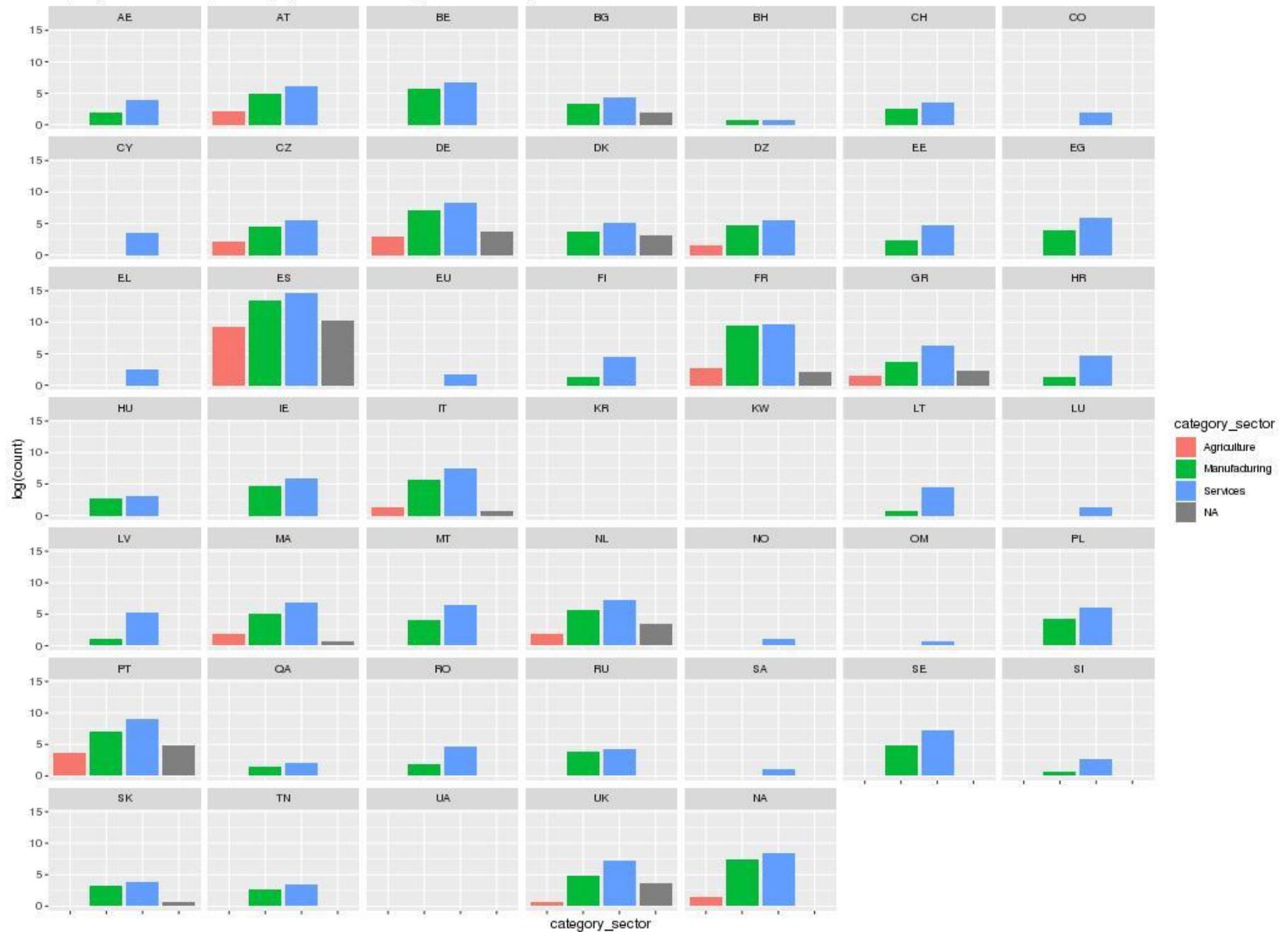
Log of job ads counts per category sector for DK by source country



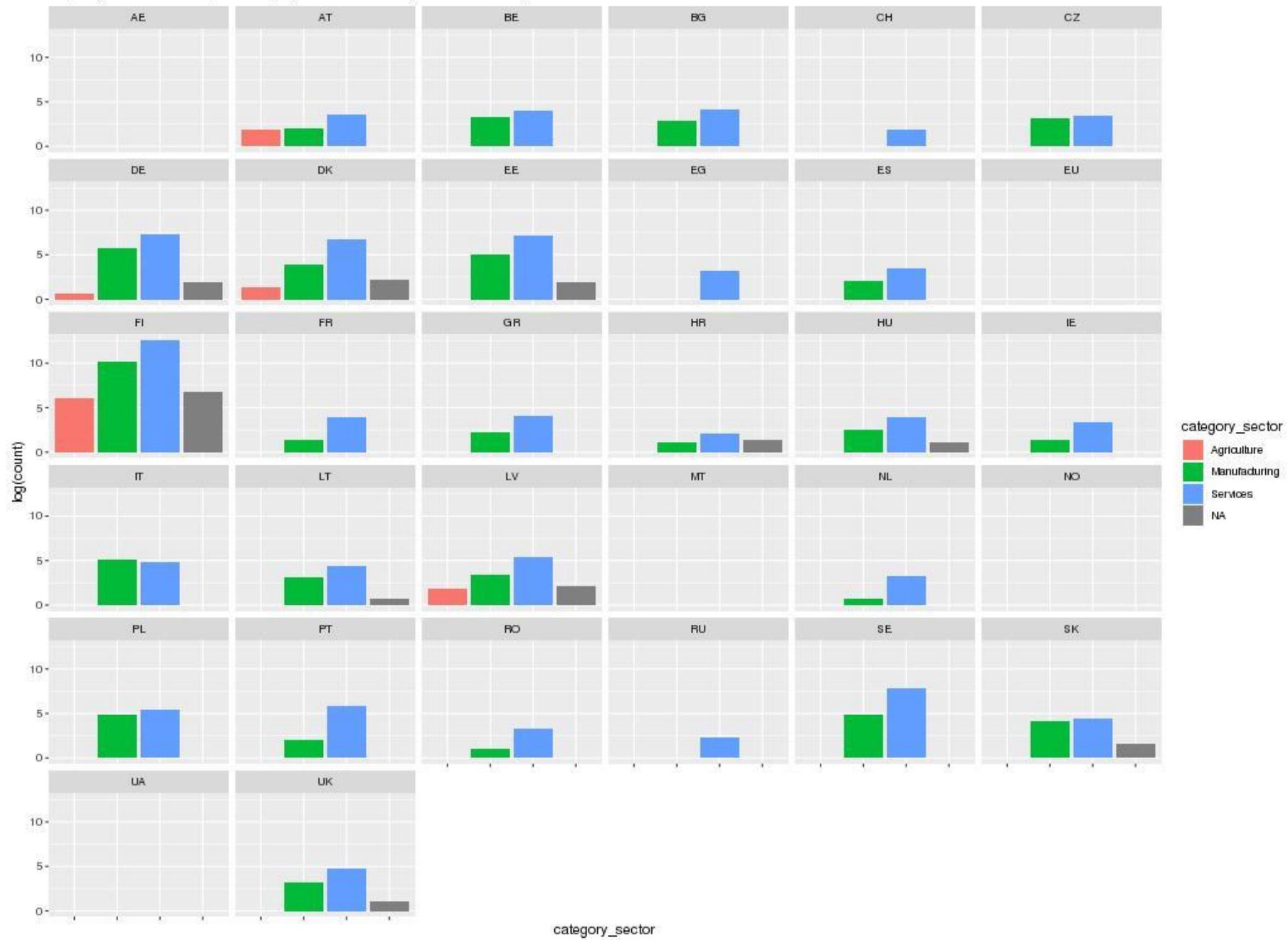
Log of job ads counts per category sector for EE by source country



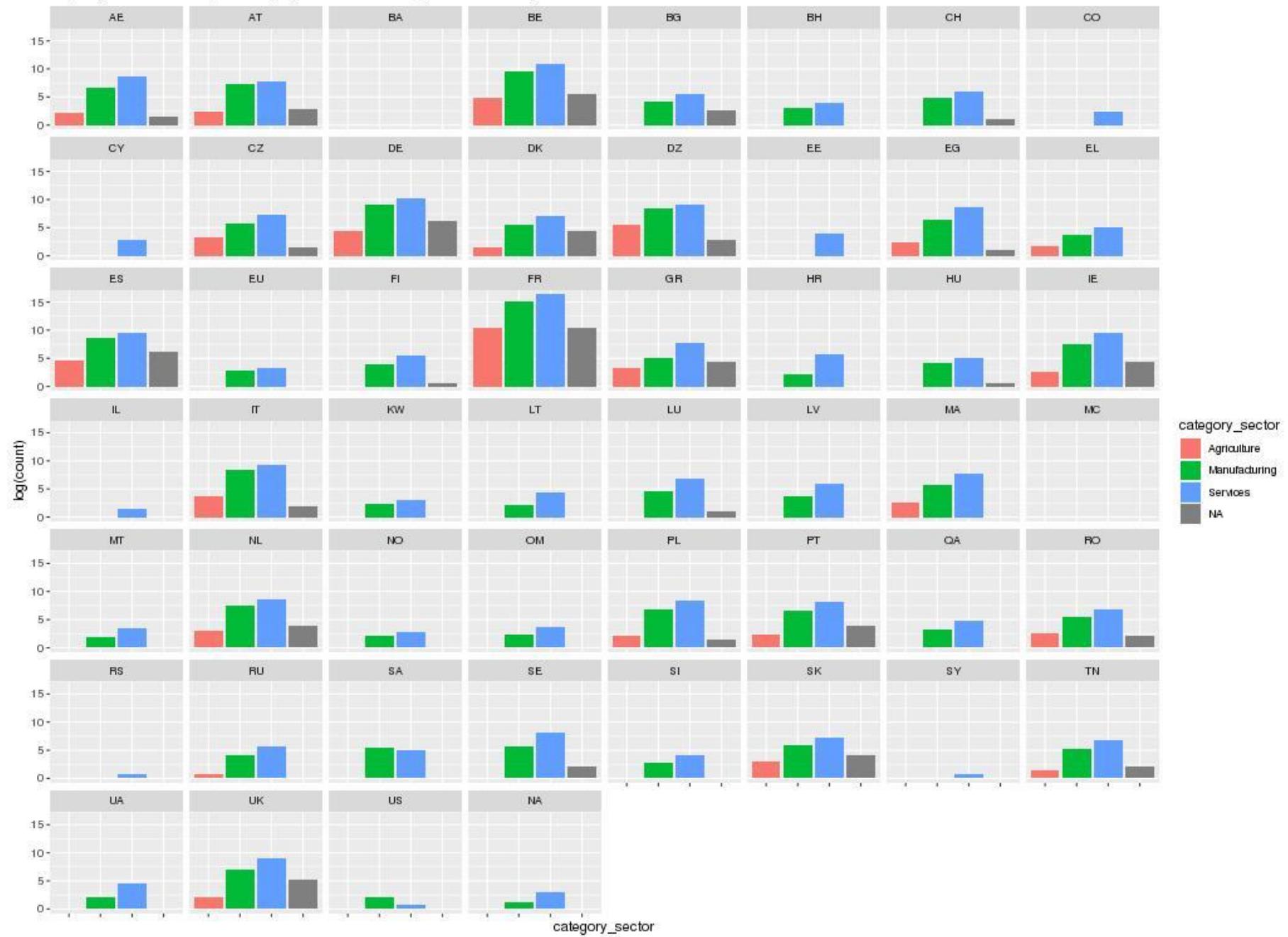
Log of job ads counts per category sector for ES by source country



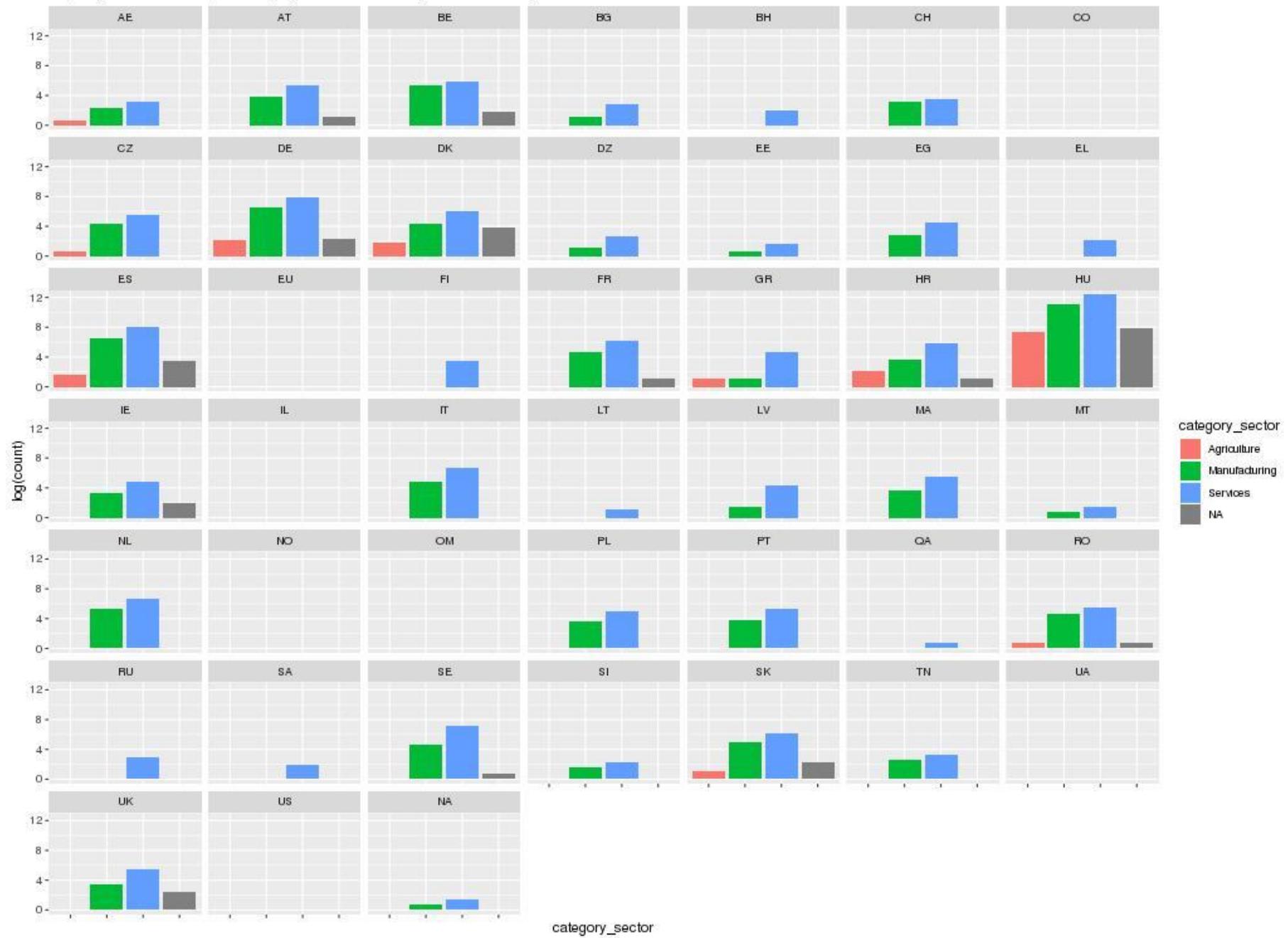
Log of job ads counts per category sector for FI by source country



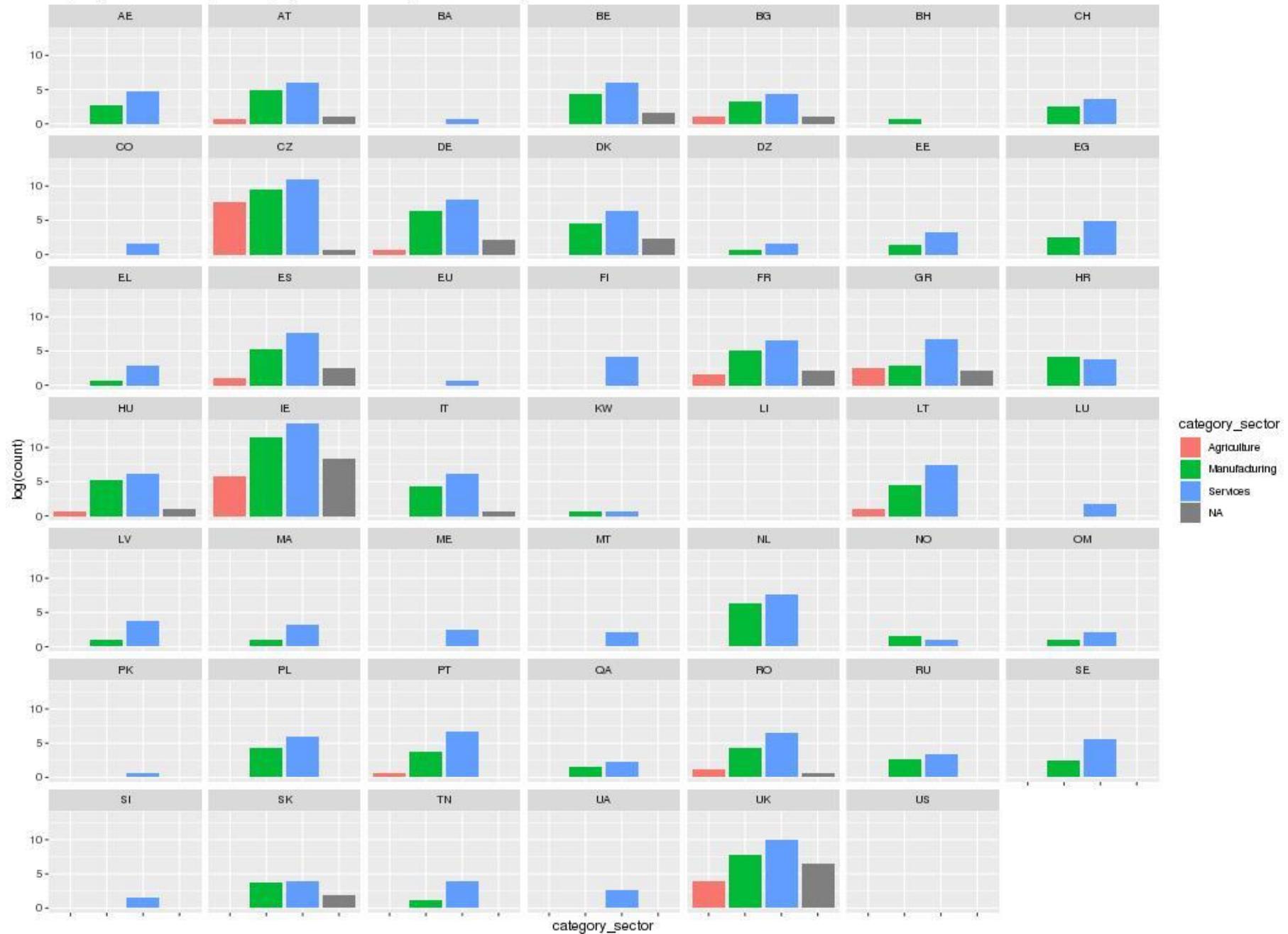
Log of job ads counts per category sector for FR by source country



Log of job ads counts per category sector for HU by source country



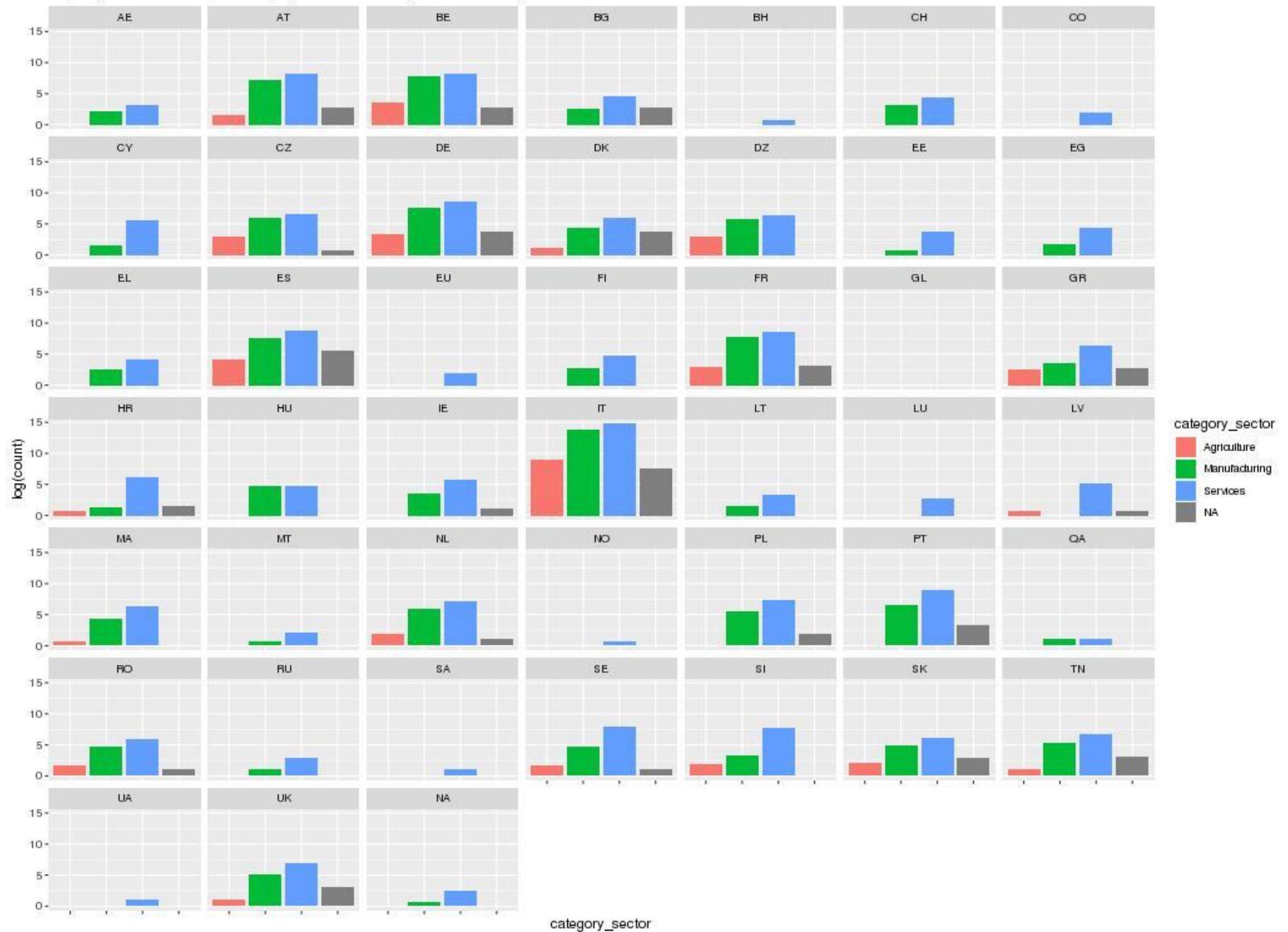
Log of job ads counts per category sector for IE by source country



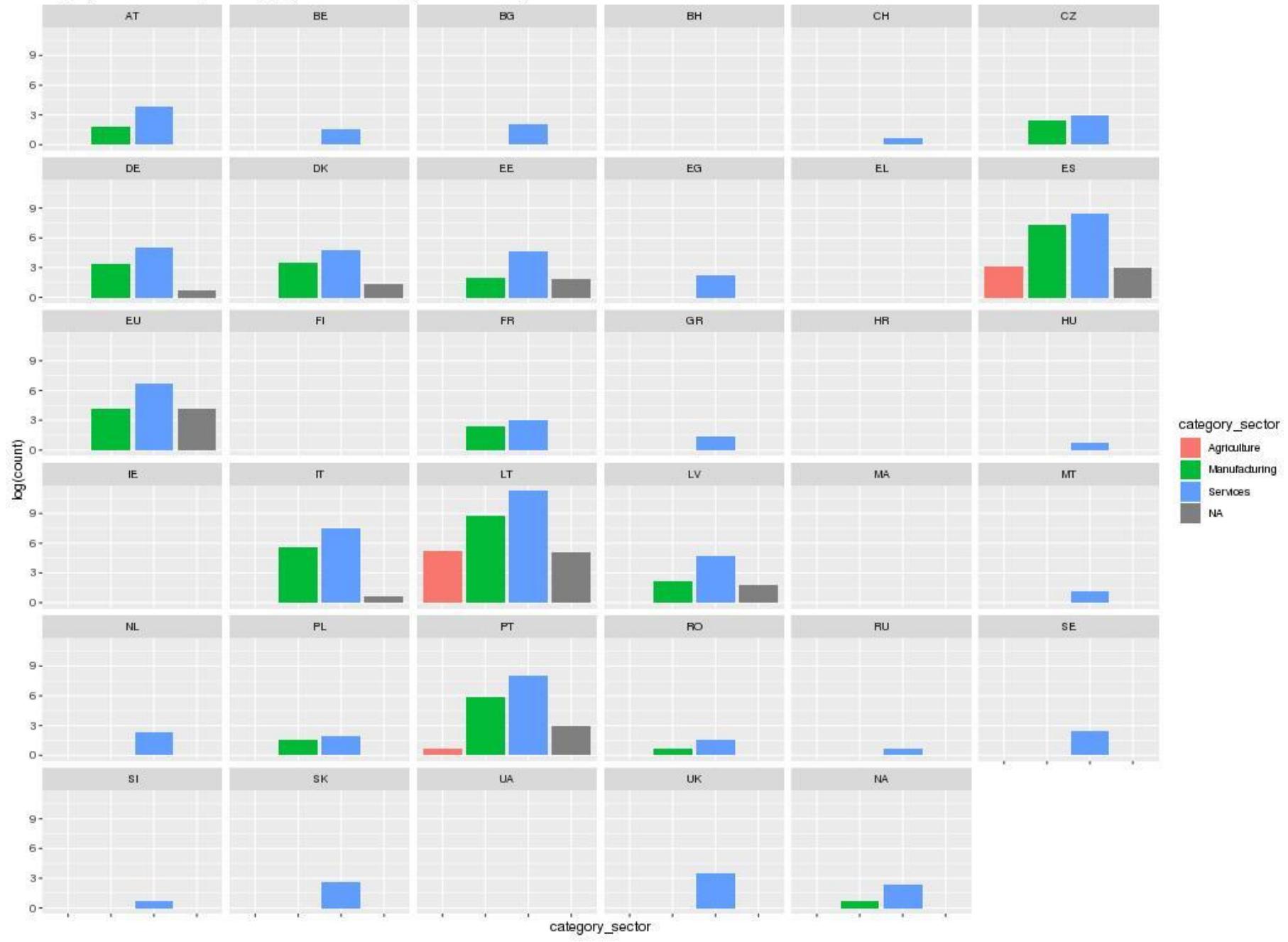
category_sector

- Agriculture
- Manufacturing
- Services
- NA

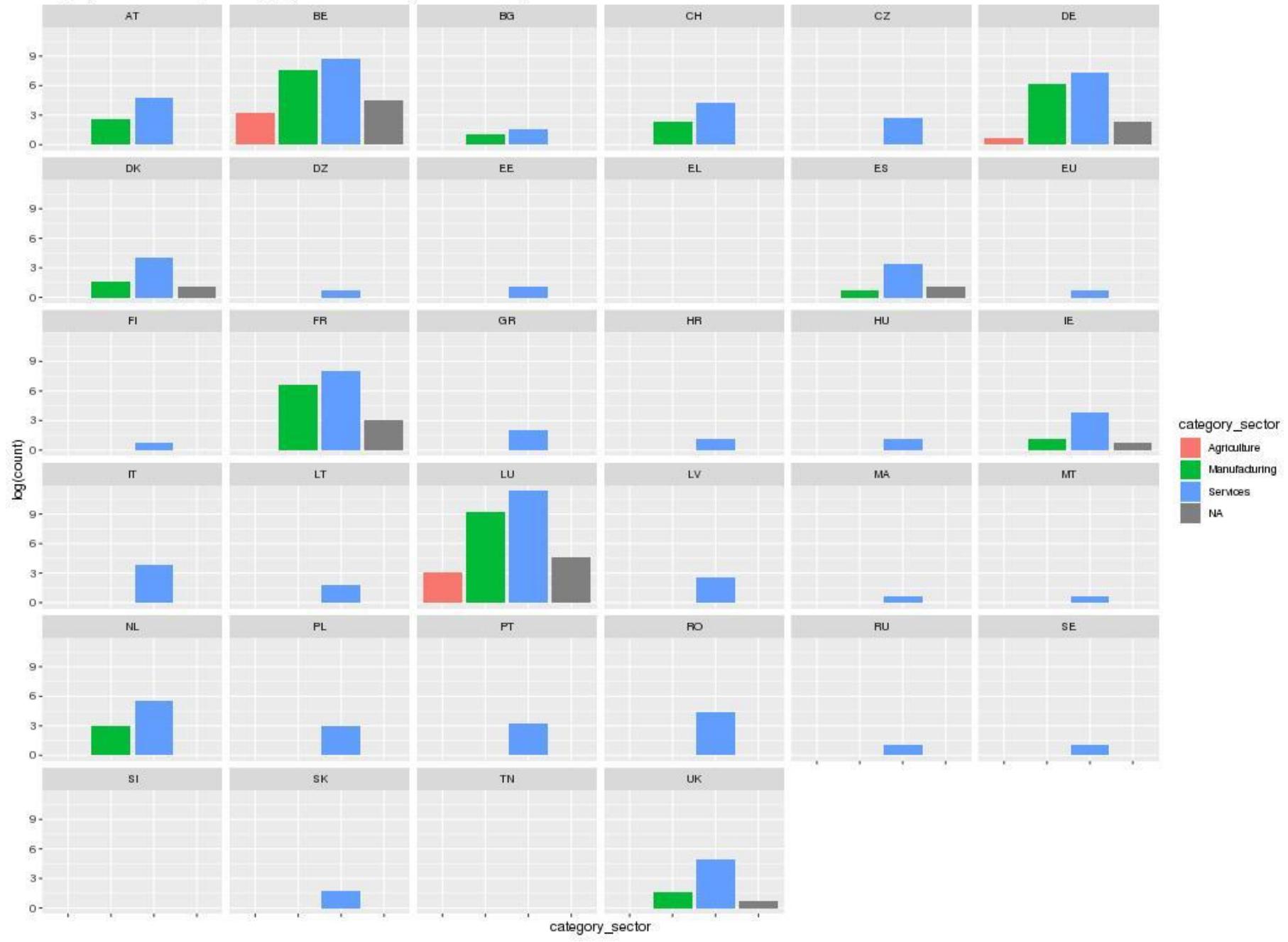
Log of job ads counts per category sector for IT by source country



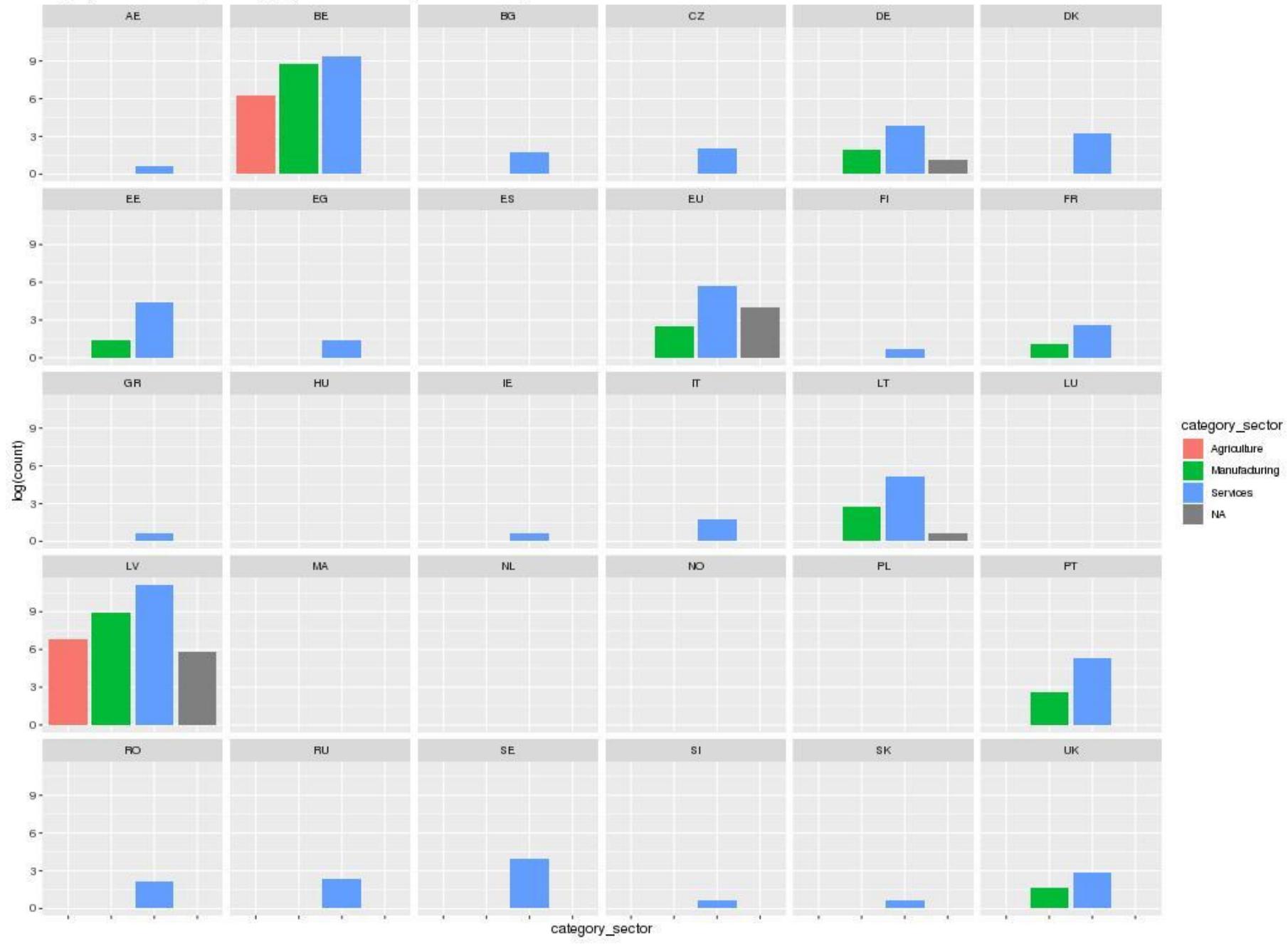
Log of job ads counts per category sector for LT by source country



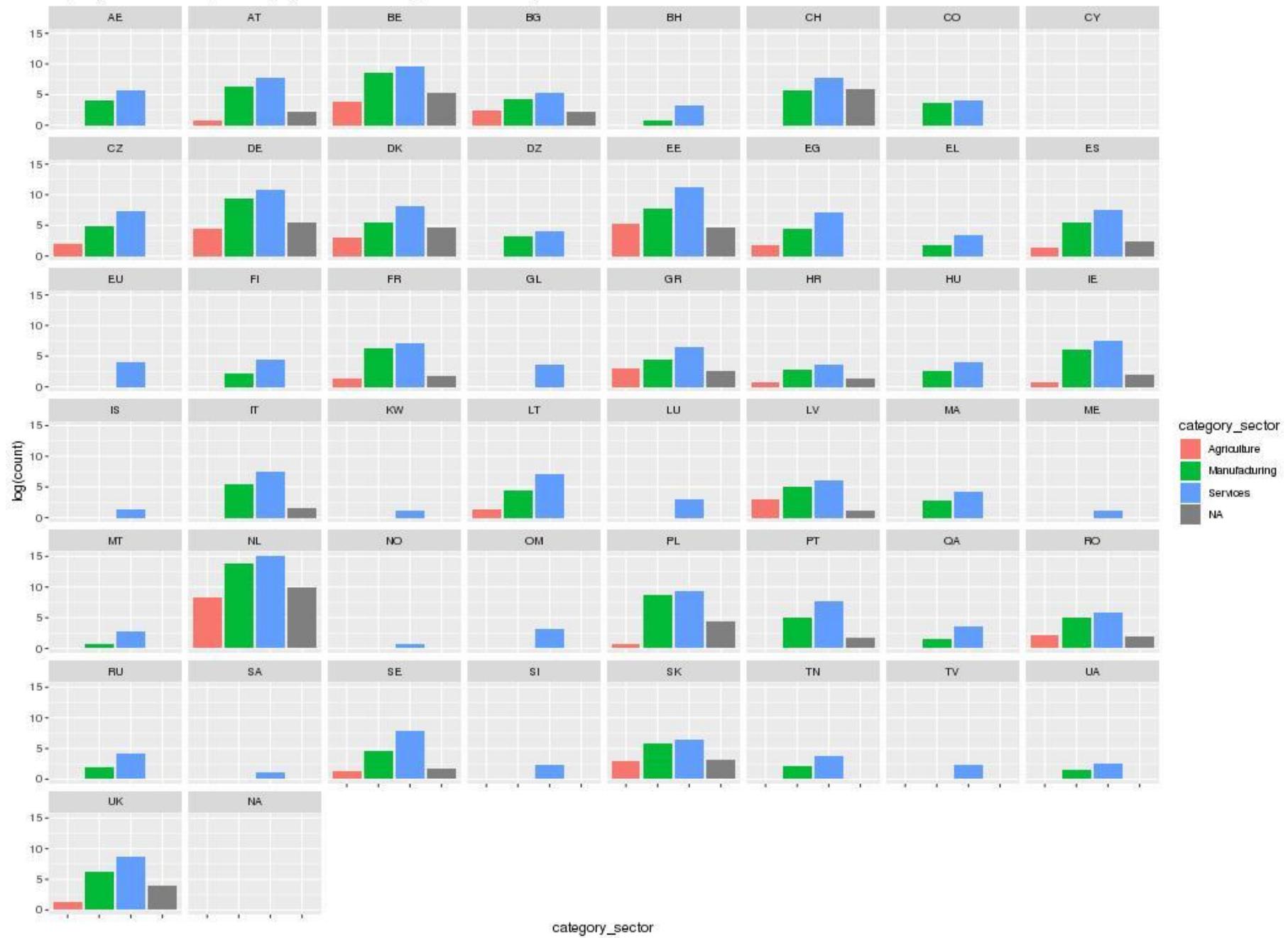
Log of job ads counts per category sector for LU by source country



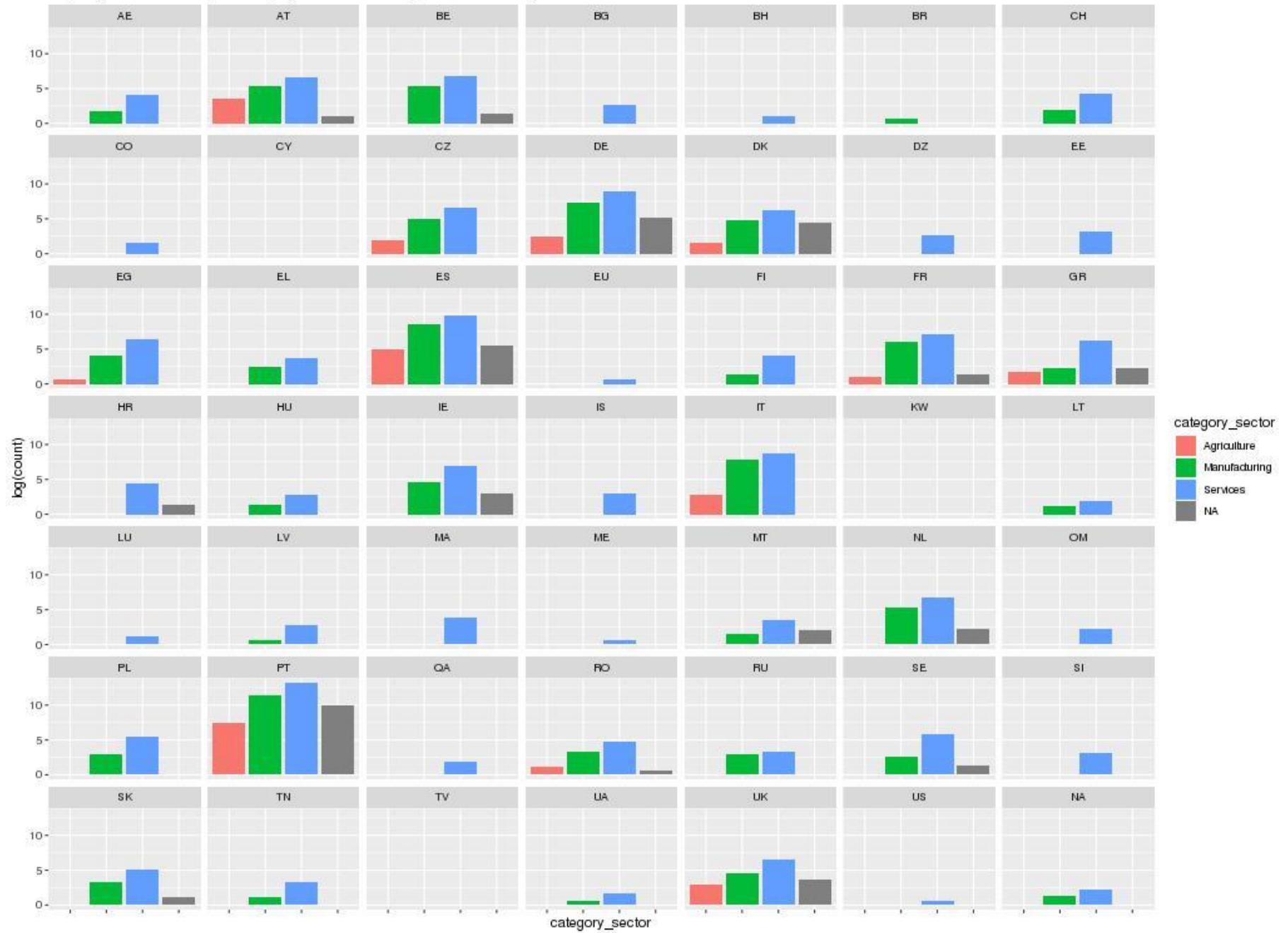
Log of job ads counts per category sector for LV by source country



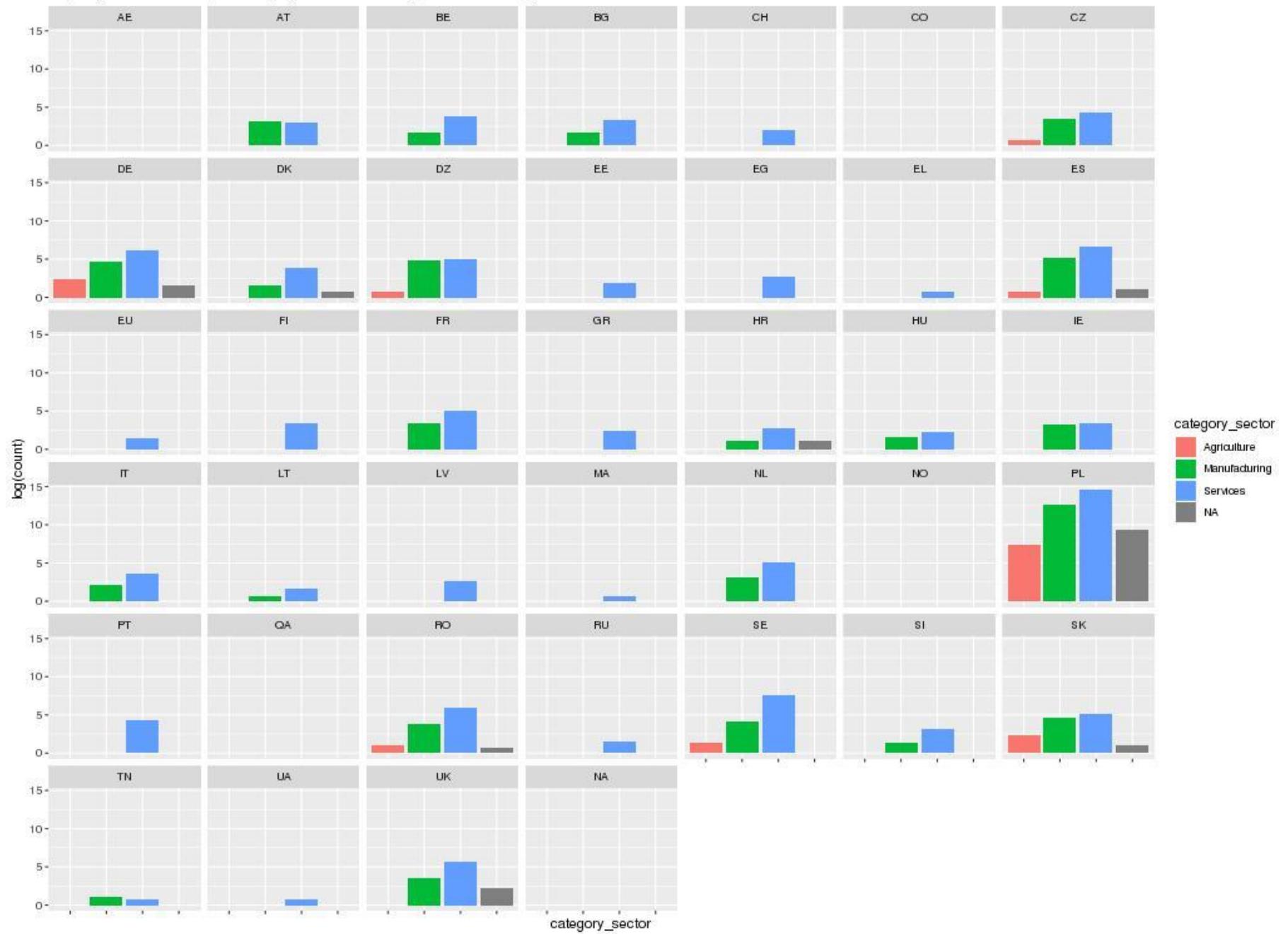
Log of job ads counts per category sector for NL by source country



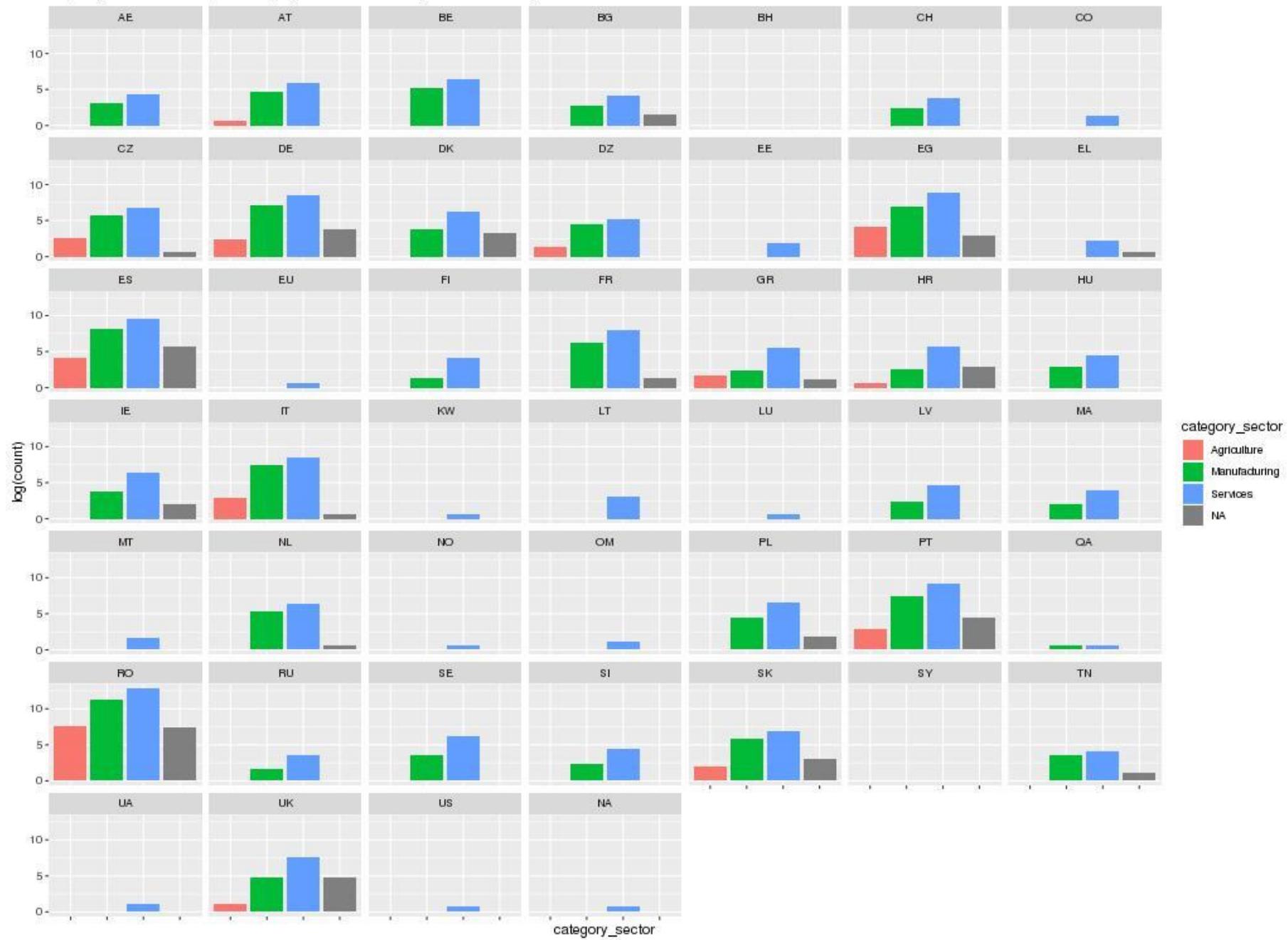
Log of job ads counts per category sector for PT by source country



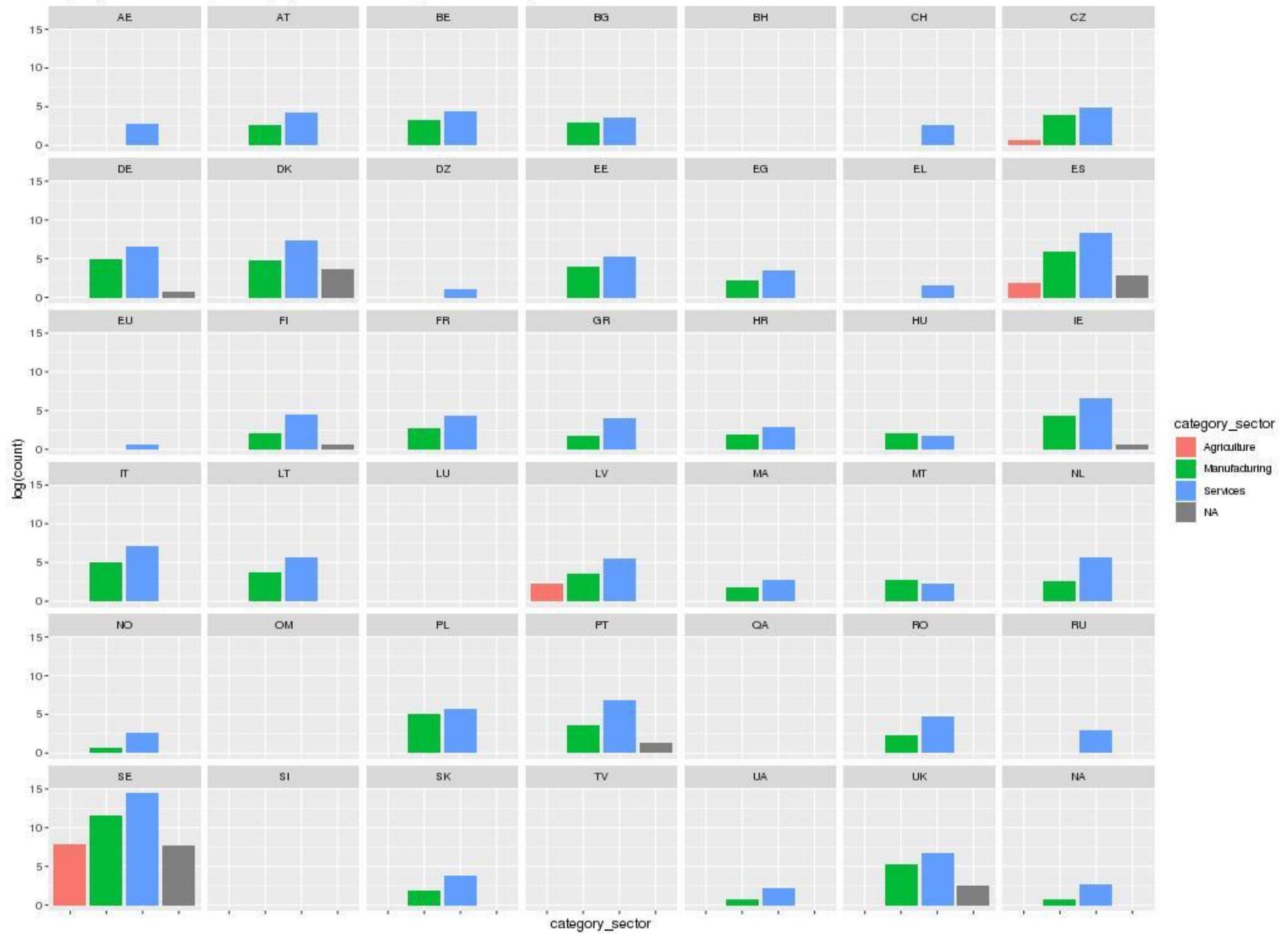
Log of job ads counts per category sector for PL by source country



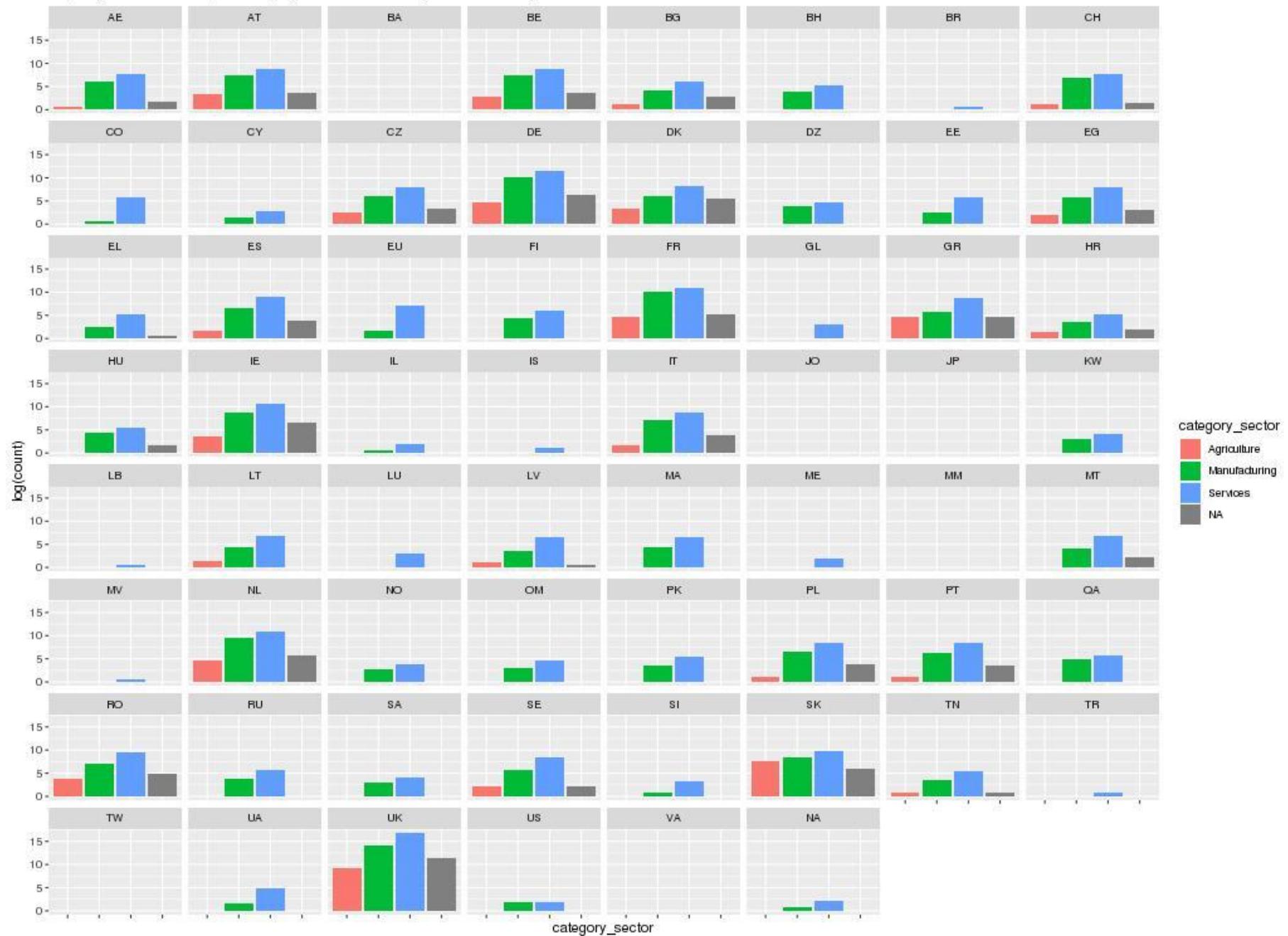
Log of job ads counts per category sector for RO by source country



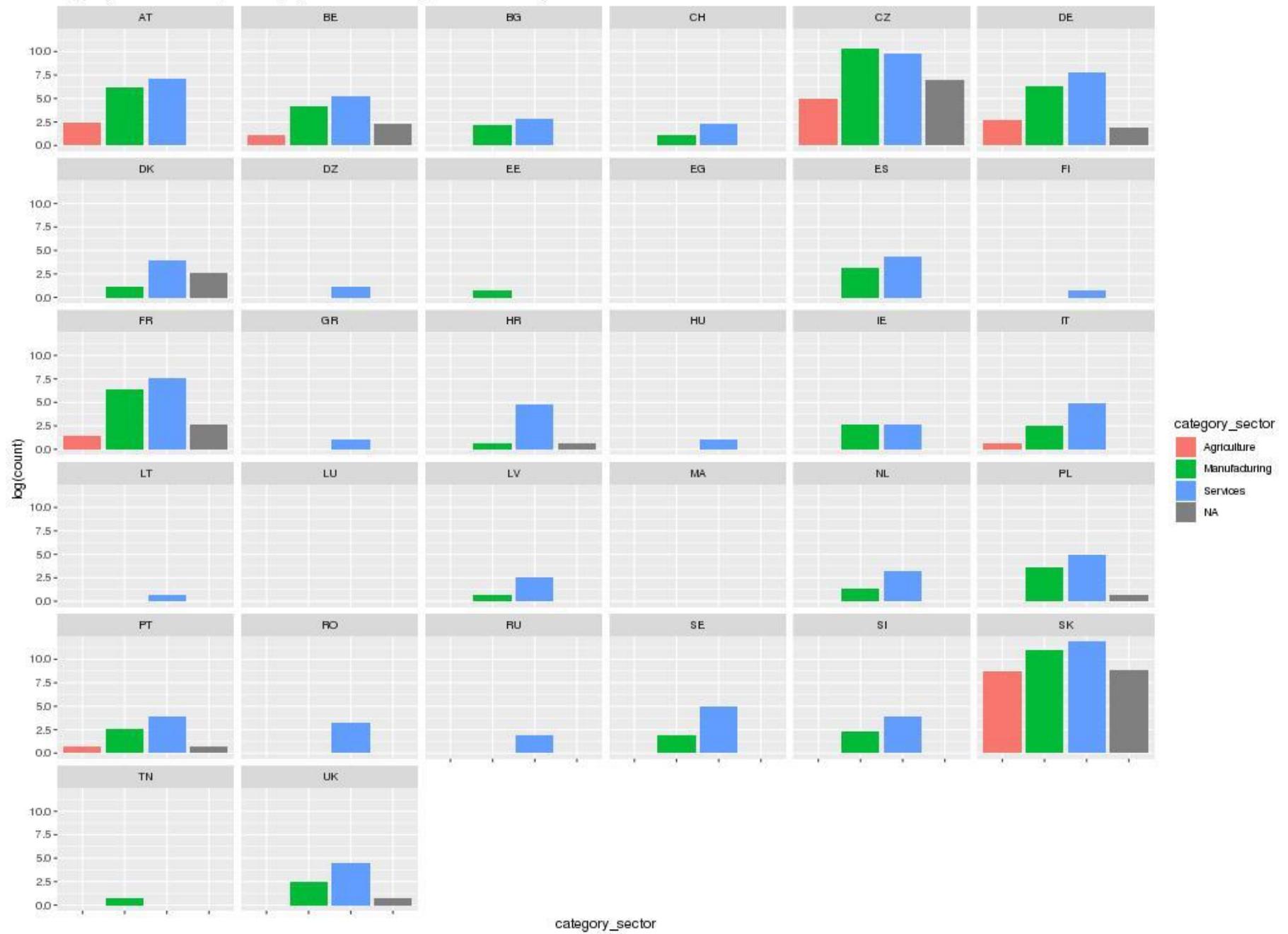
Log of job ads counts per category sector for SE by source country



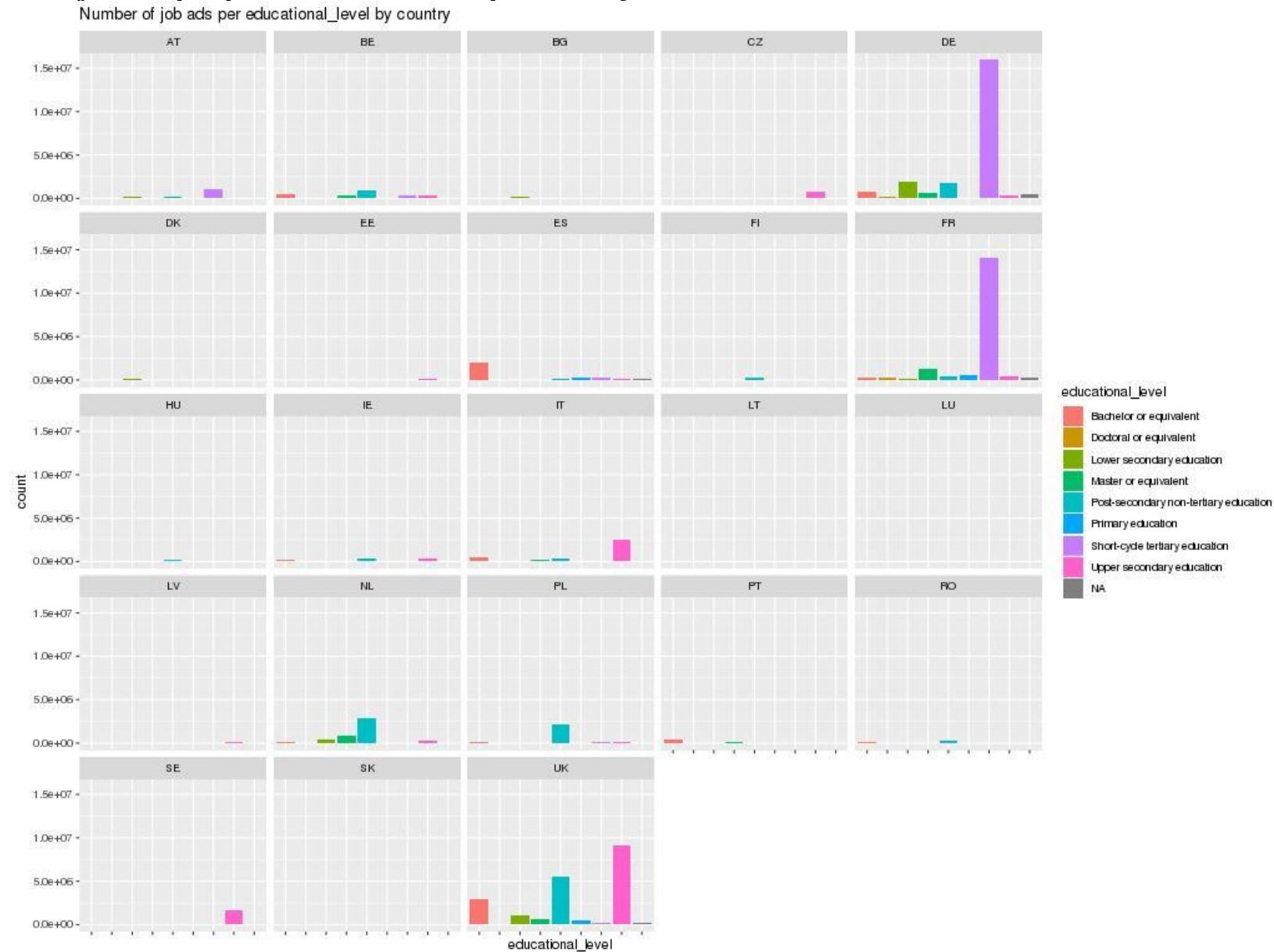
Log of job ads counts per category sector for UK by source country



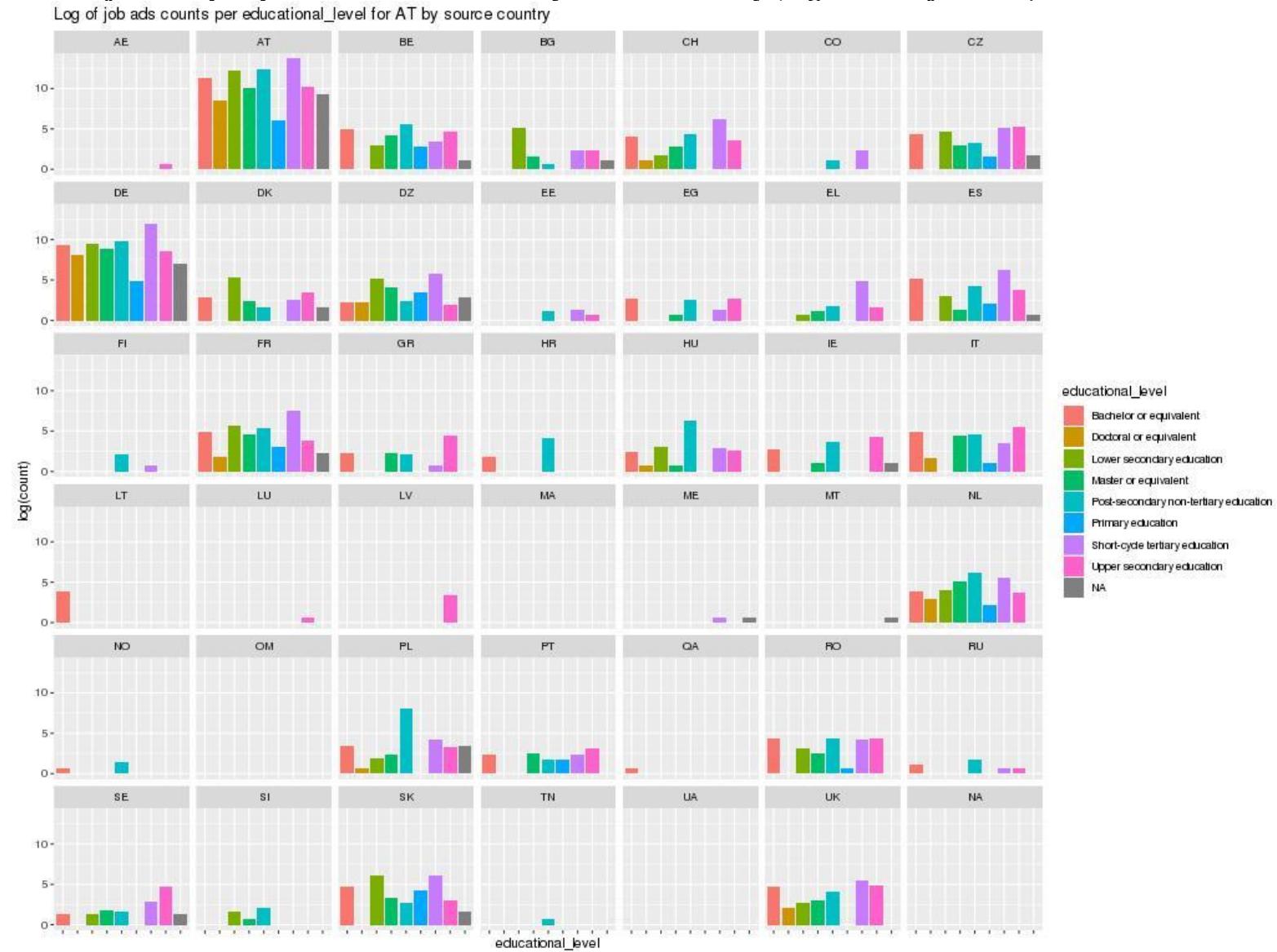
Log of job ads counts per category sector for SK by source country



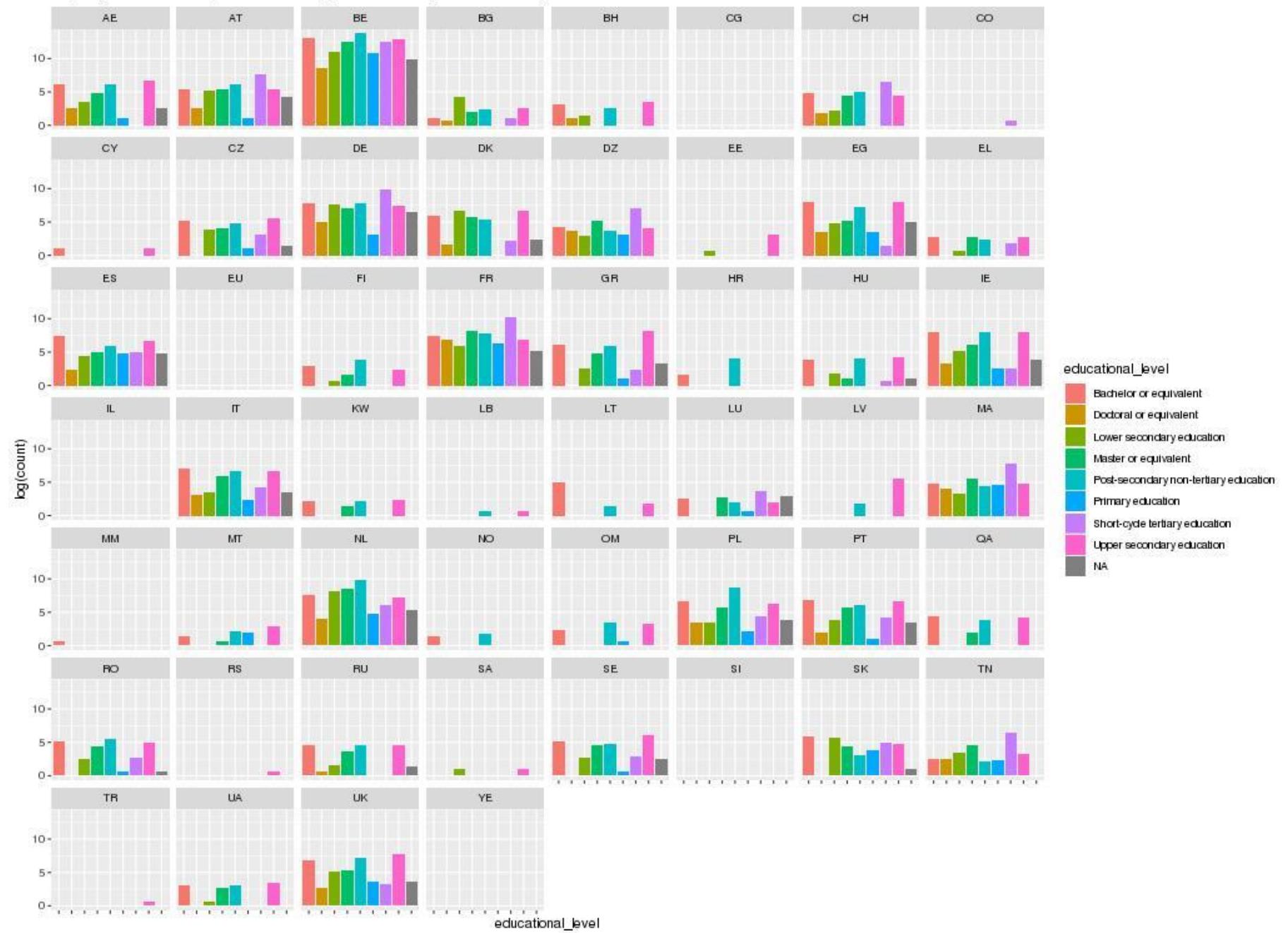
Number of job ads per per educational level per country



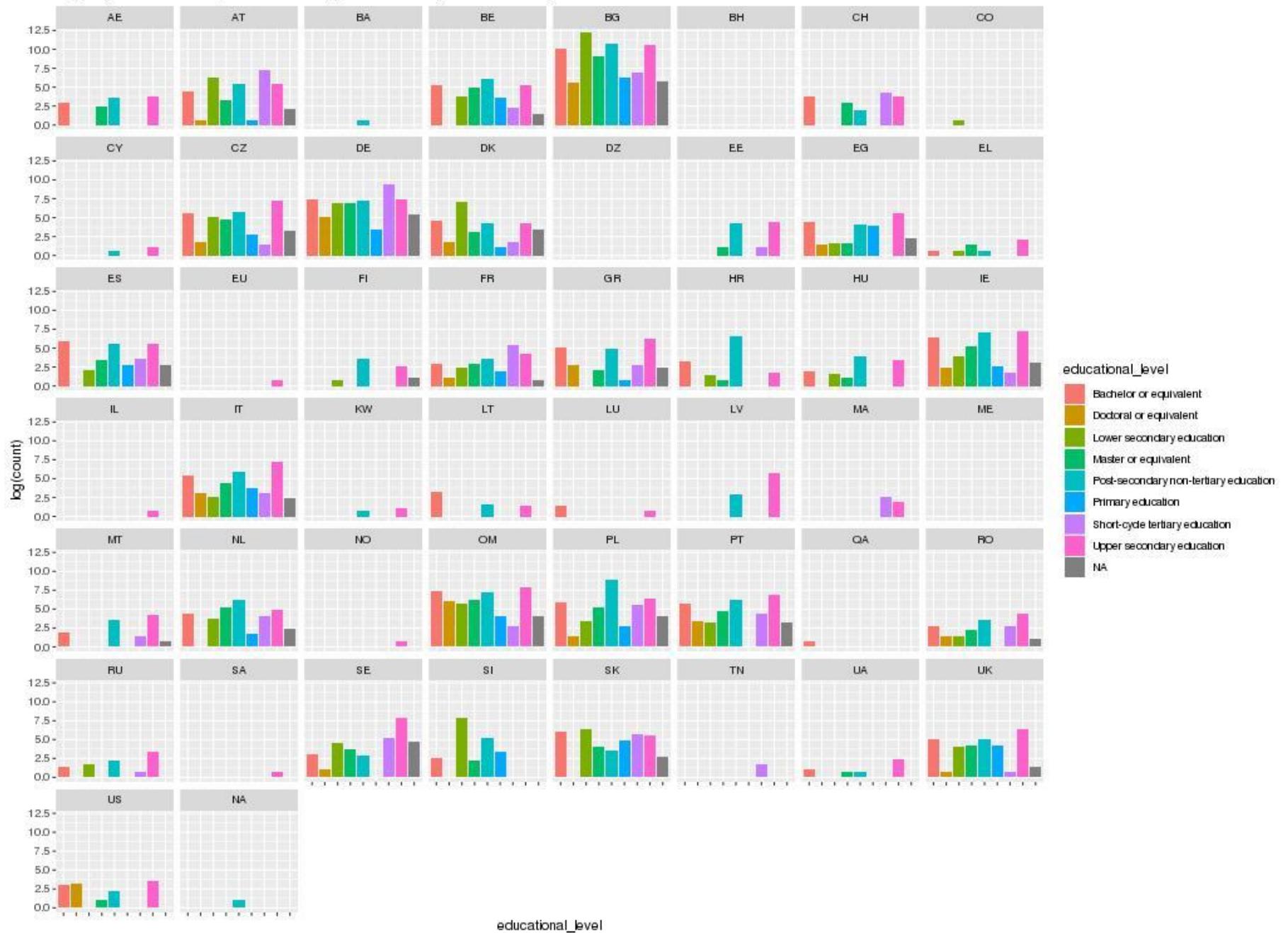
Number of job ads per per educational level by source country (*logarithm of counts*)



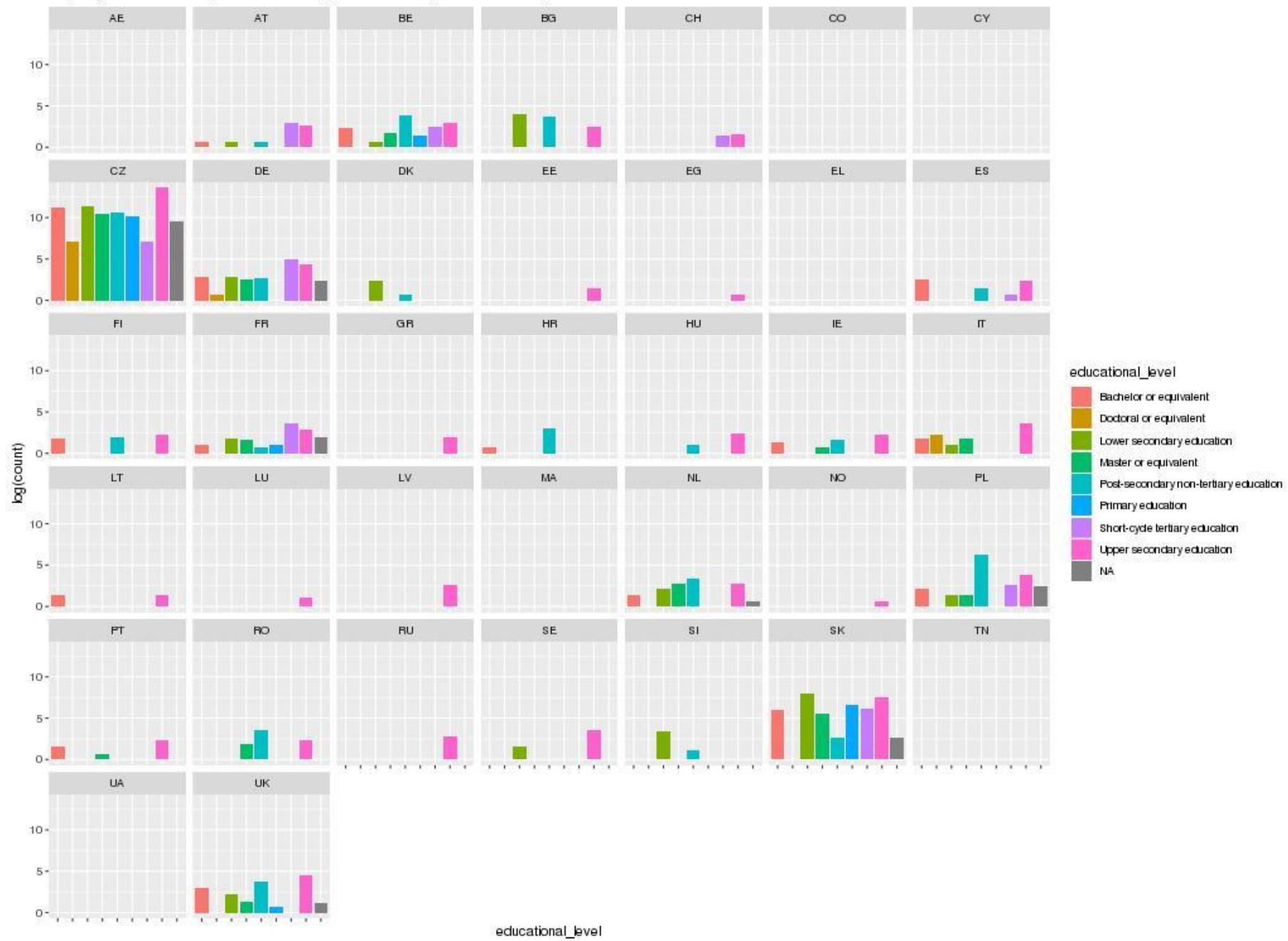
Log of job ads counts per educational_level for BE by source country



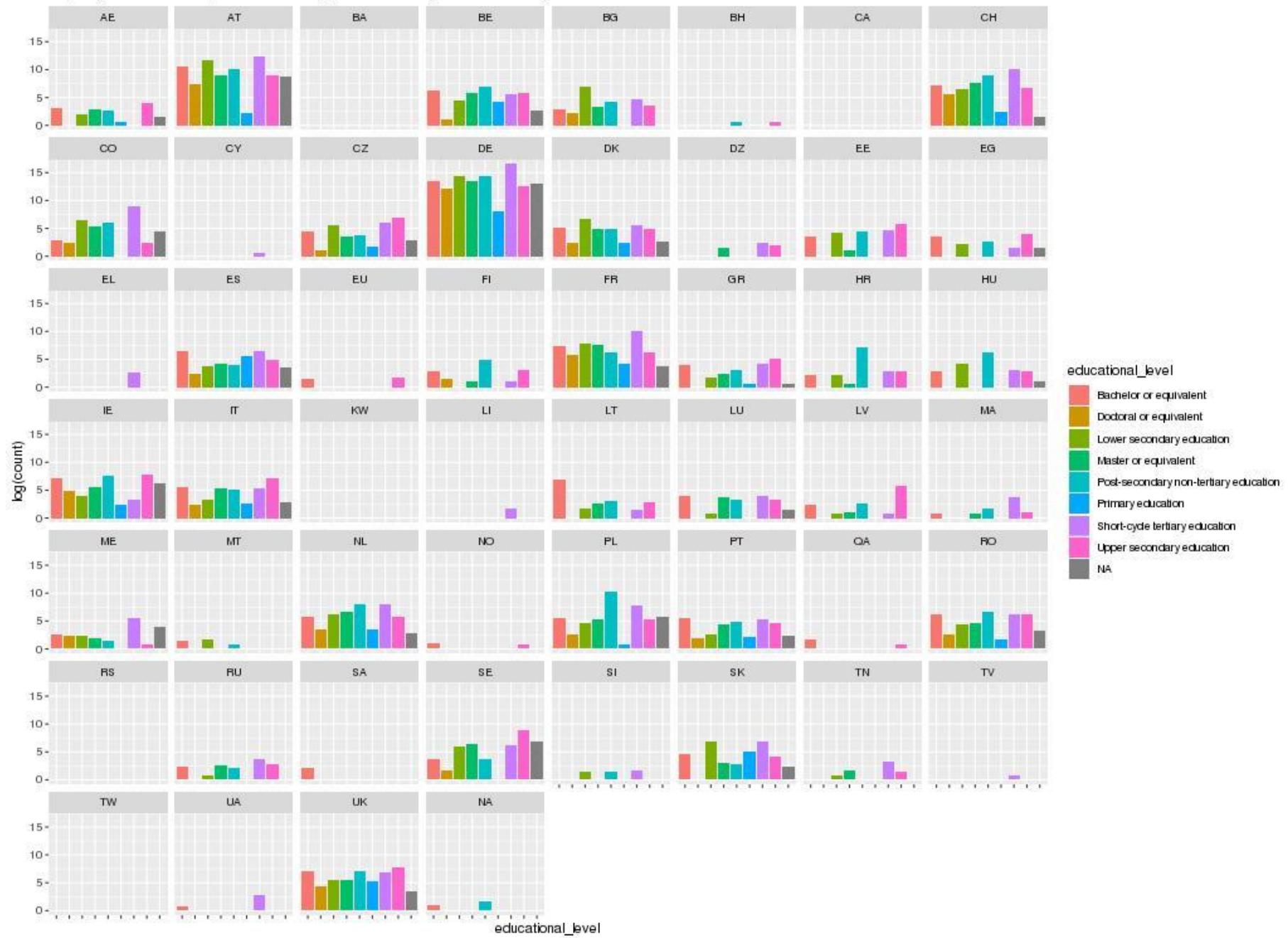
Log of job ads counts per educational_level for BG by source country



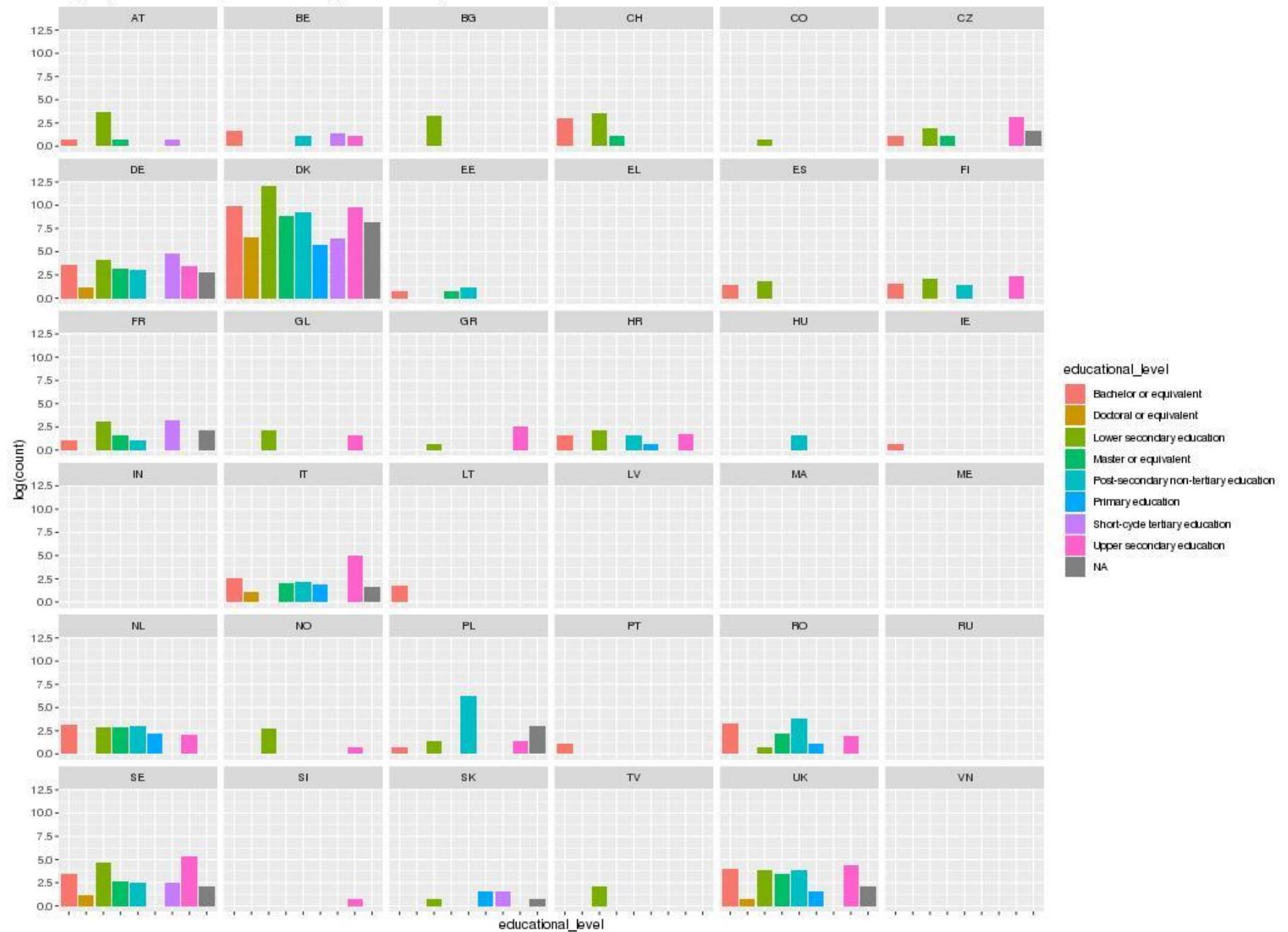
Log of job ads counts per educational_level for CZ by source country



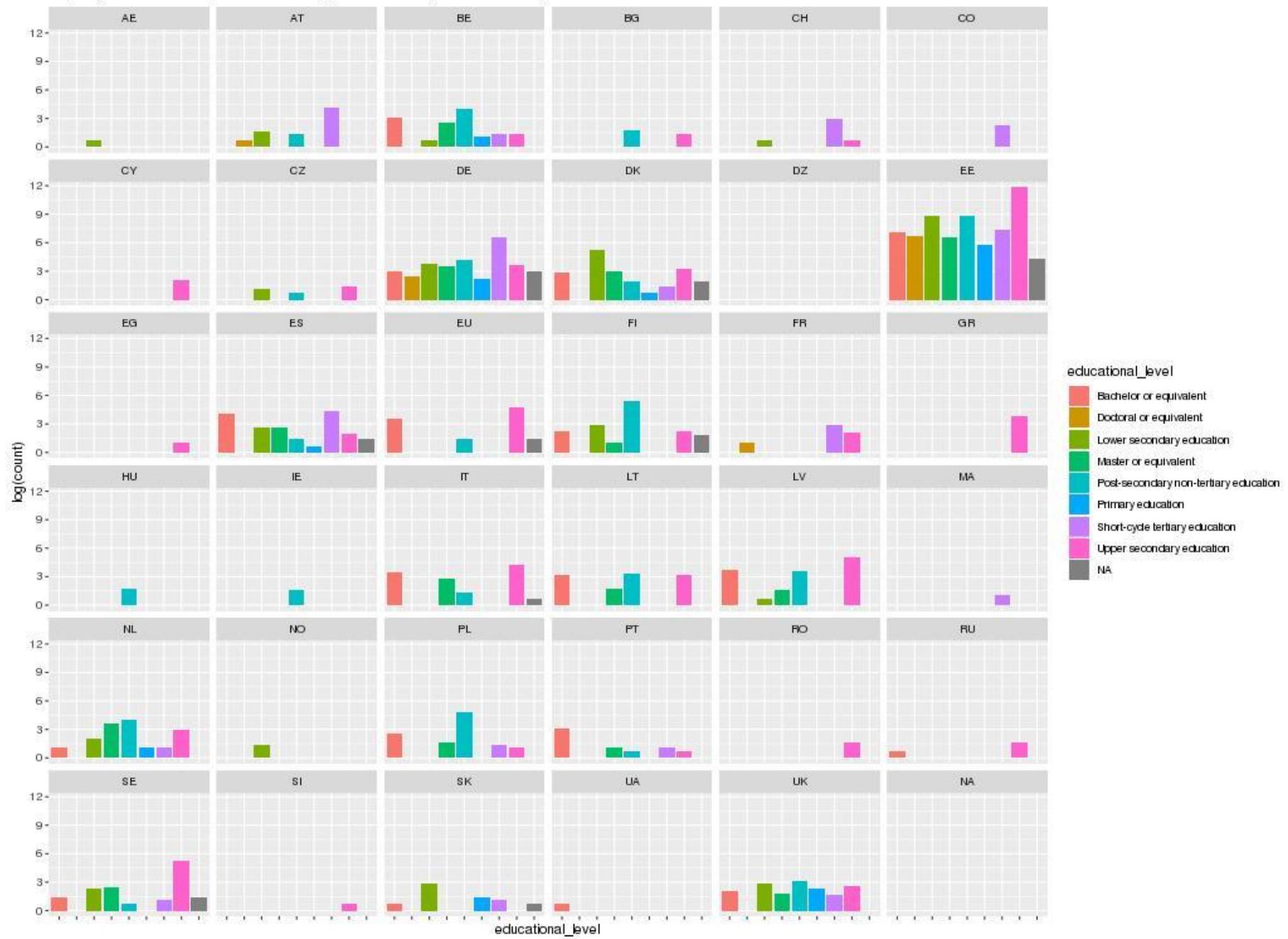
Log of job ads counts per educational_level for DE by source country



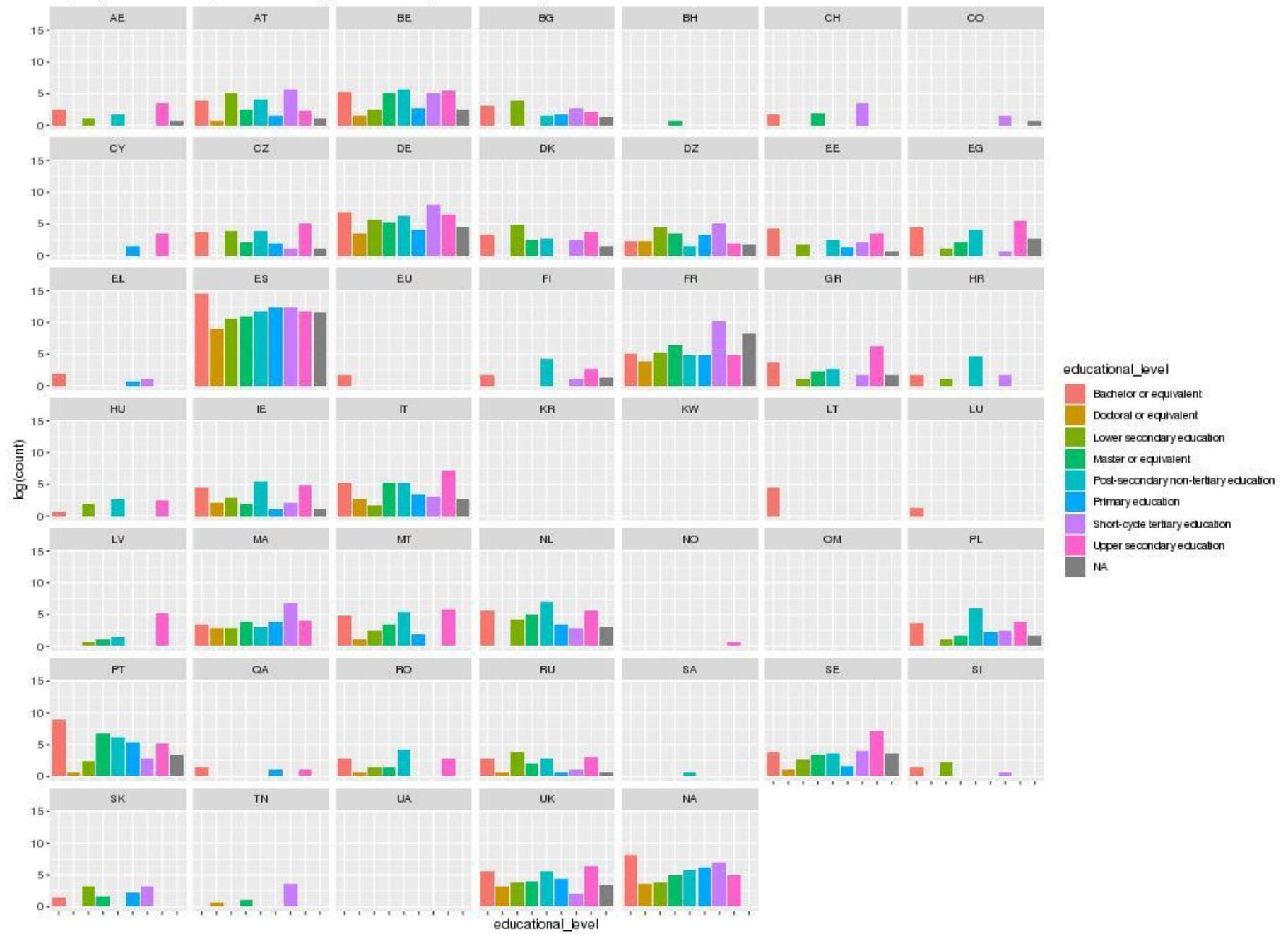
Log of job ads counts per educational_level for DK by source country



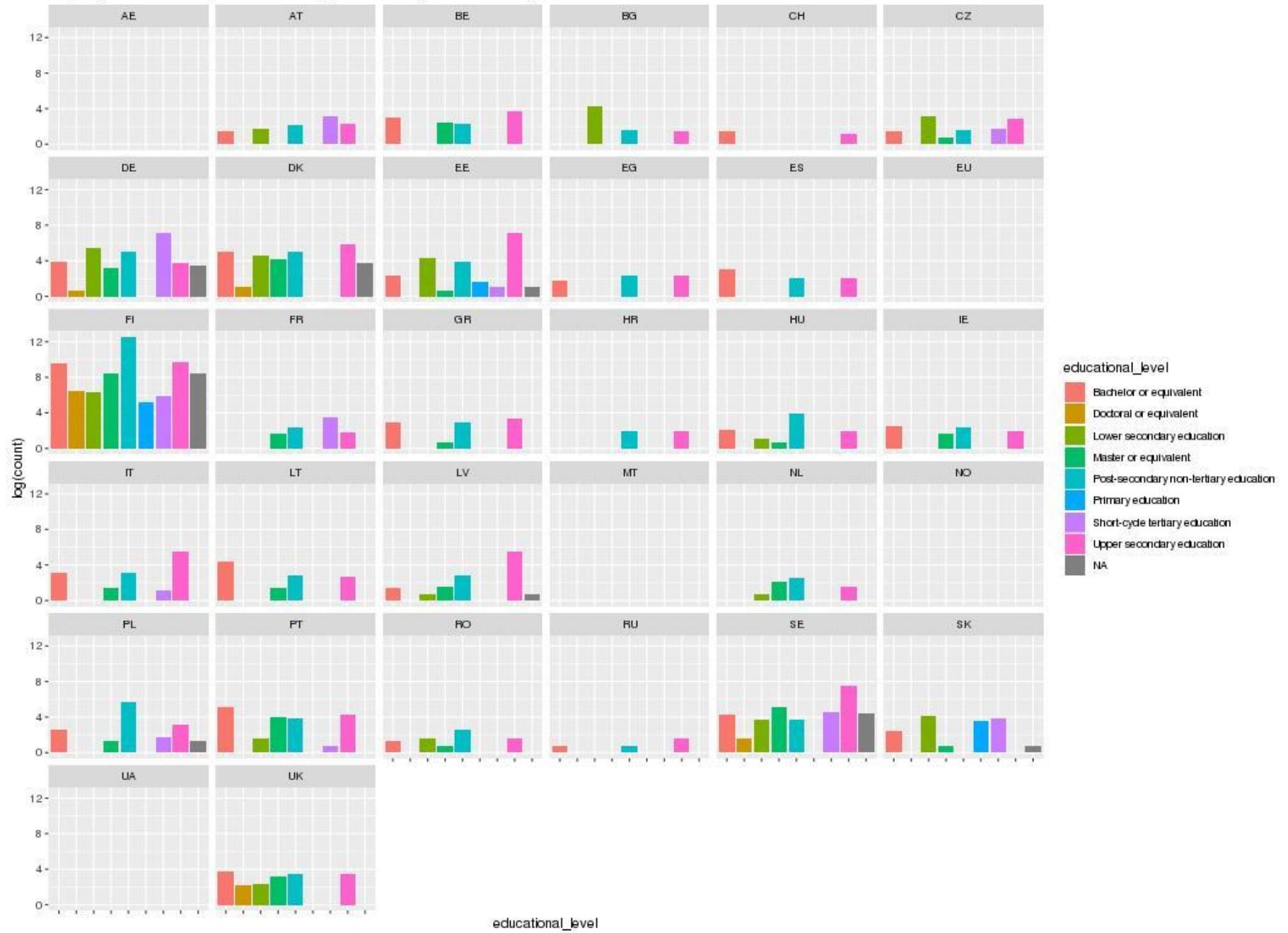
Log of job ads counts per educational_level for EE by source country



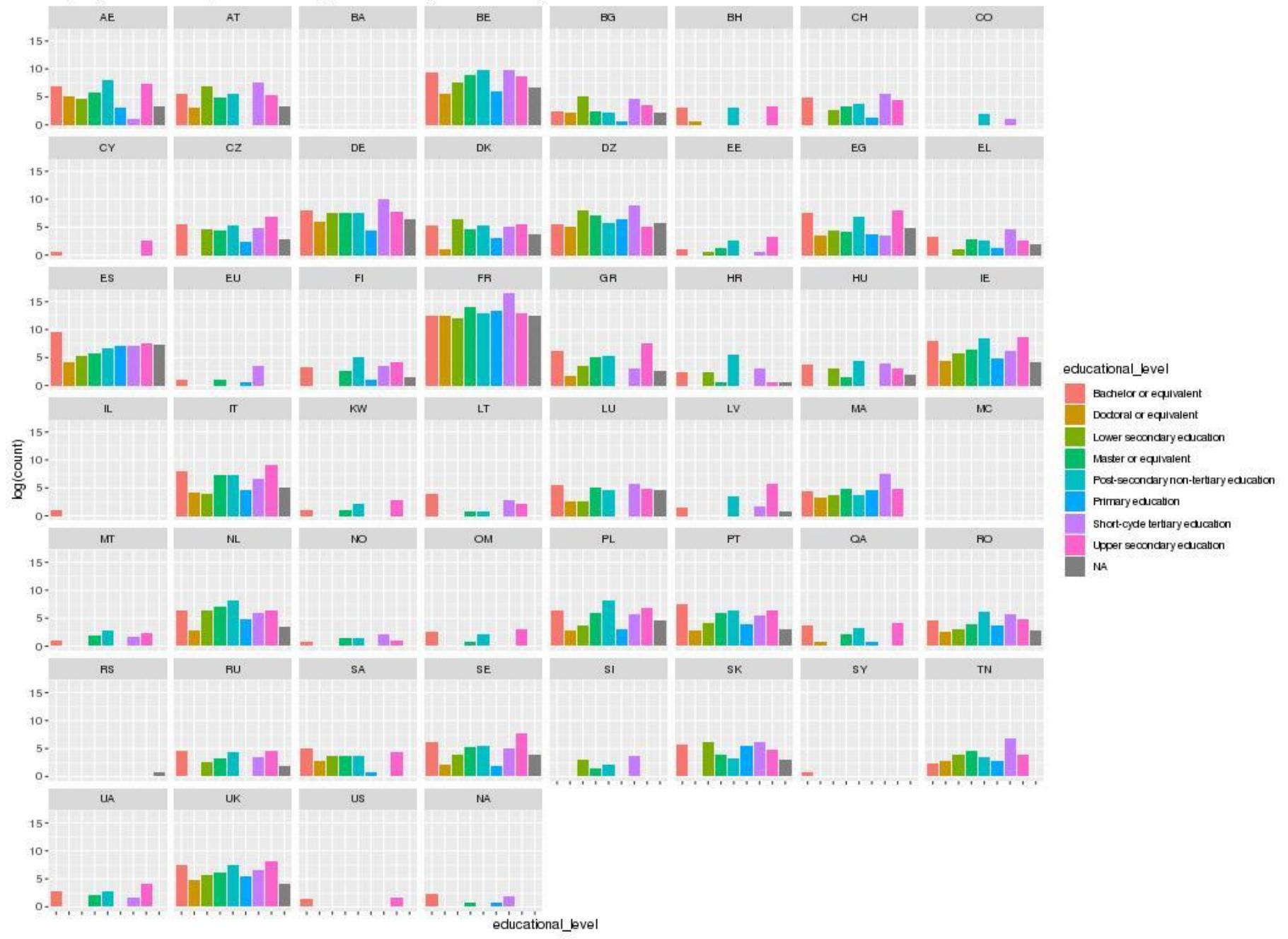
Log of job ads counts per educational_level for ES by source country



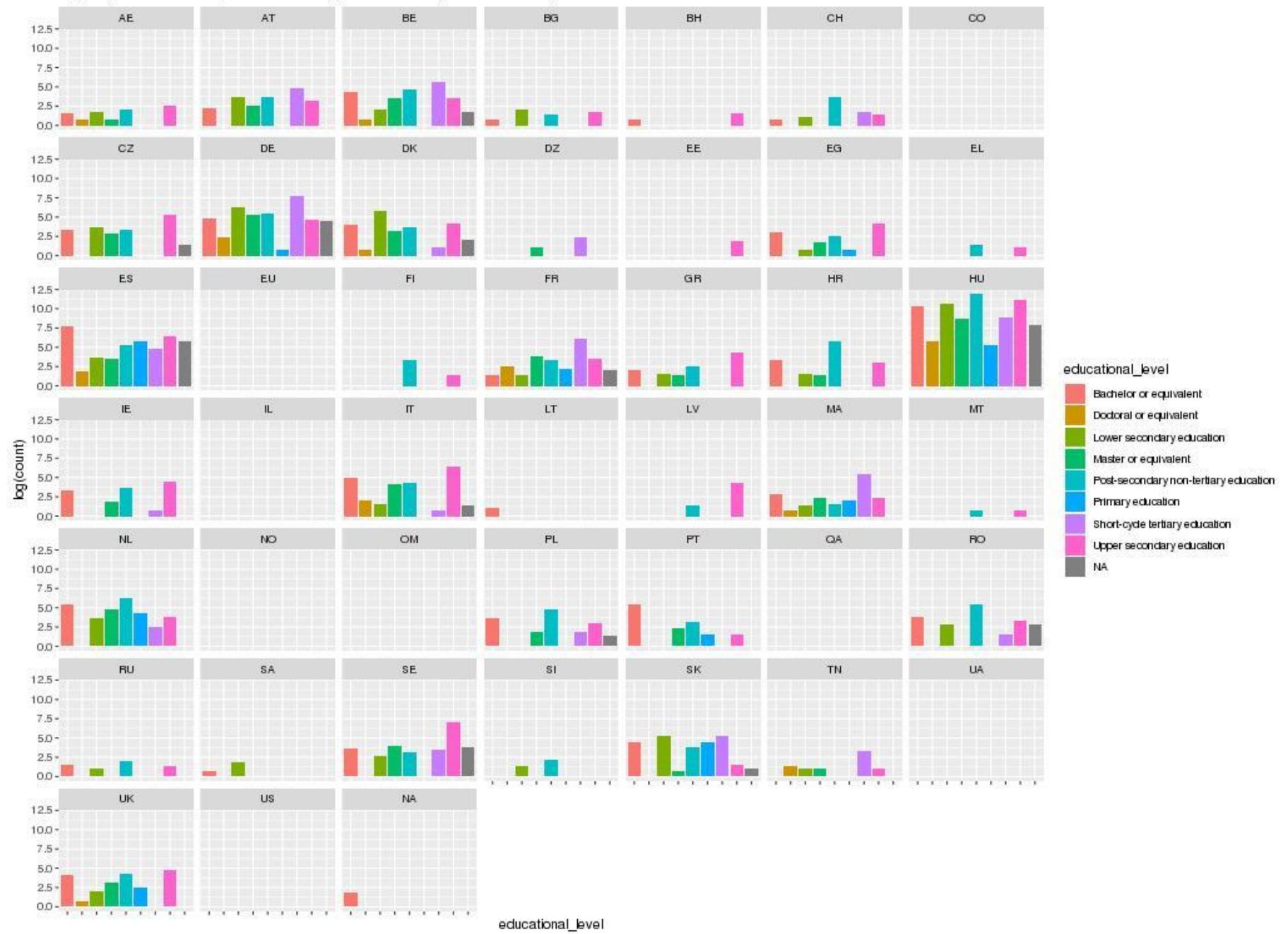
Log of job ads counts per educational_level for FI by source country



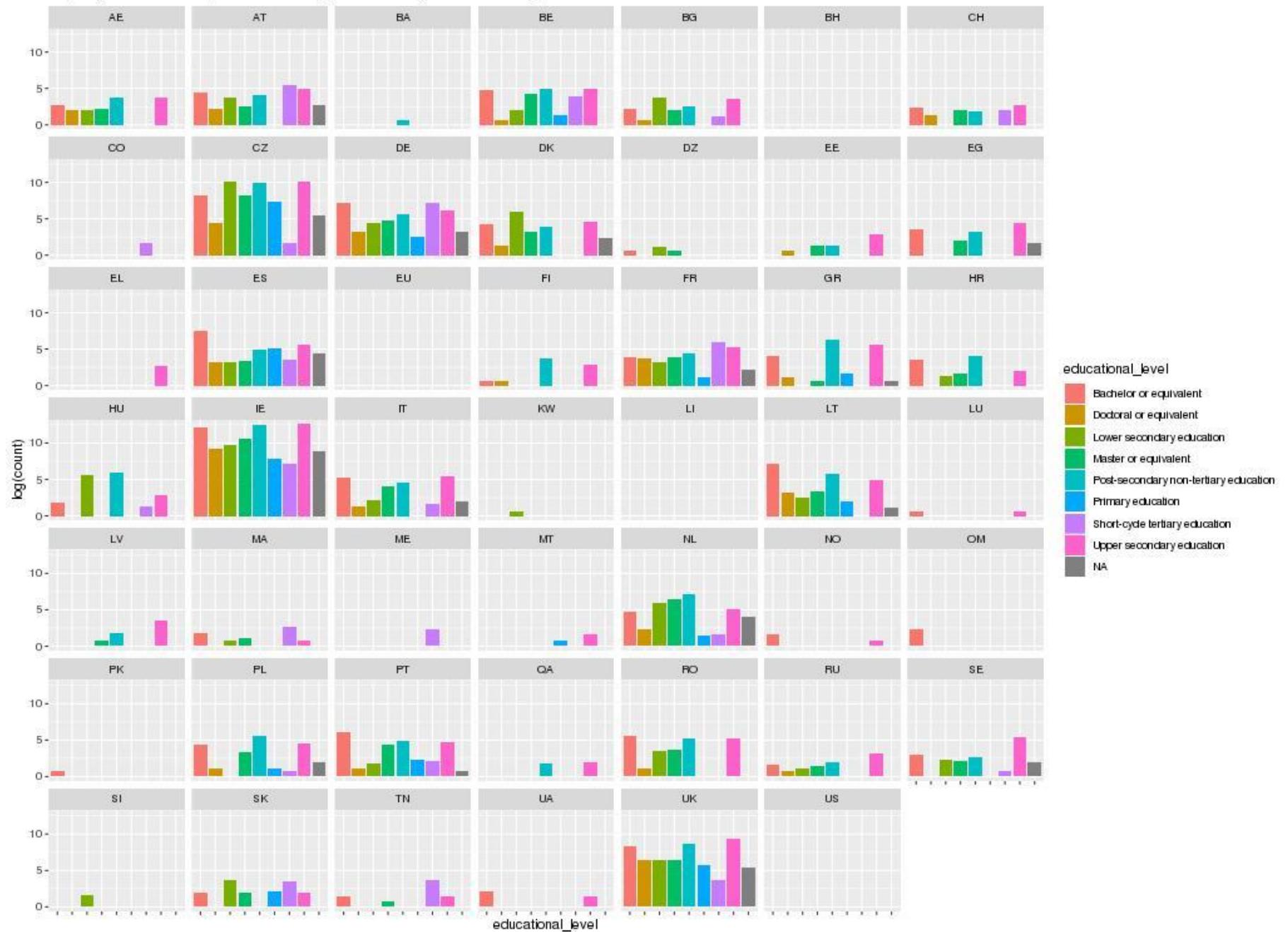
Log of job ads counts per educational_level for FR by source country



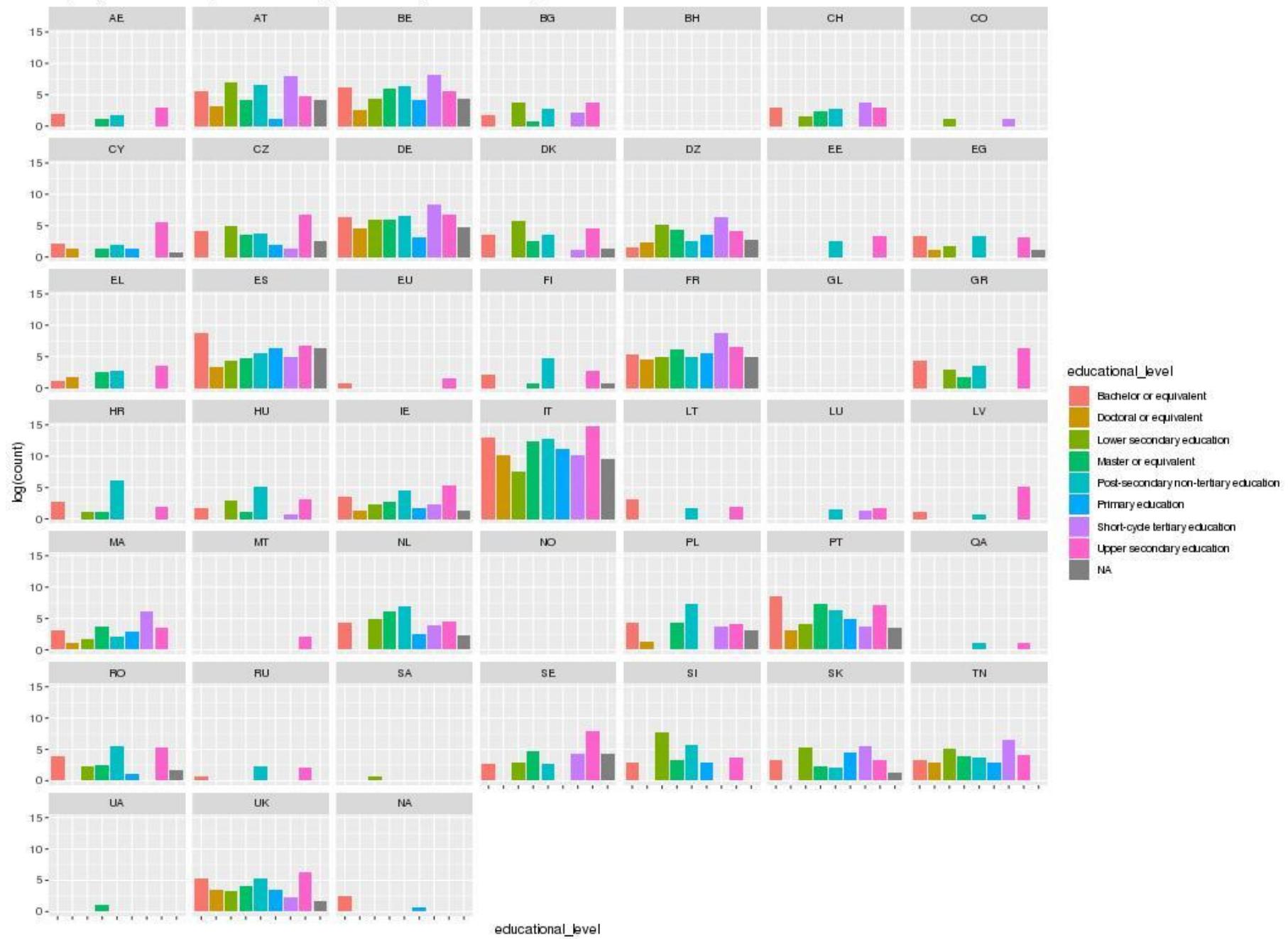
Log of job ads counts per educational_level for HU by source country



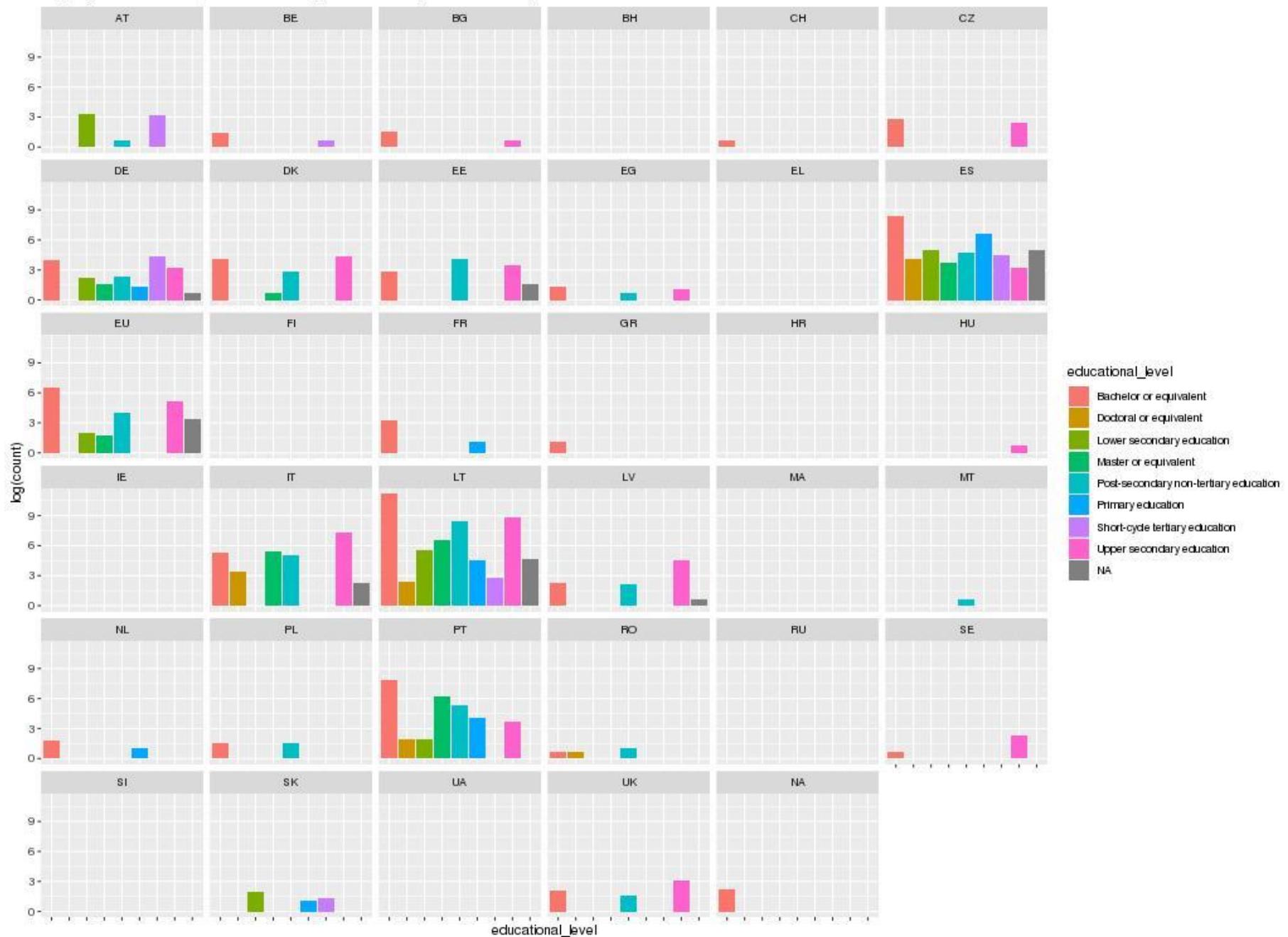
Log of job ads counts per educational_level for IE by source country



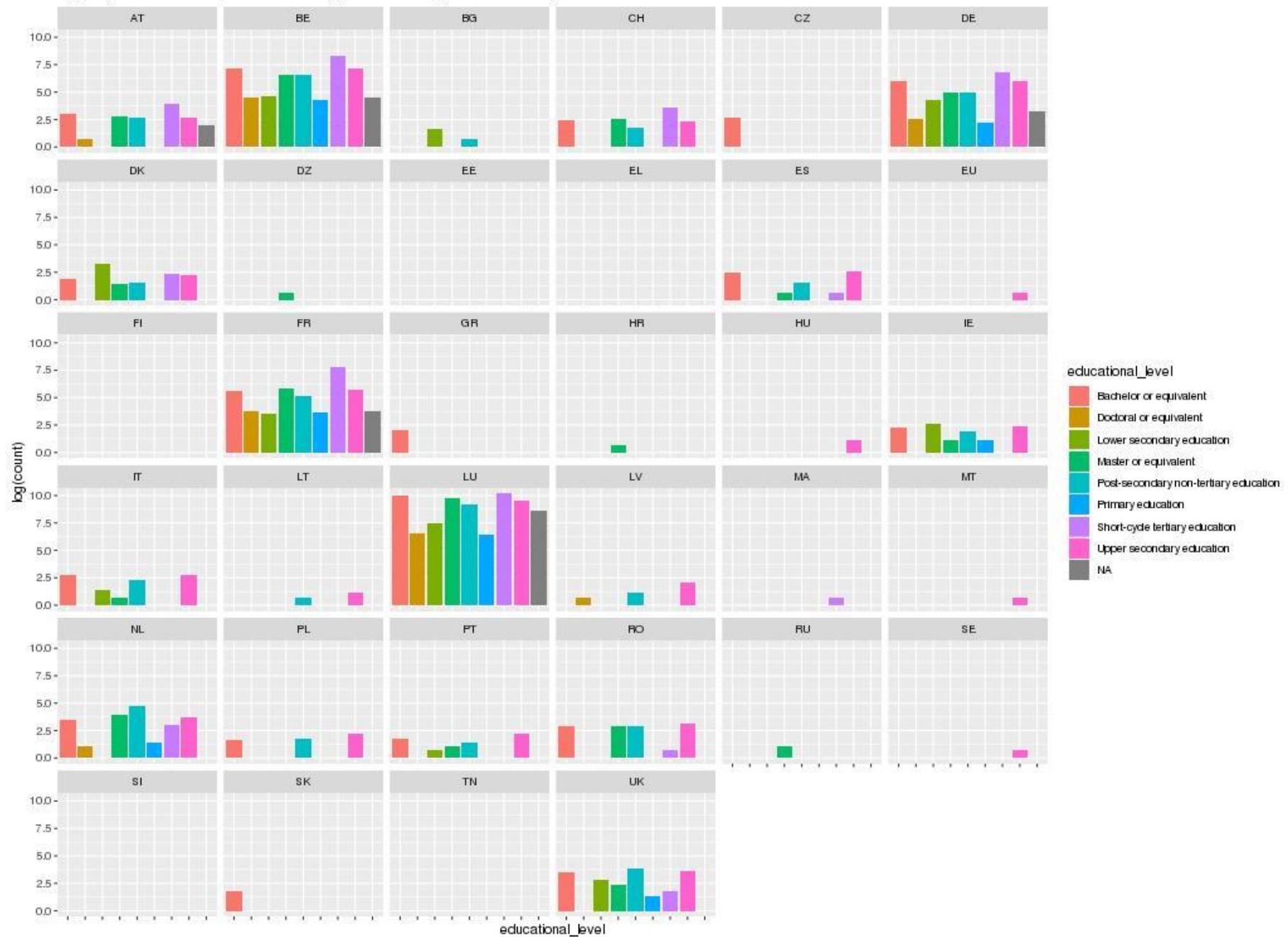
Log of job ads counts per educational_level for IT by source country



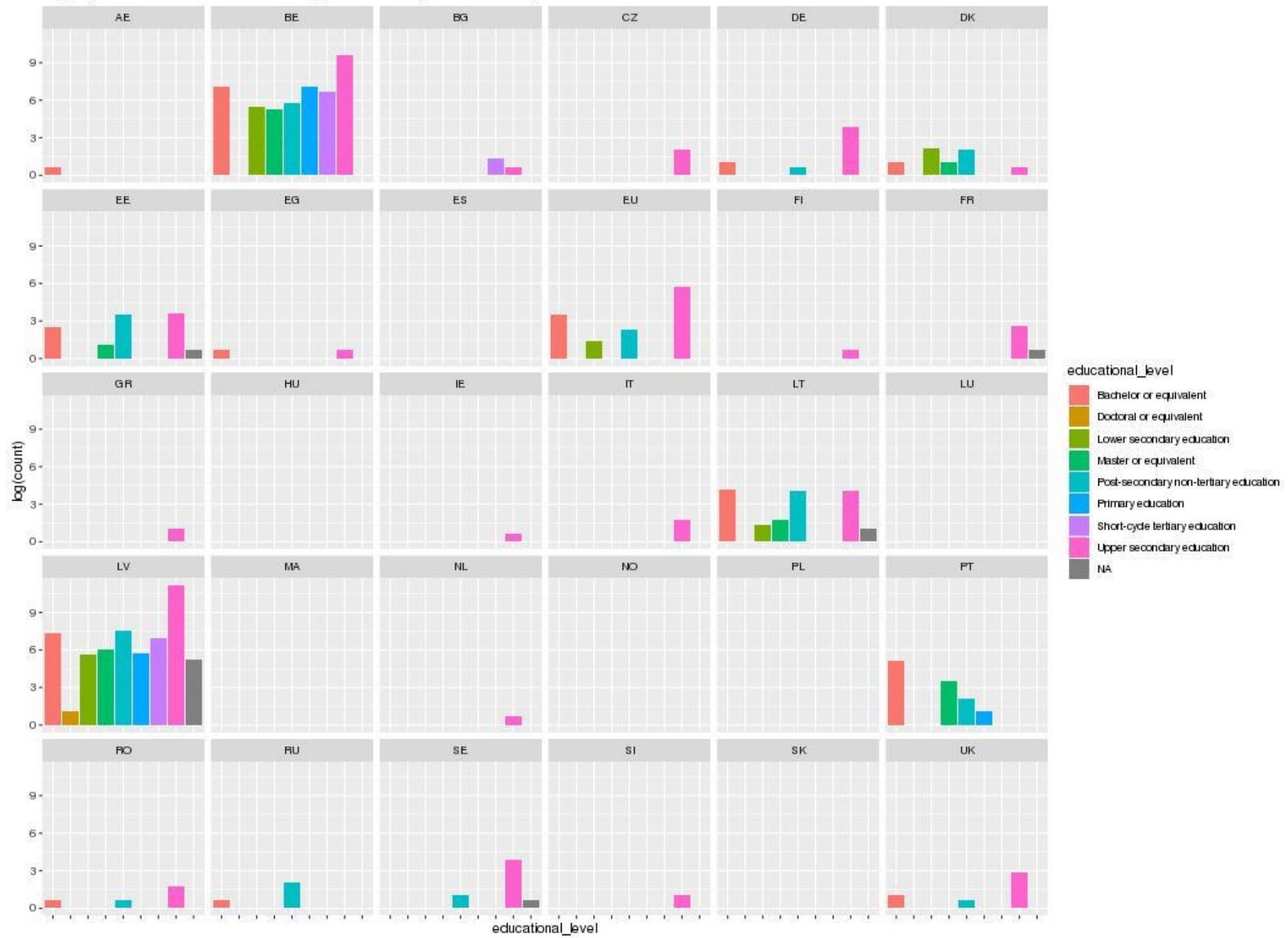
Log of job ads counts per educational_level for LT by source country



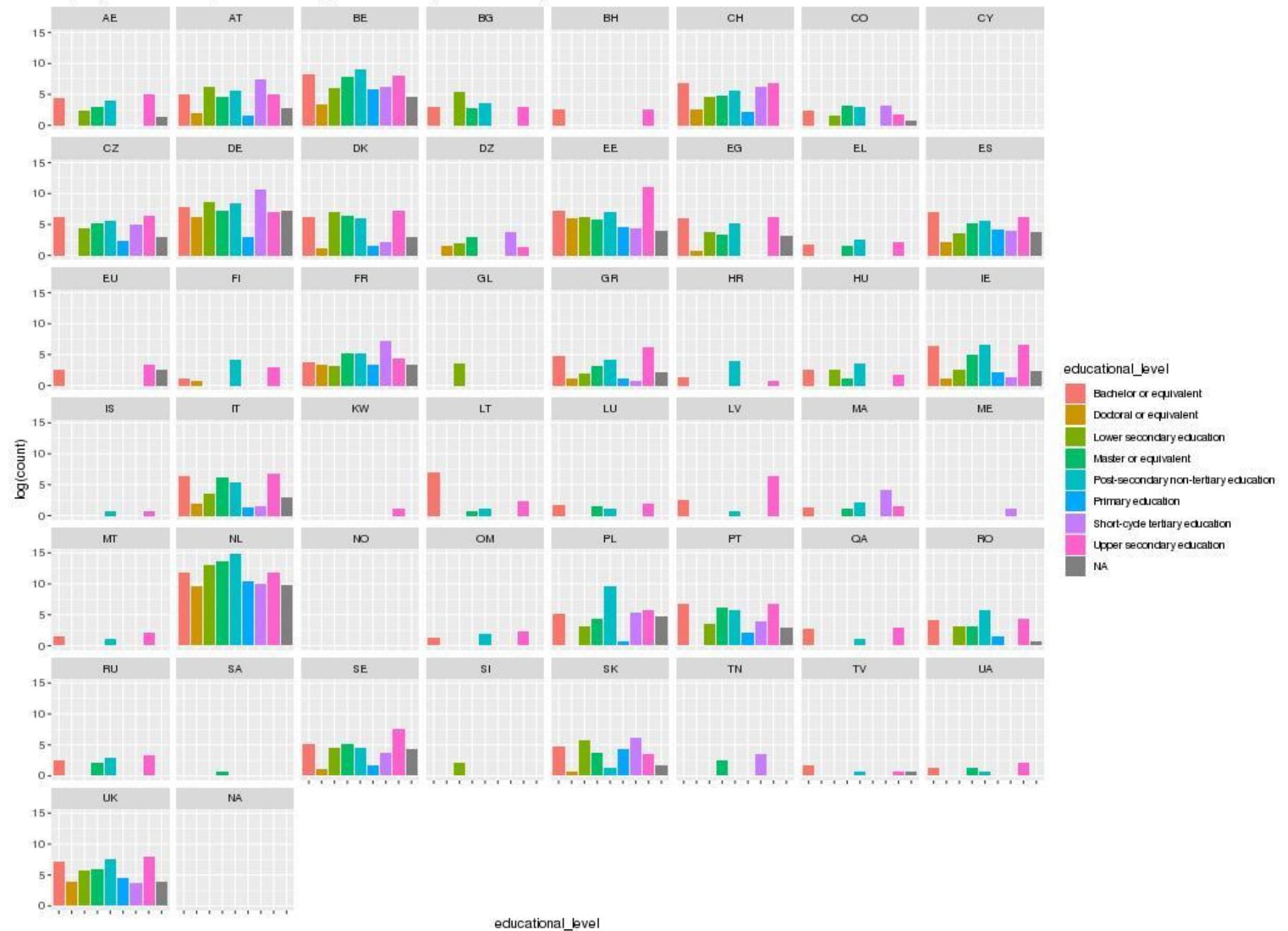
Log of job ads counts per educational_level for LU by source country



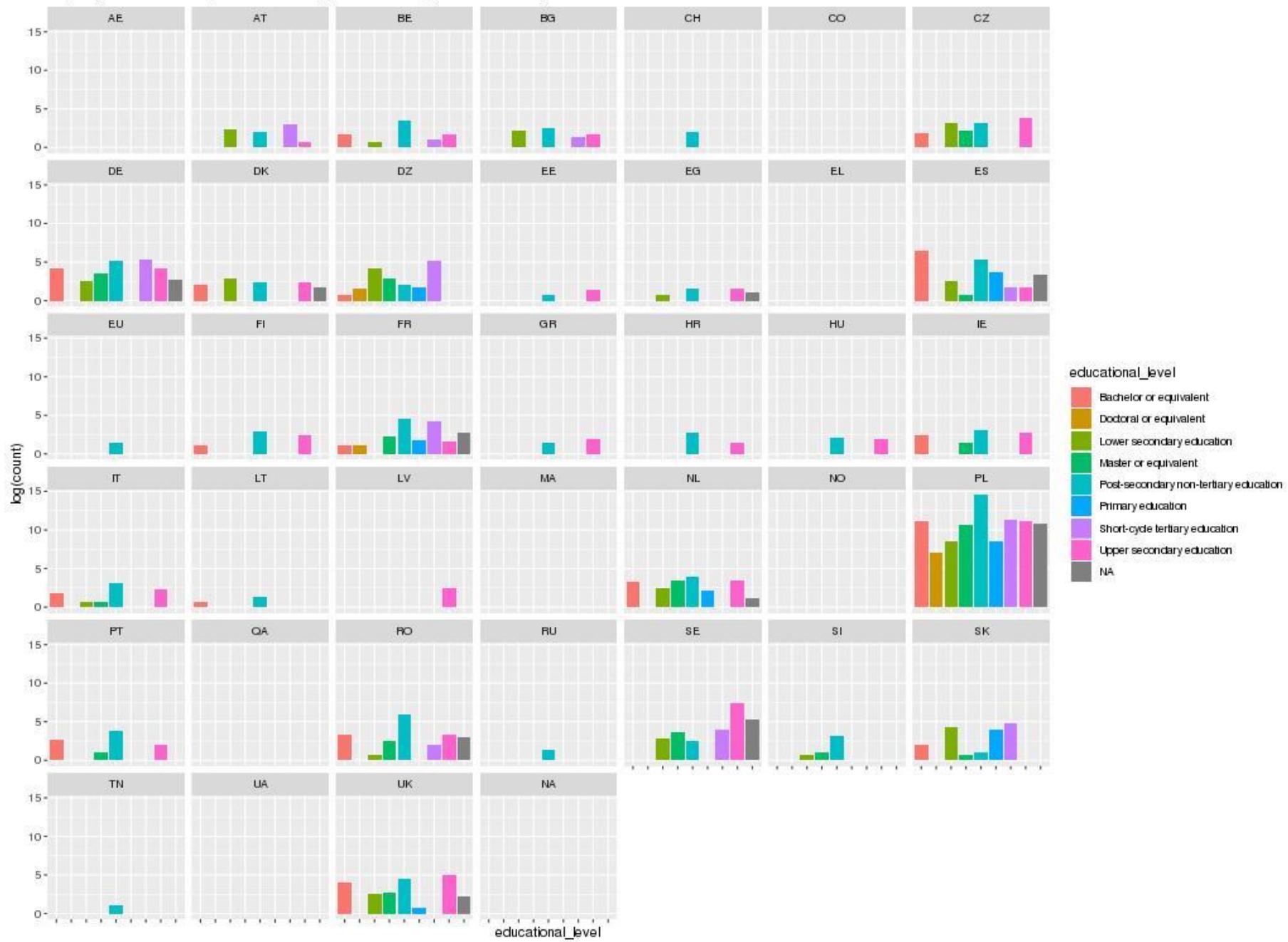
Log of job ads counts per educational_level for LV by source country



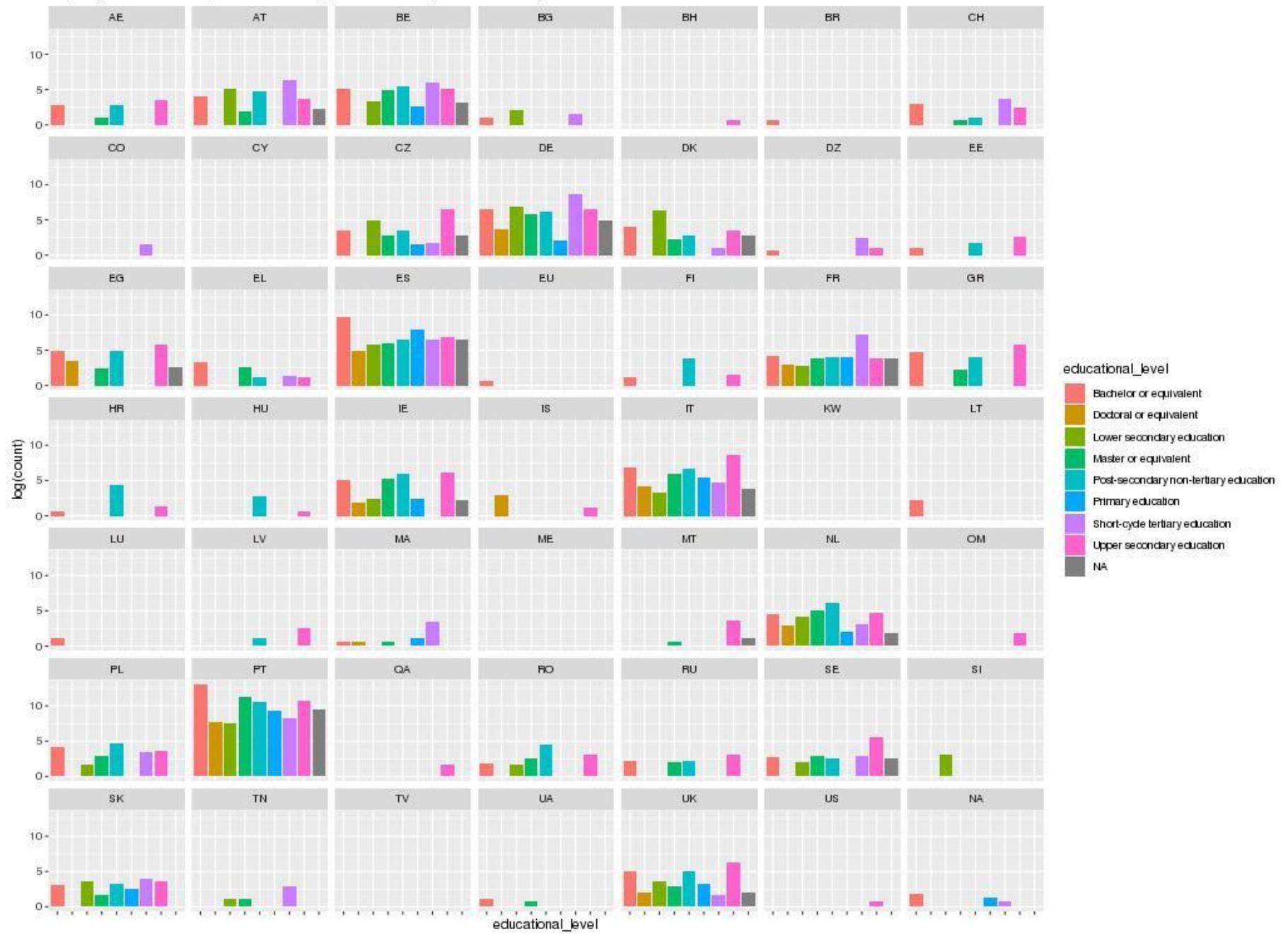
Log of job ads counts per educational_level for NL by source country



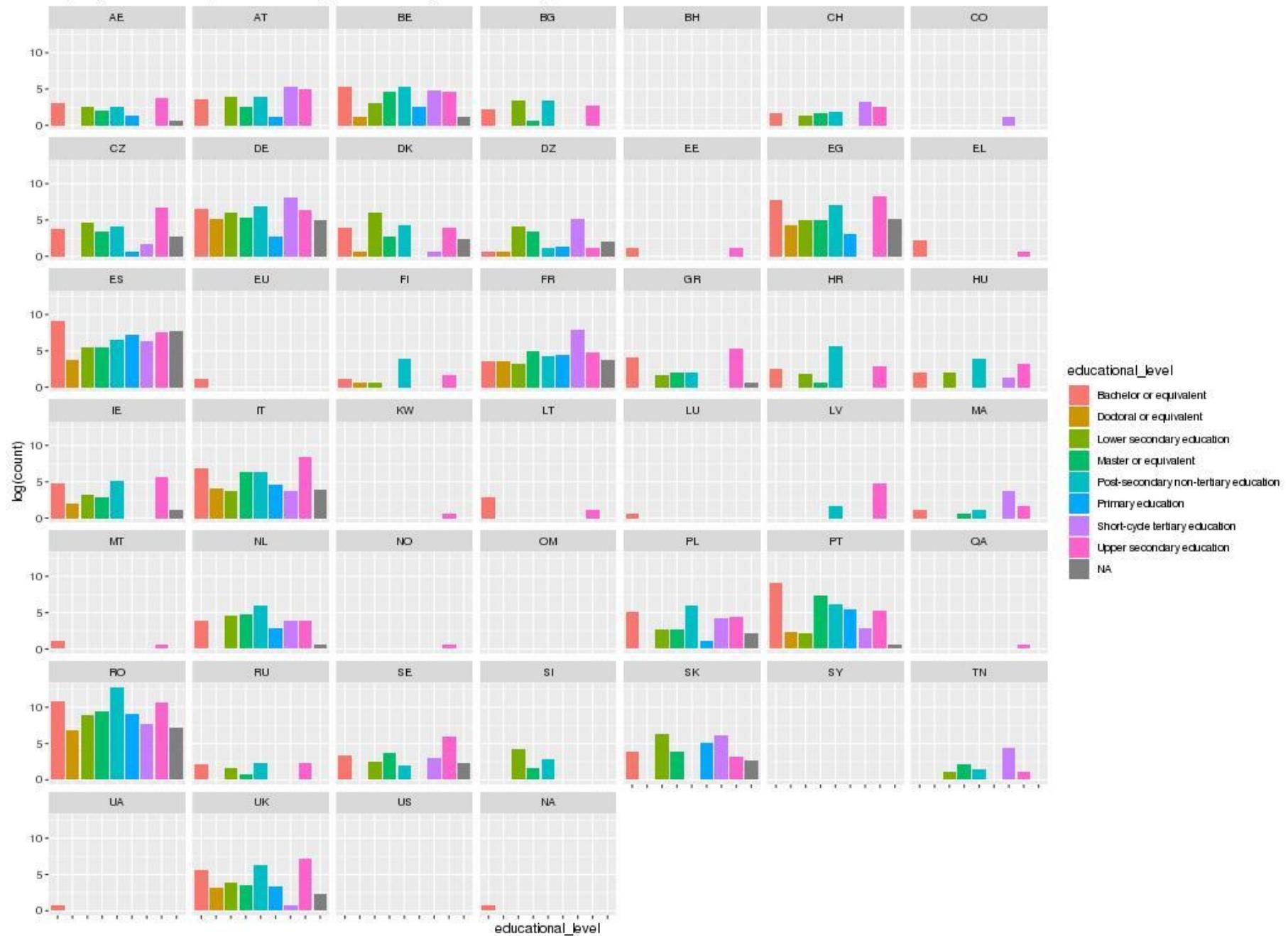
Log of job ads counts per educational_level for PL by source country



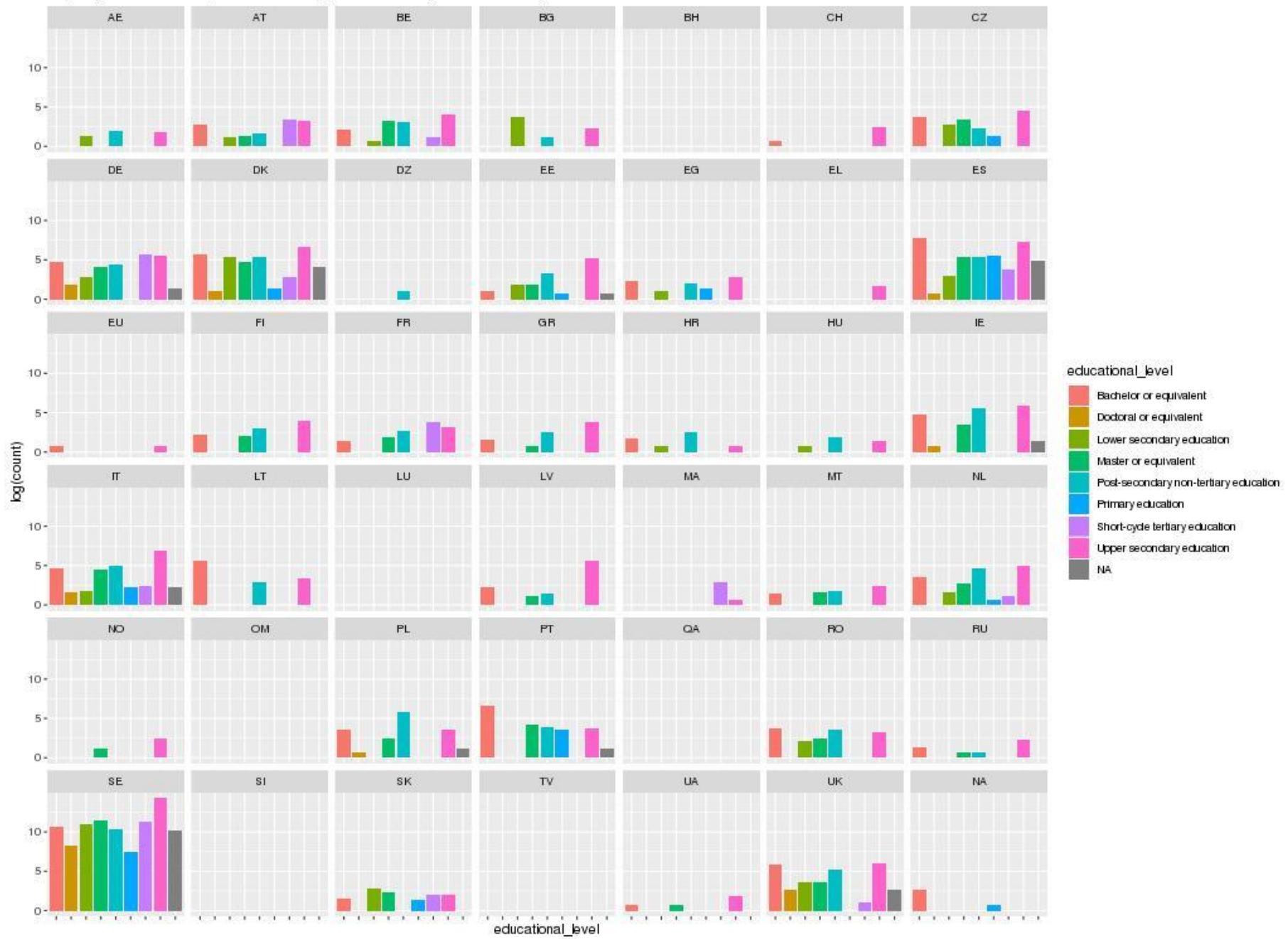
Log of job ads counts per educational_level for PT by source country



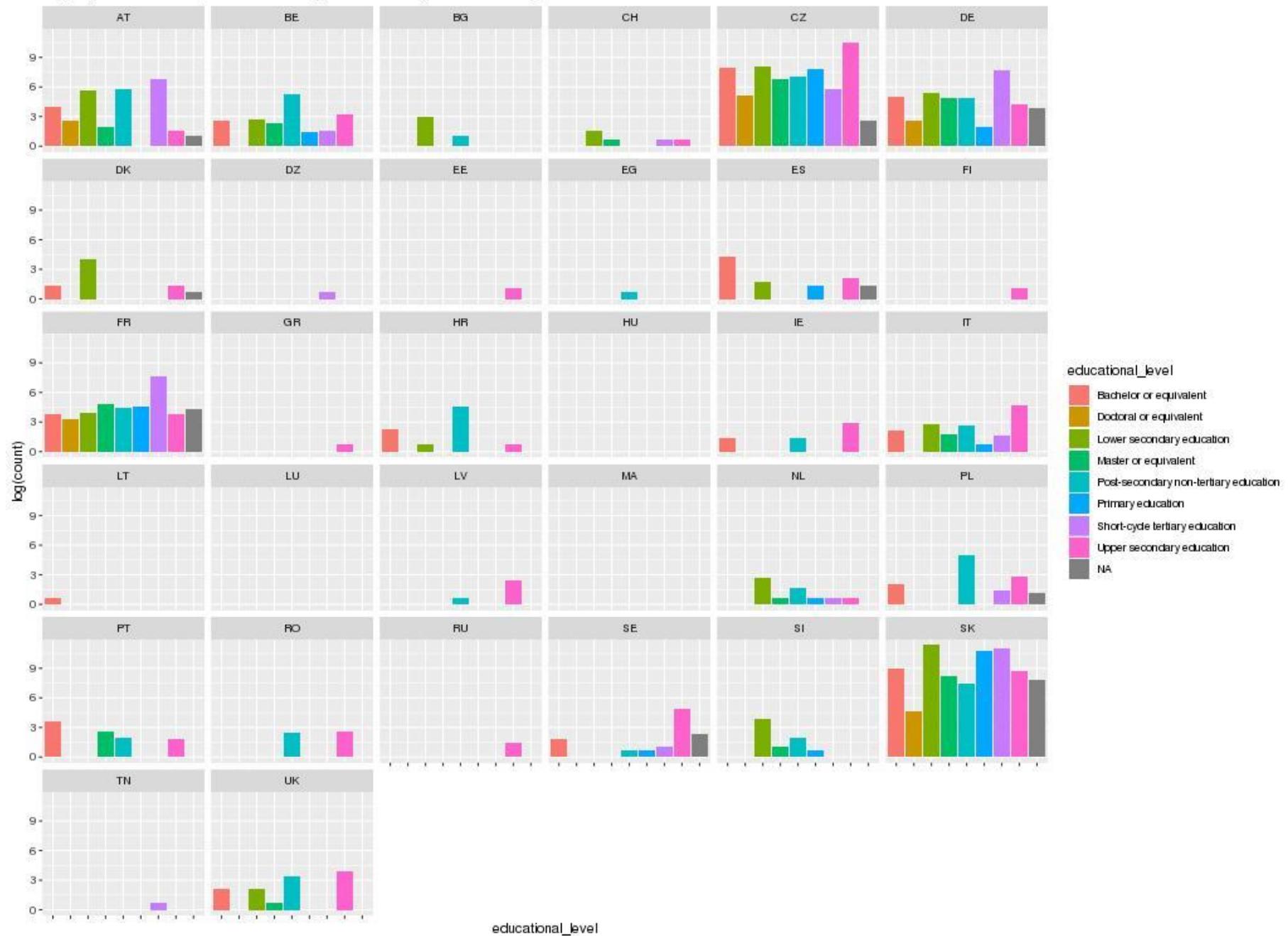
Log of job ads counts per educational_level for RO by source country



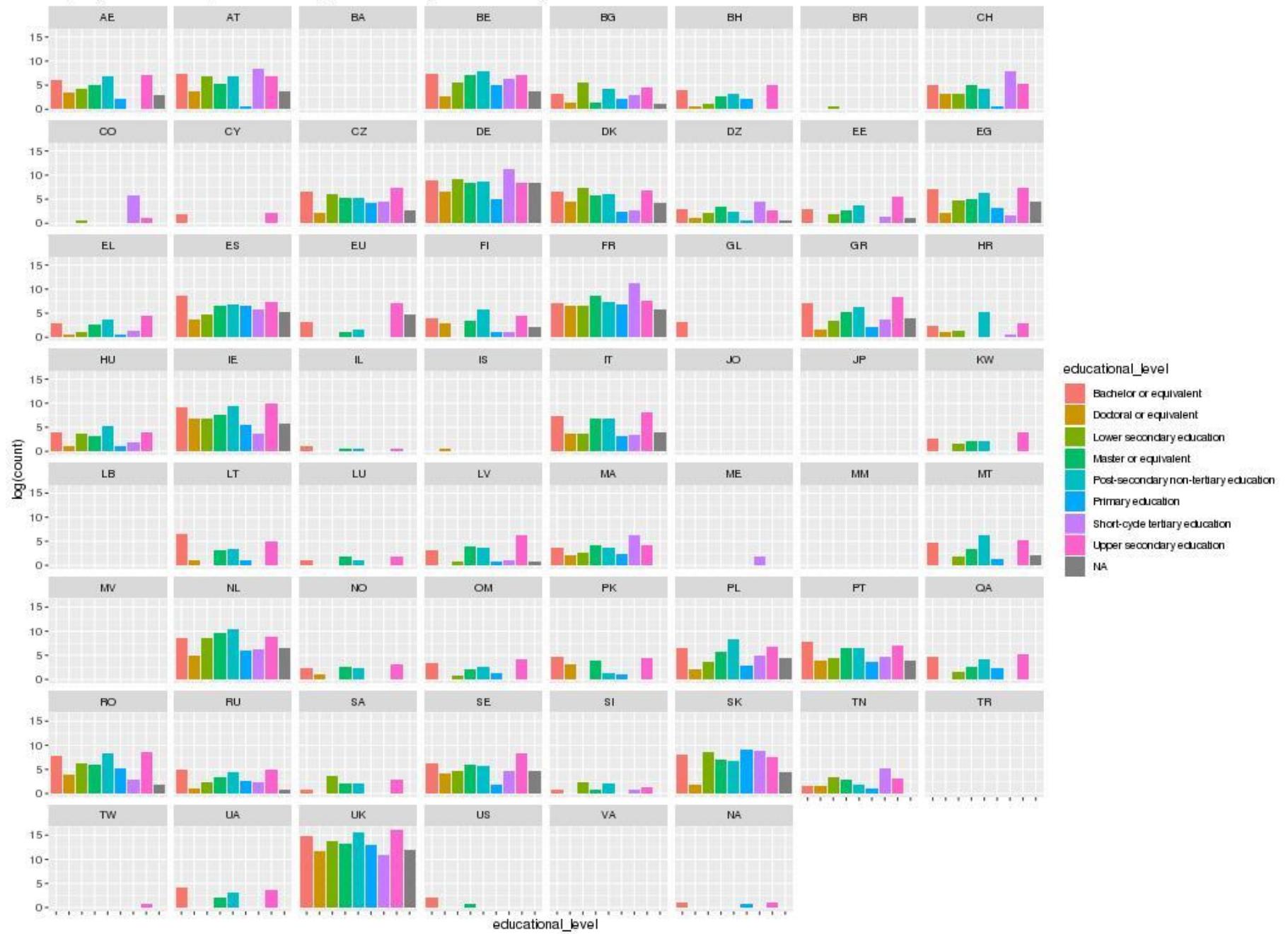
Log of job ads counts per educational_level for SE by source country



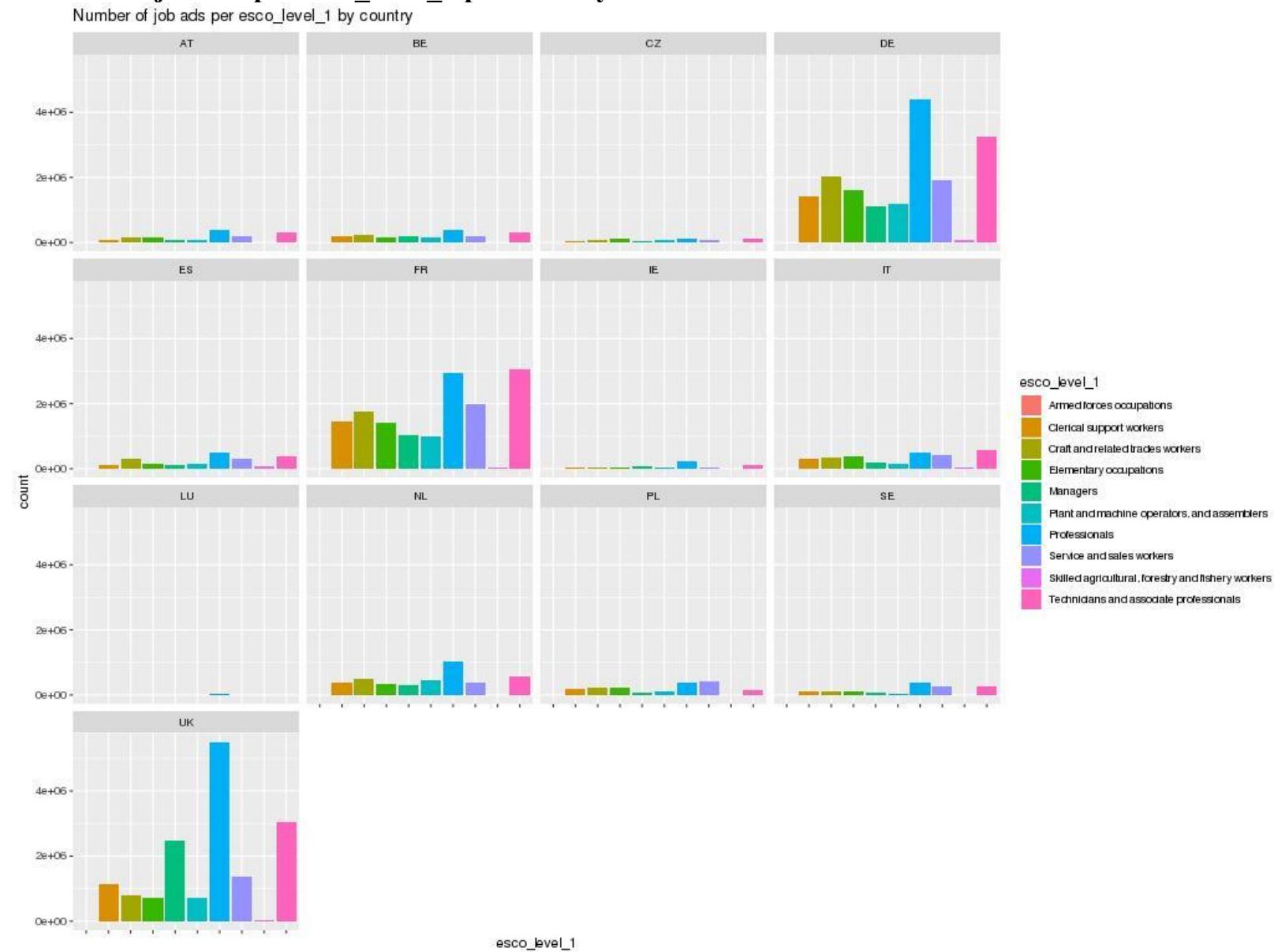
Log of job ads counts per educational_level for SK by source country



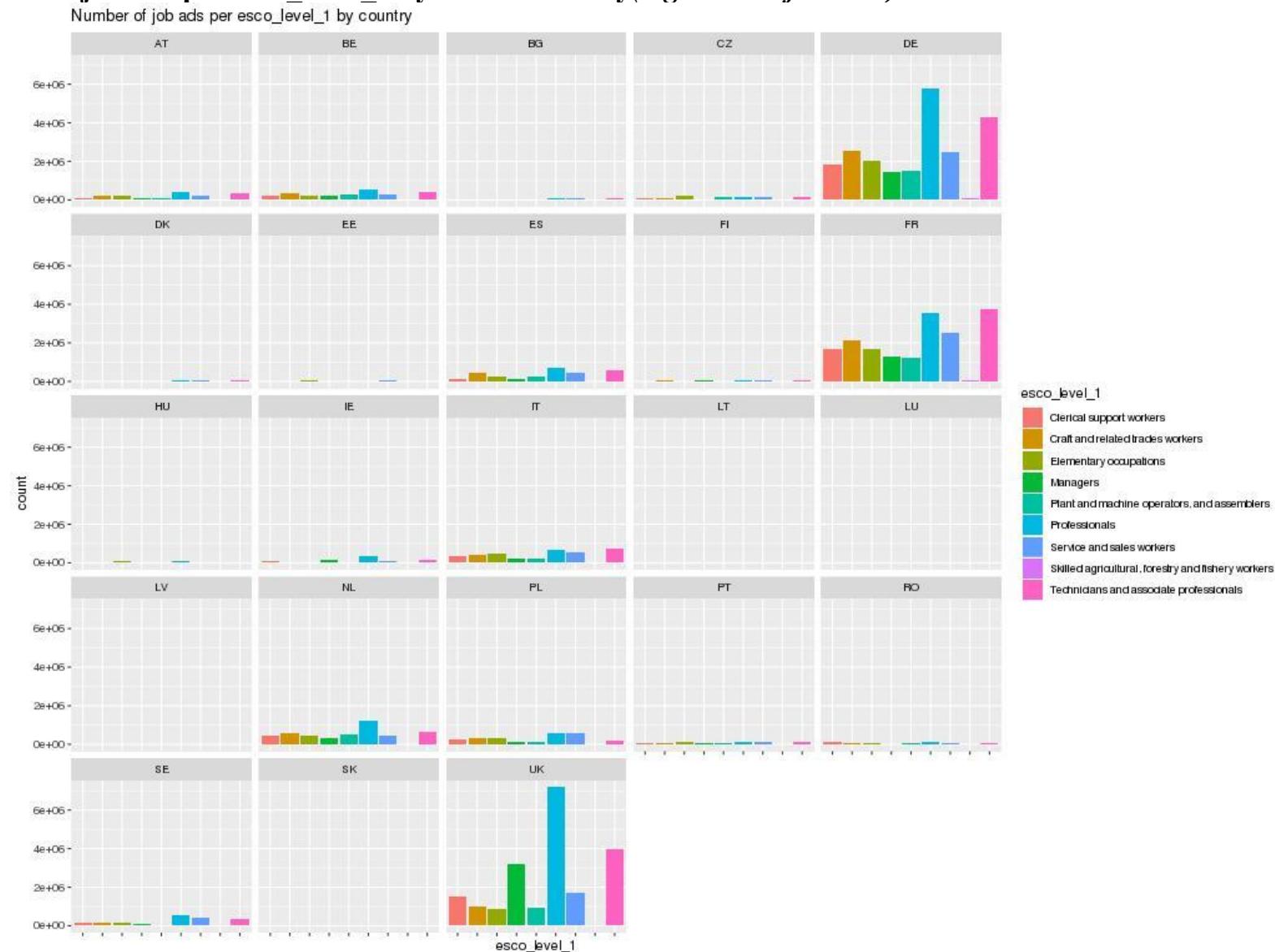
Log of job ads counts per educational_level for UK by source country



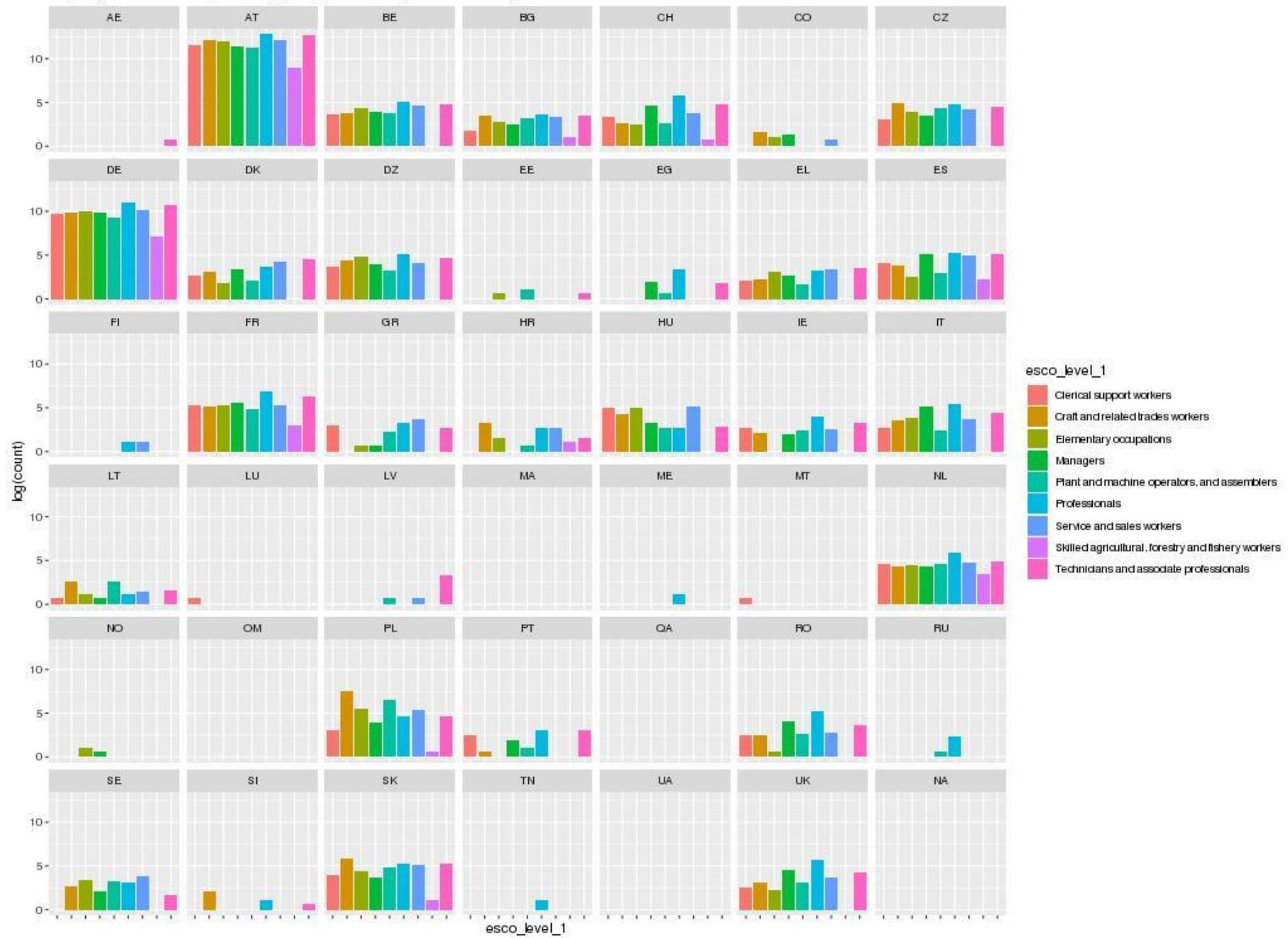
Number of job ads per esco_level_1 per country



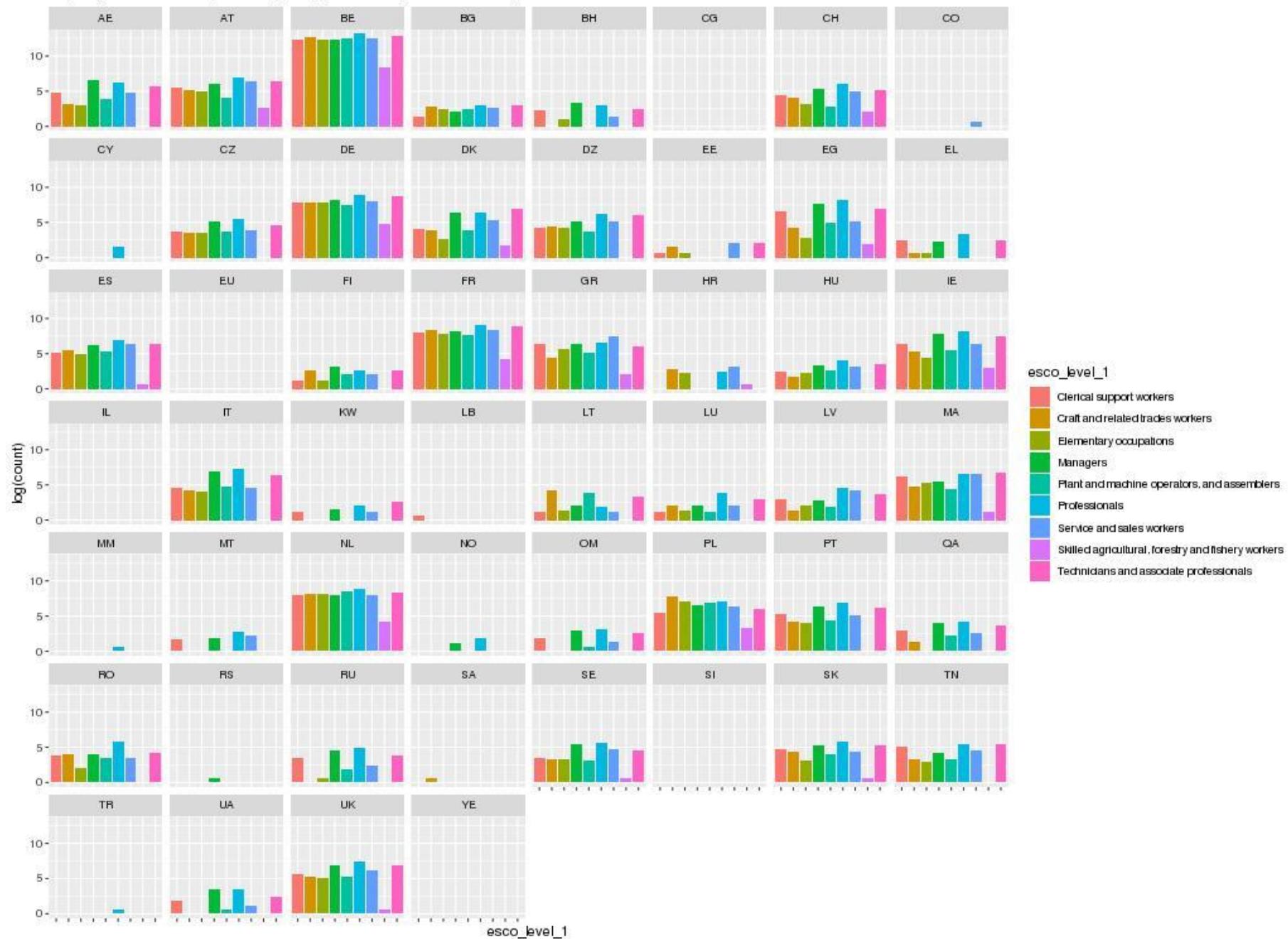
Number of job ads per esco_level_1 by source country(*logarithm of counts*)



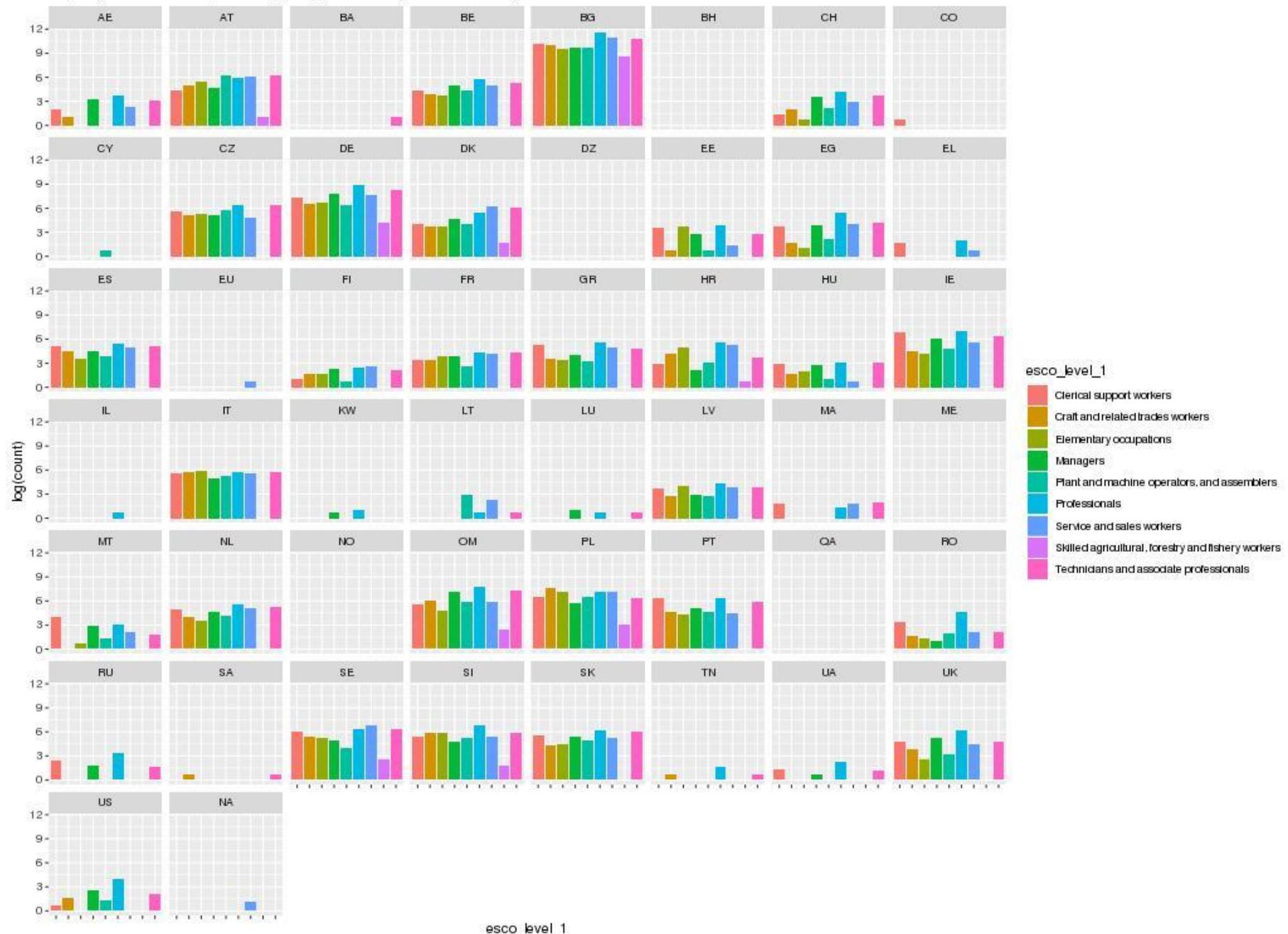
Log of job ads counts per esco_level_1 for AT by source country



Log of job ads counts per esco_level_1 for BE by source country



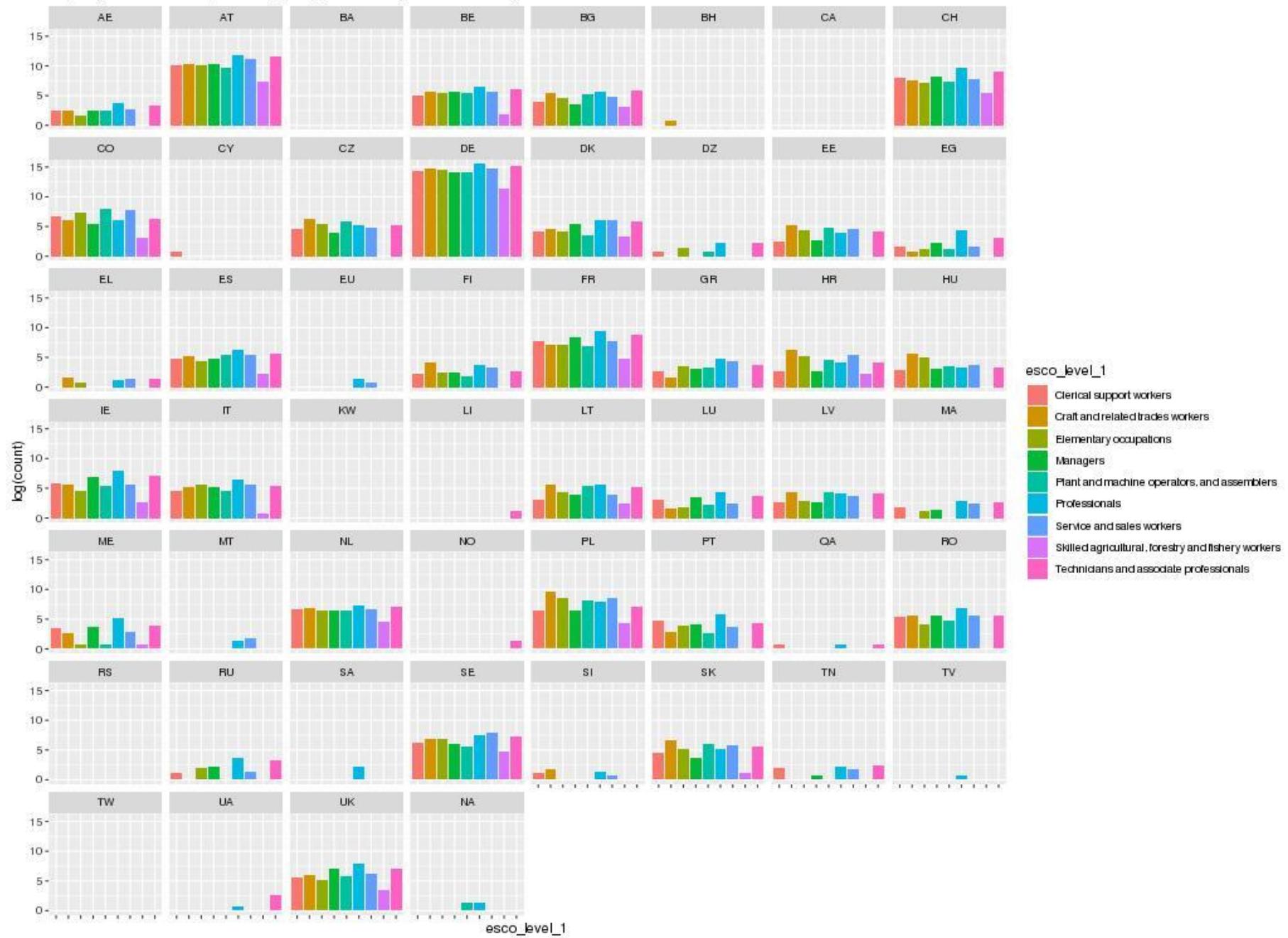
Log of job ads counts per esco_level_1 for BG by source country



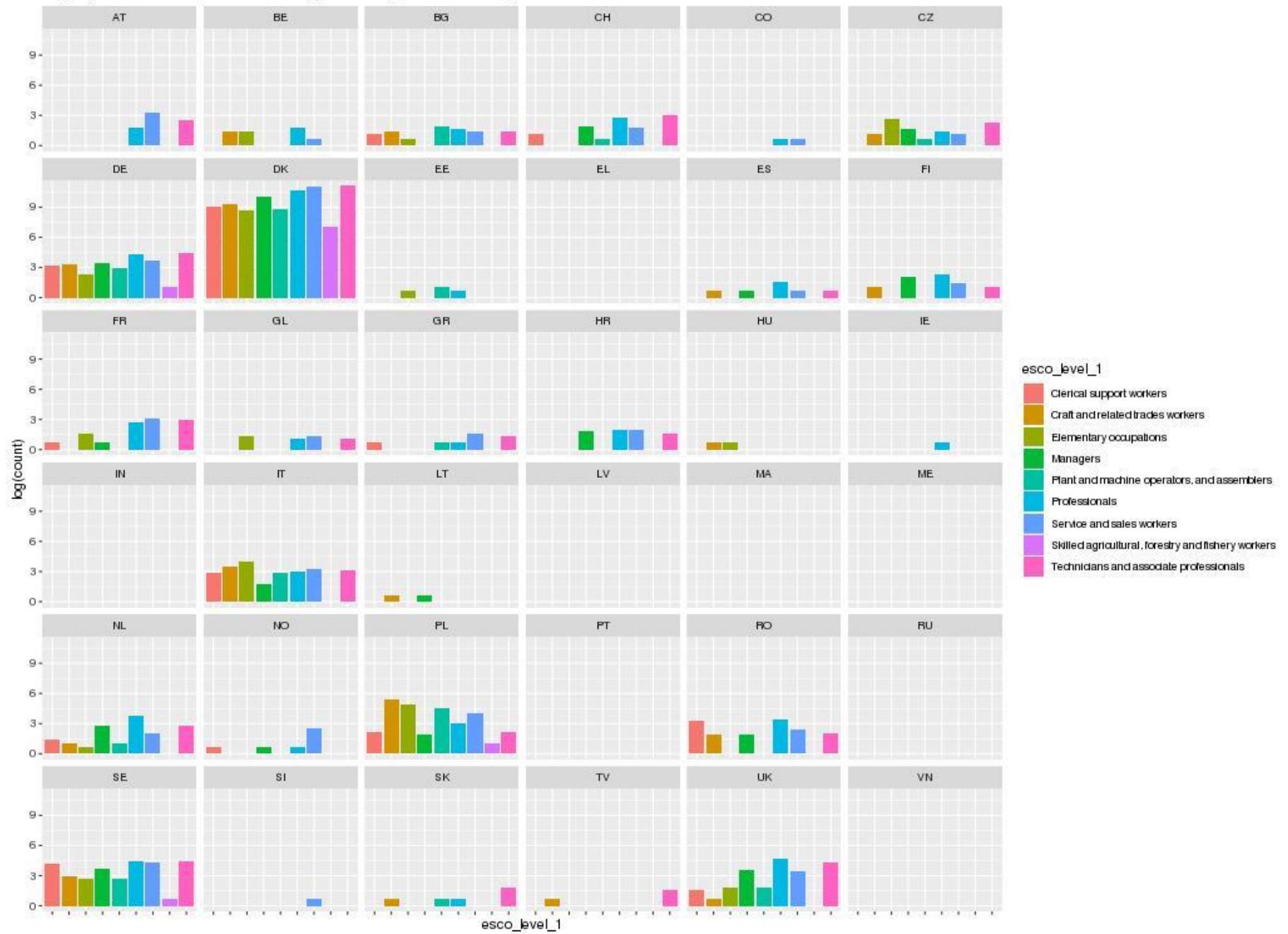
Log of job ads counts per esco_level_1 for CZ by source country



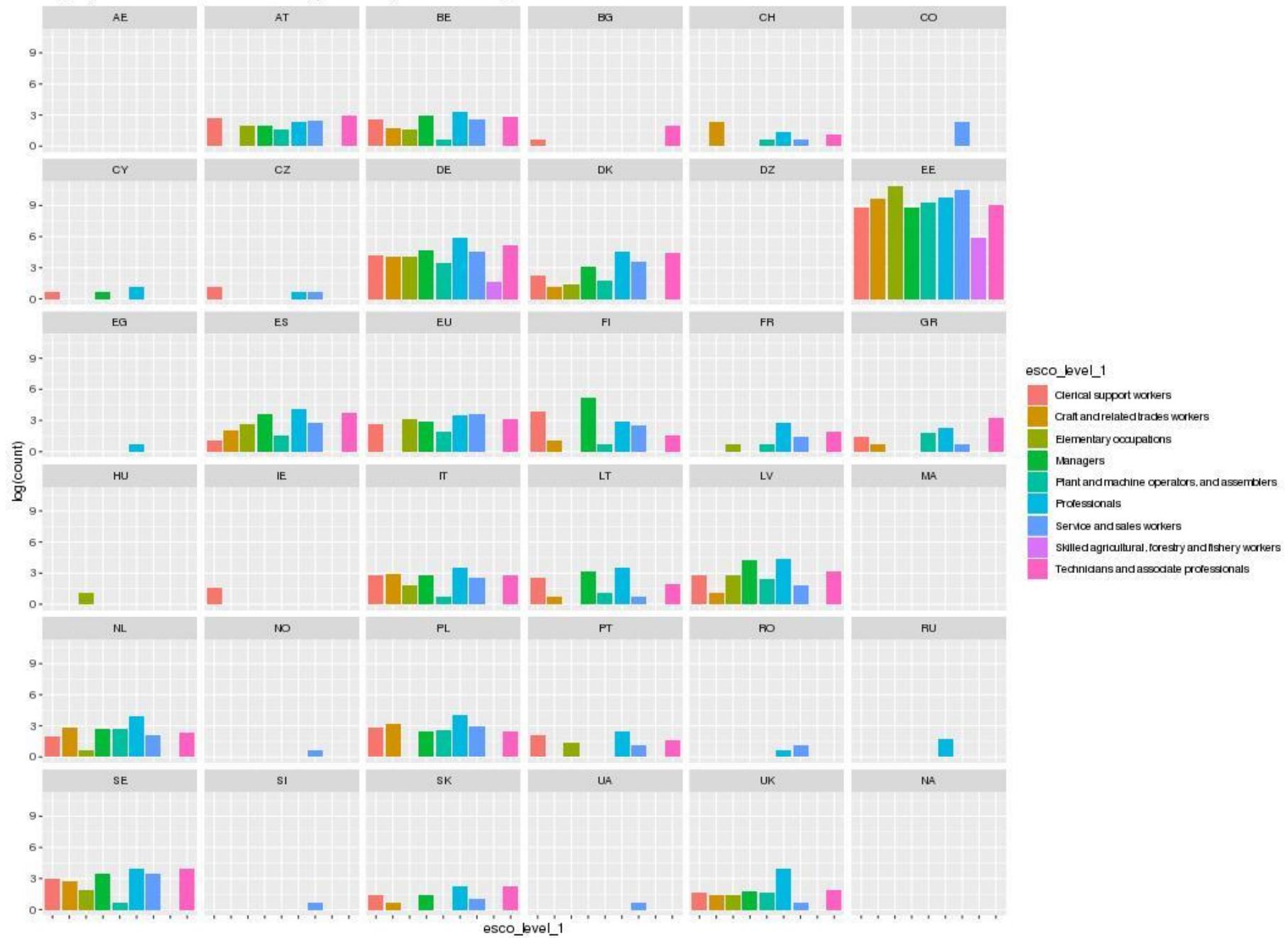
Log of job ads counts per esco_level_1 for DE by source country



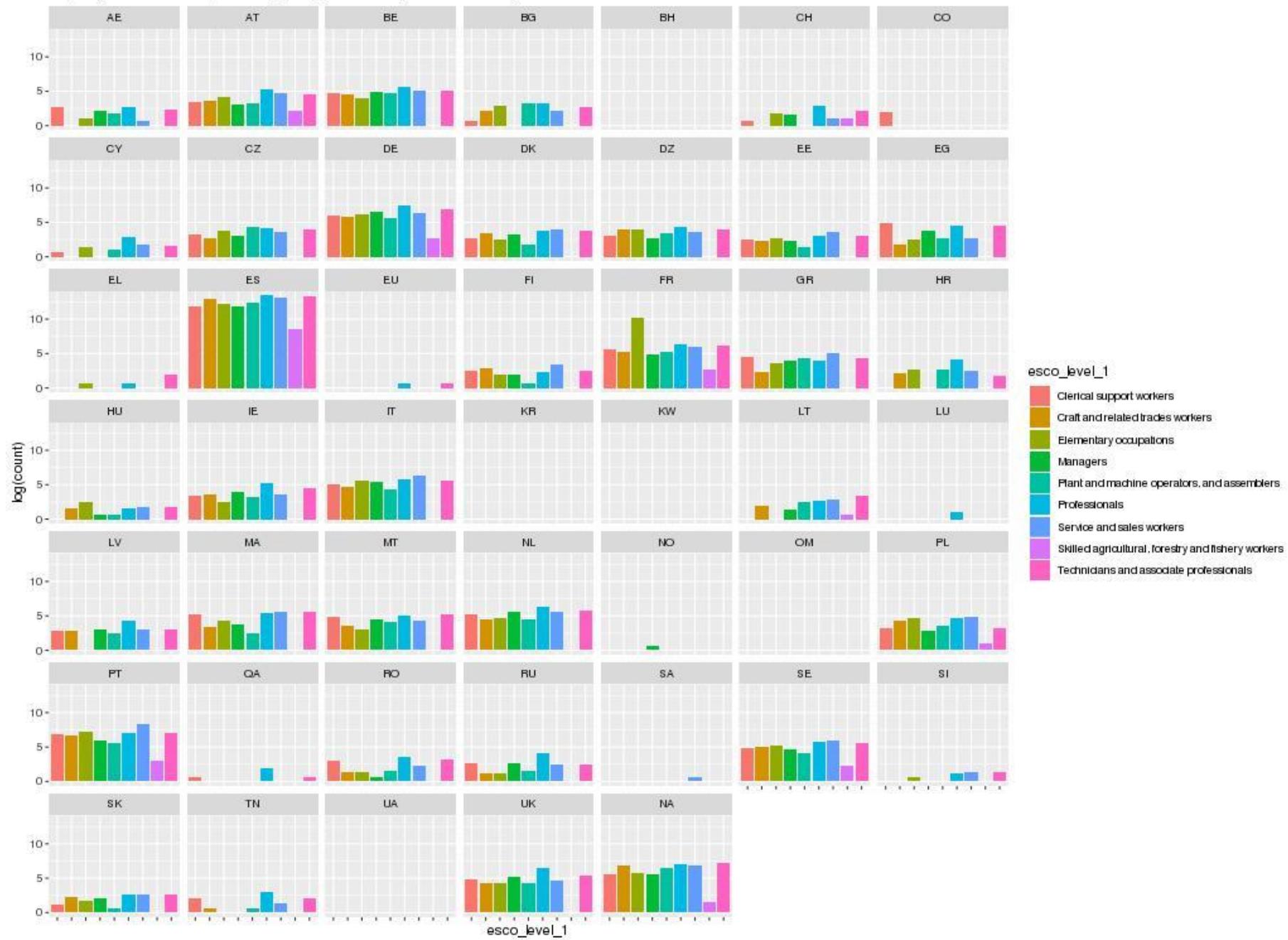
Log of job ads counts per esco_level_1 for DK by source country



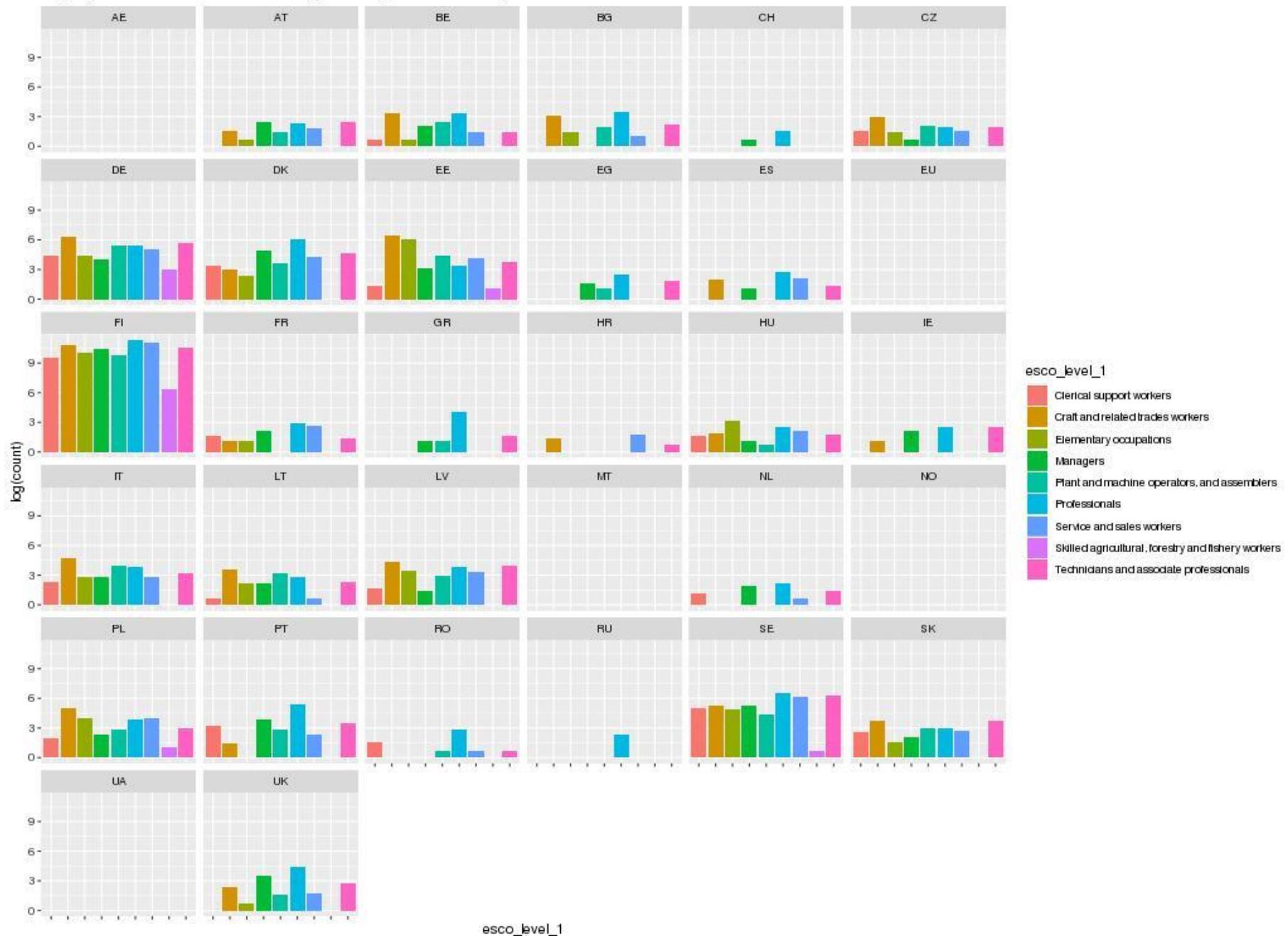
Log of job ads counts per esco_level_1 for EE by source country



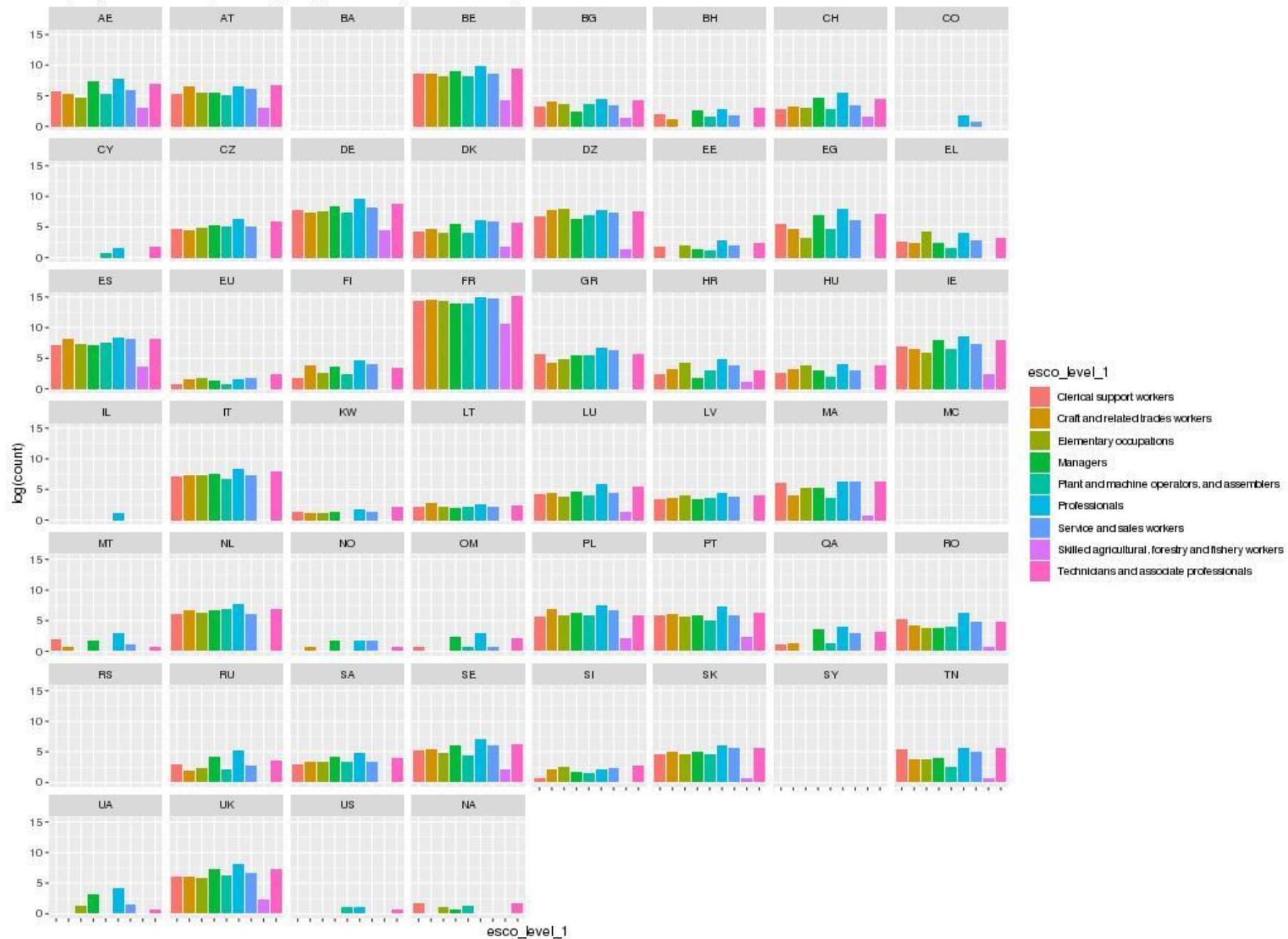
Log of job ads counts per esco_level_1 for ES by source country



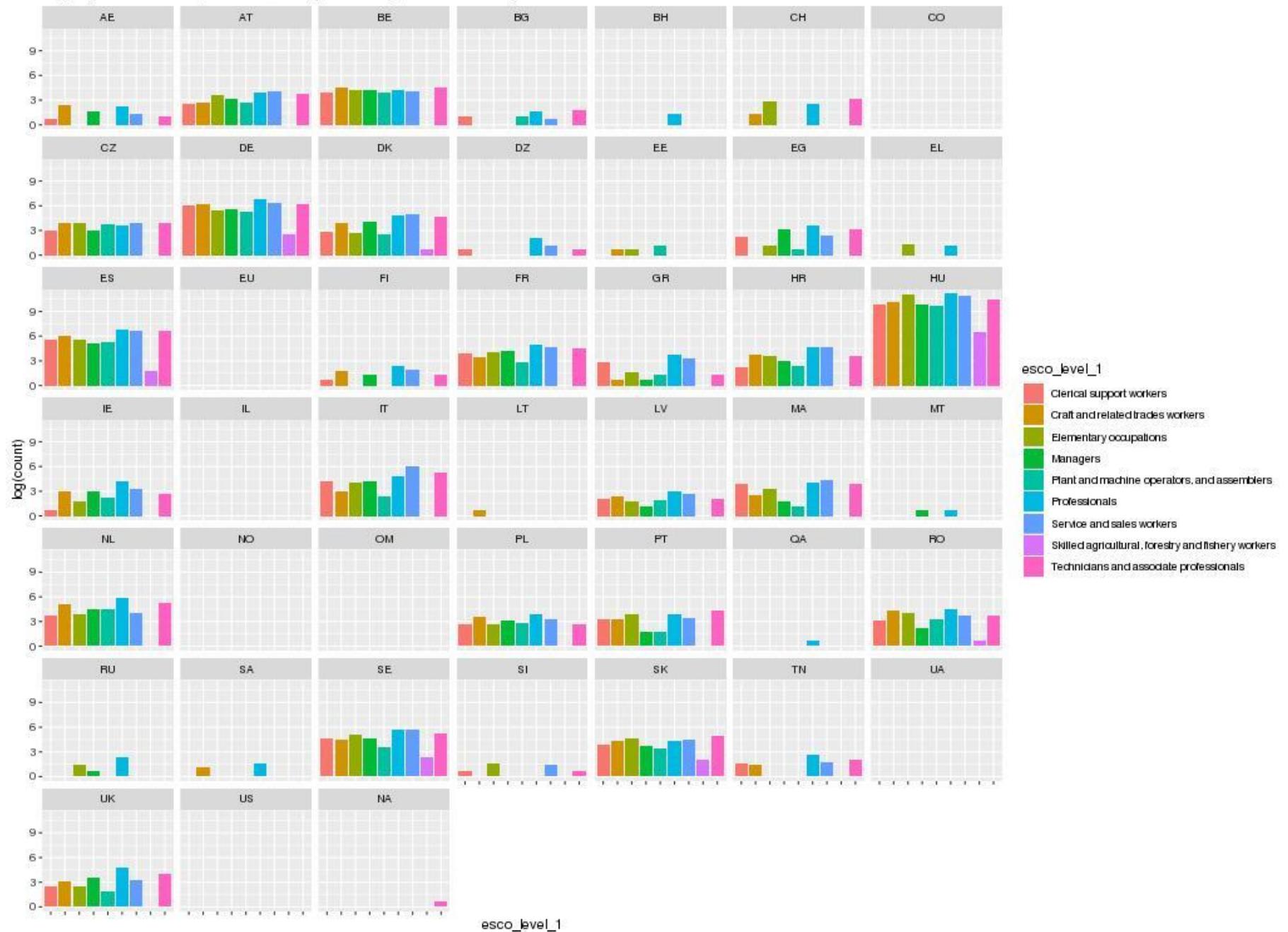
Log of job ads counts per esco_level_1 for FI by source country



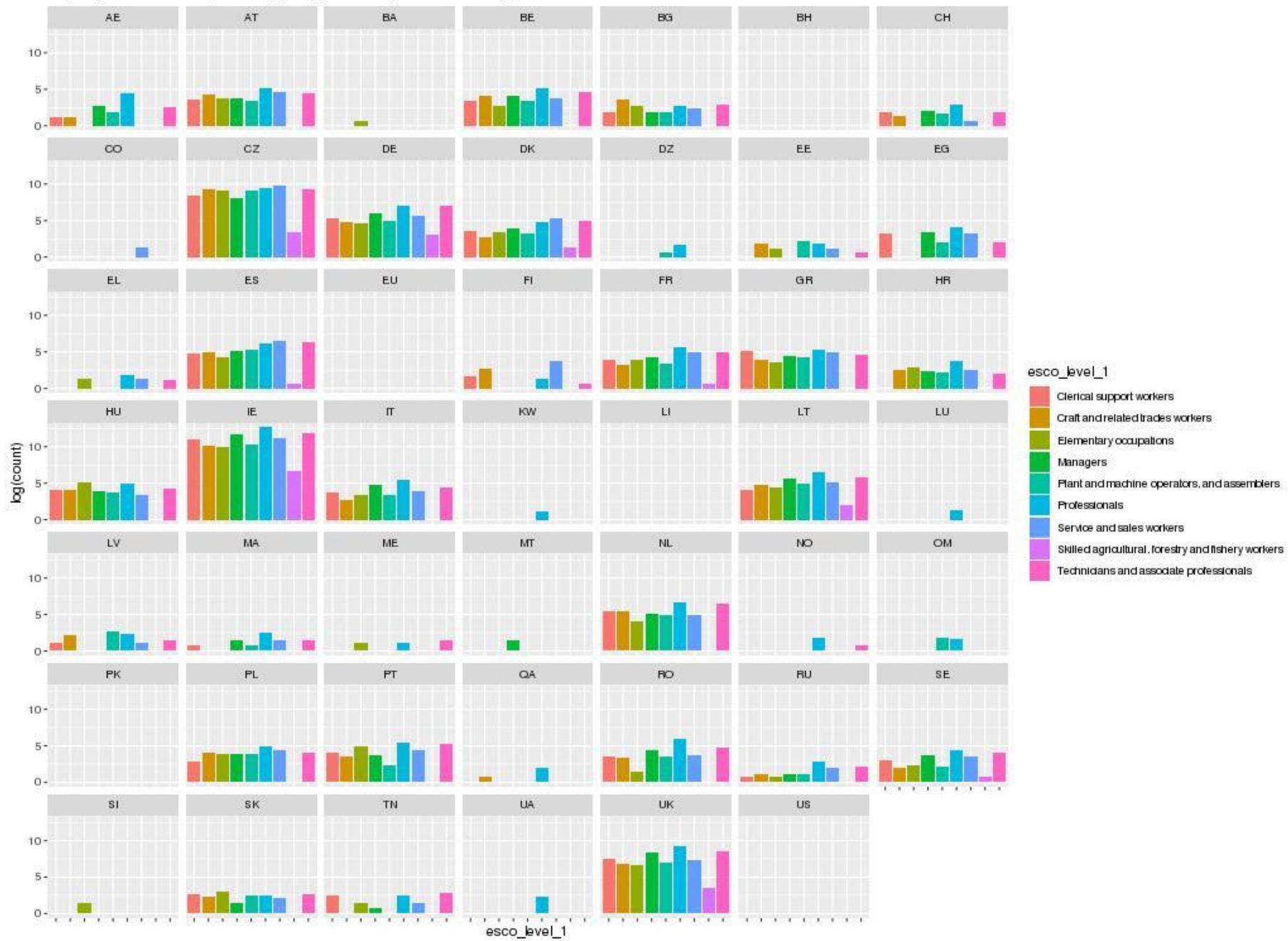
Log of job ads counts per esco_level_1 for FR by source country



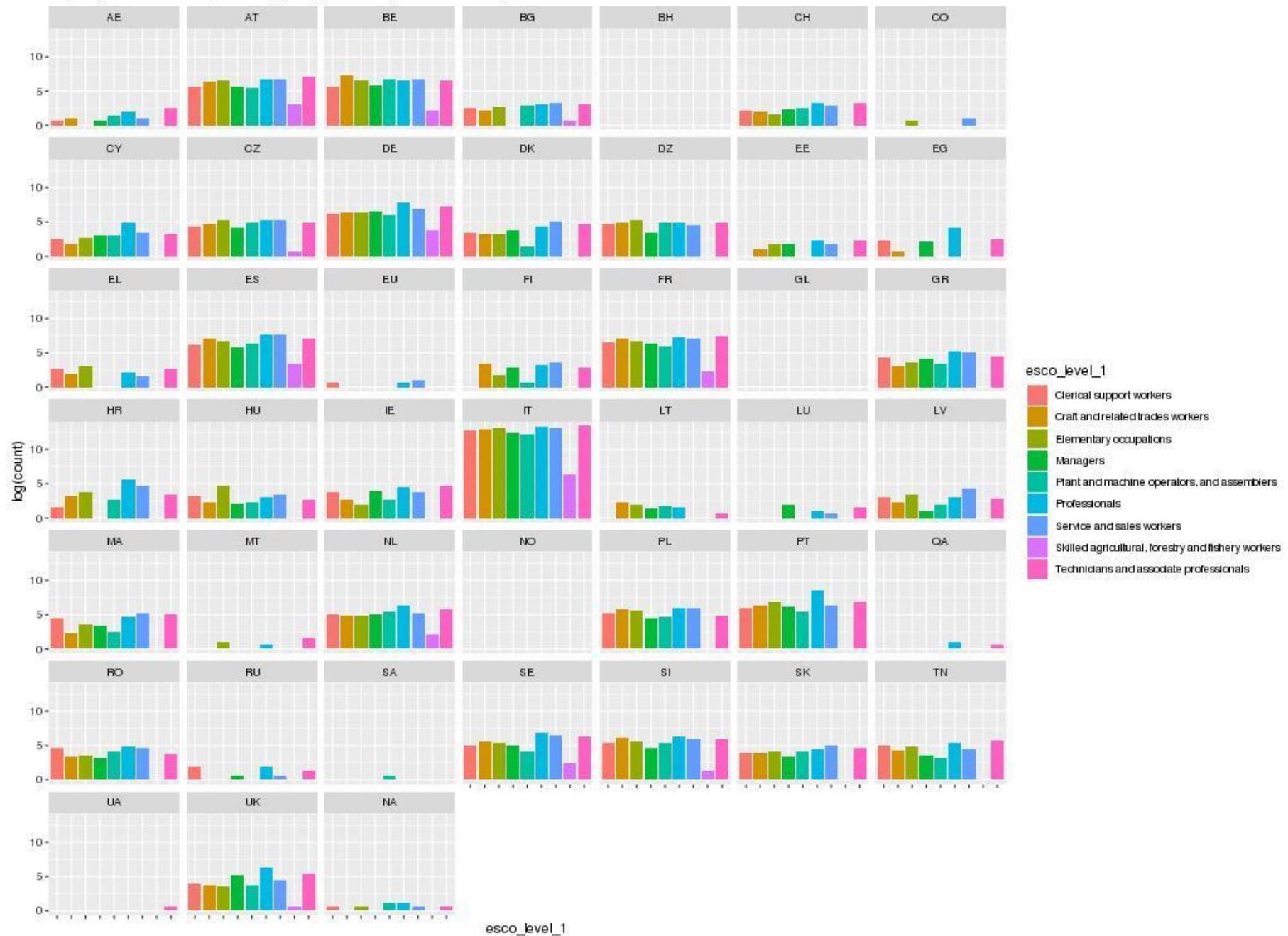
Log of job ads counts per esco_level_1 for HU by source country



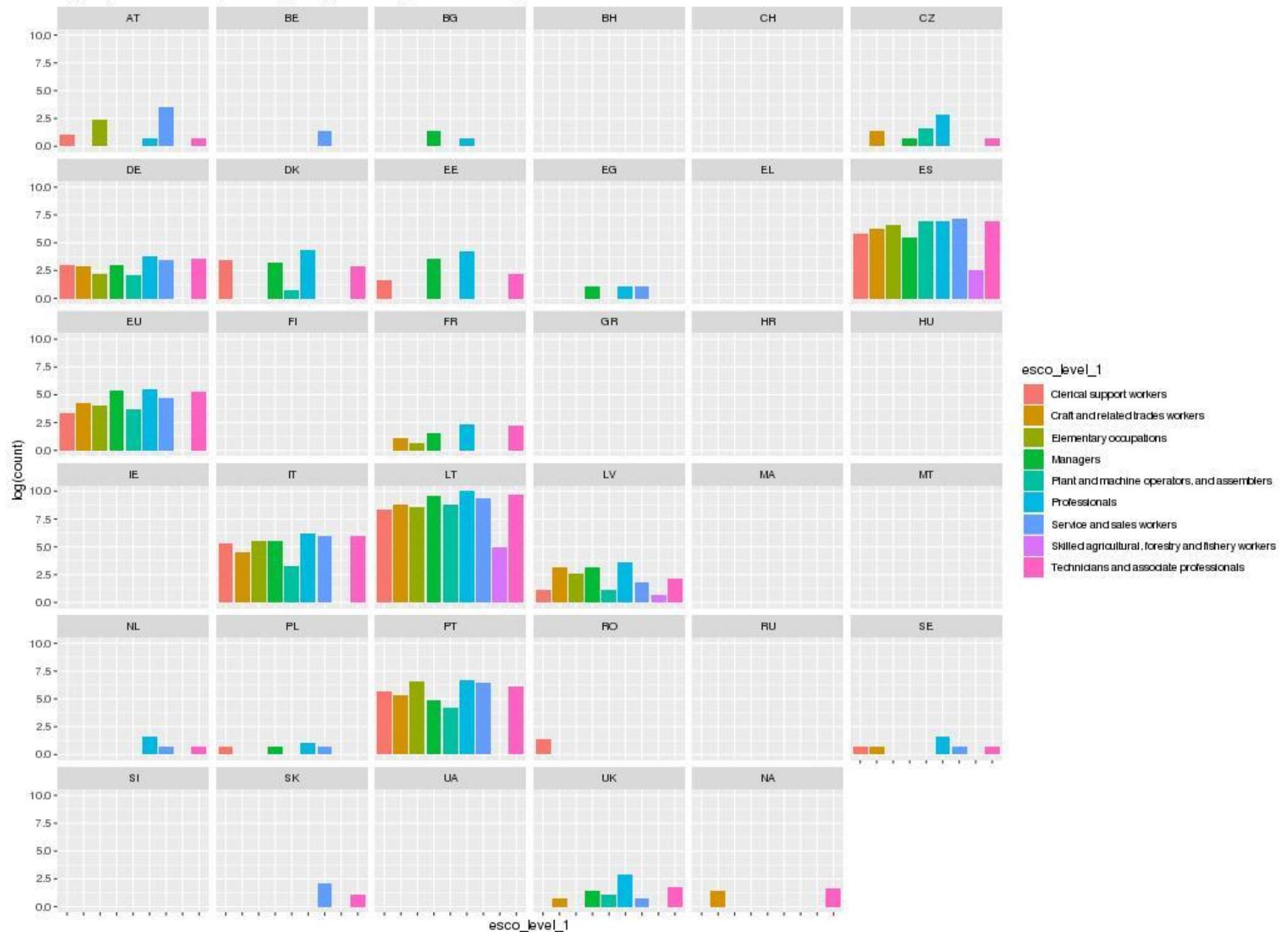
Log of job ads counts per esco_level_1 for IE by source country



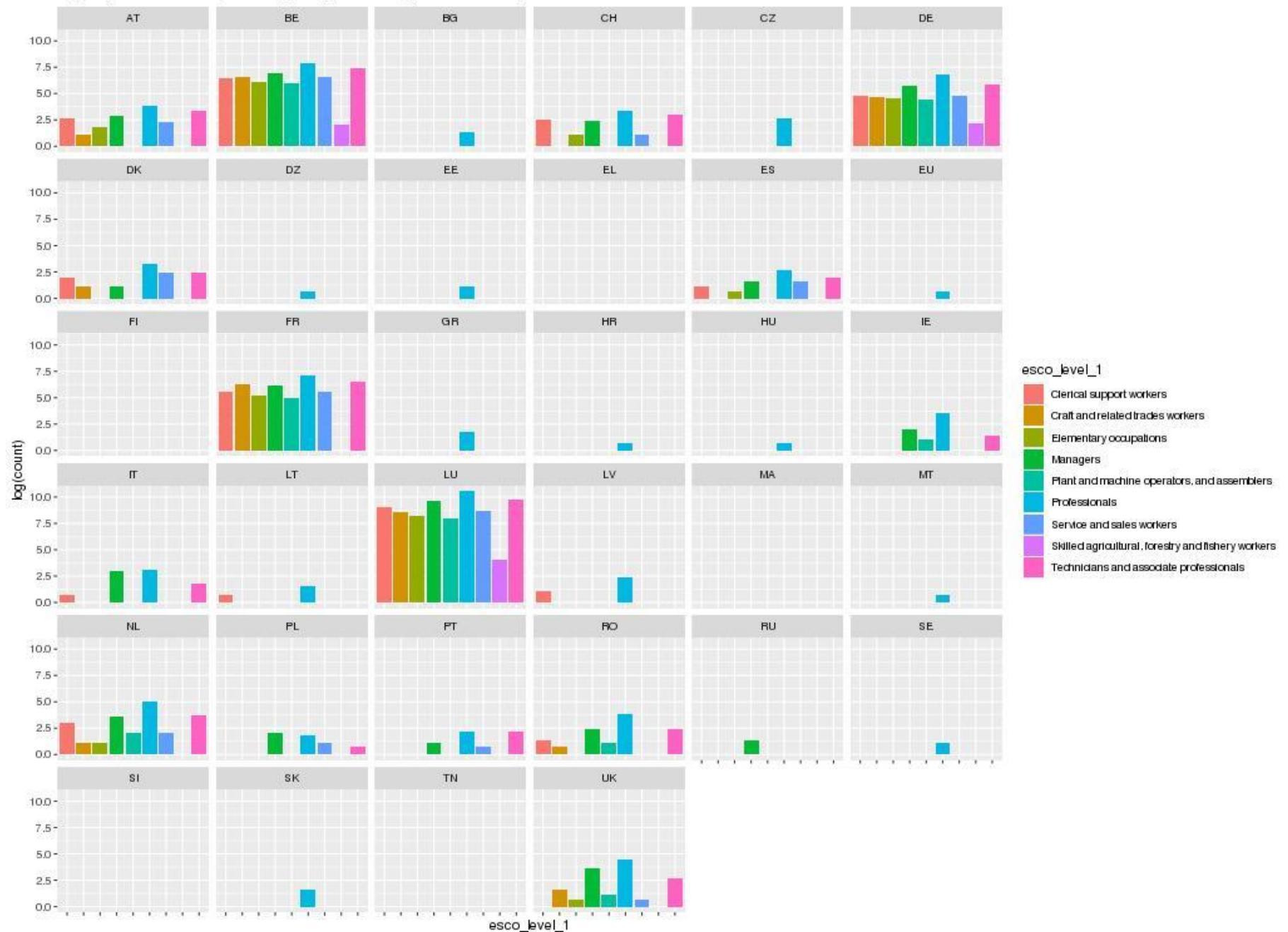
Log of job ads counts per esco_level_1 for IT by source country



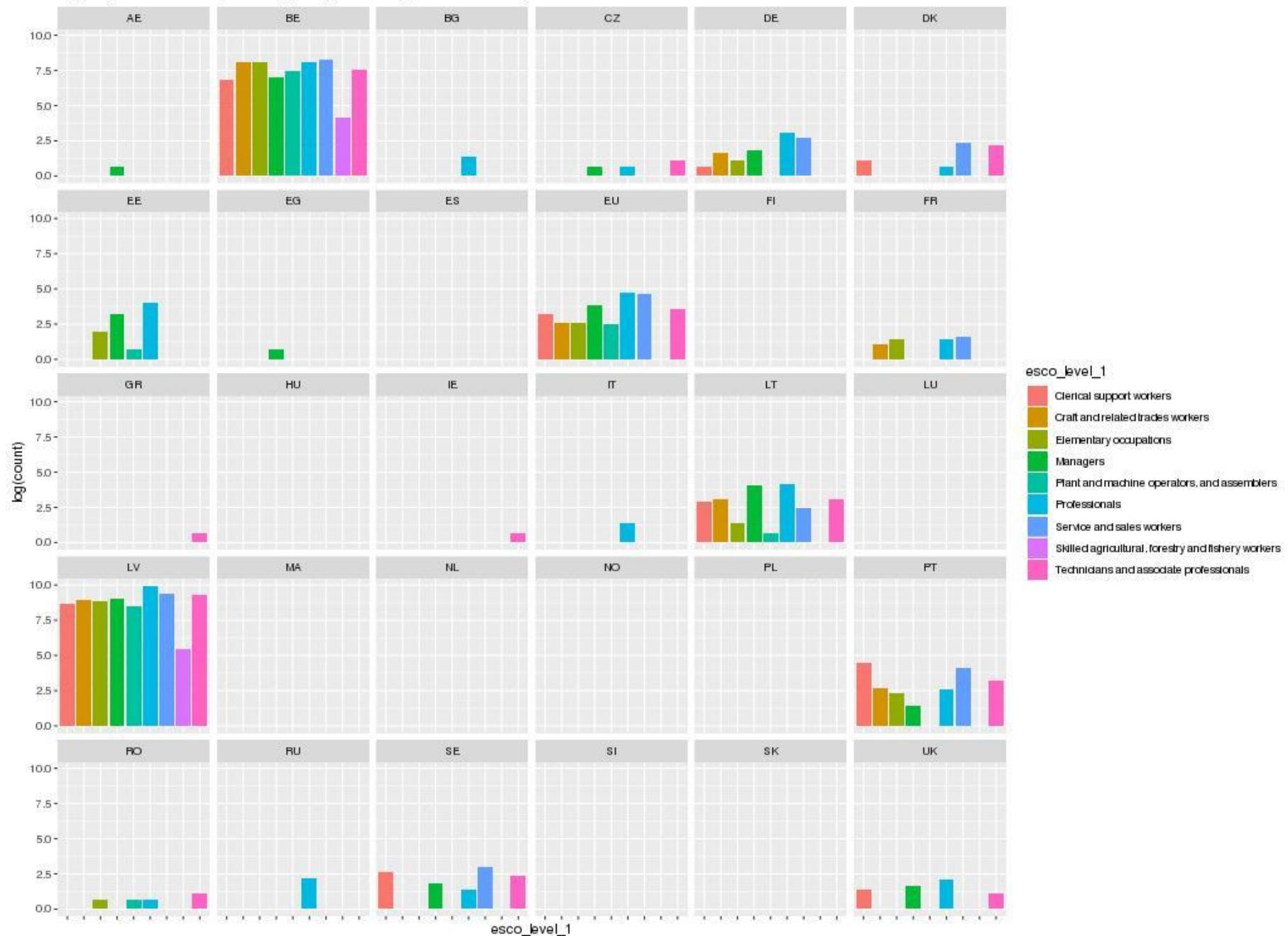
Log of job ads counts per esco_level_1 for LT by source country



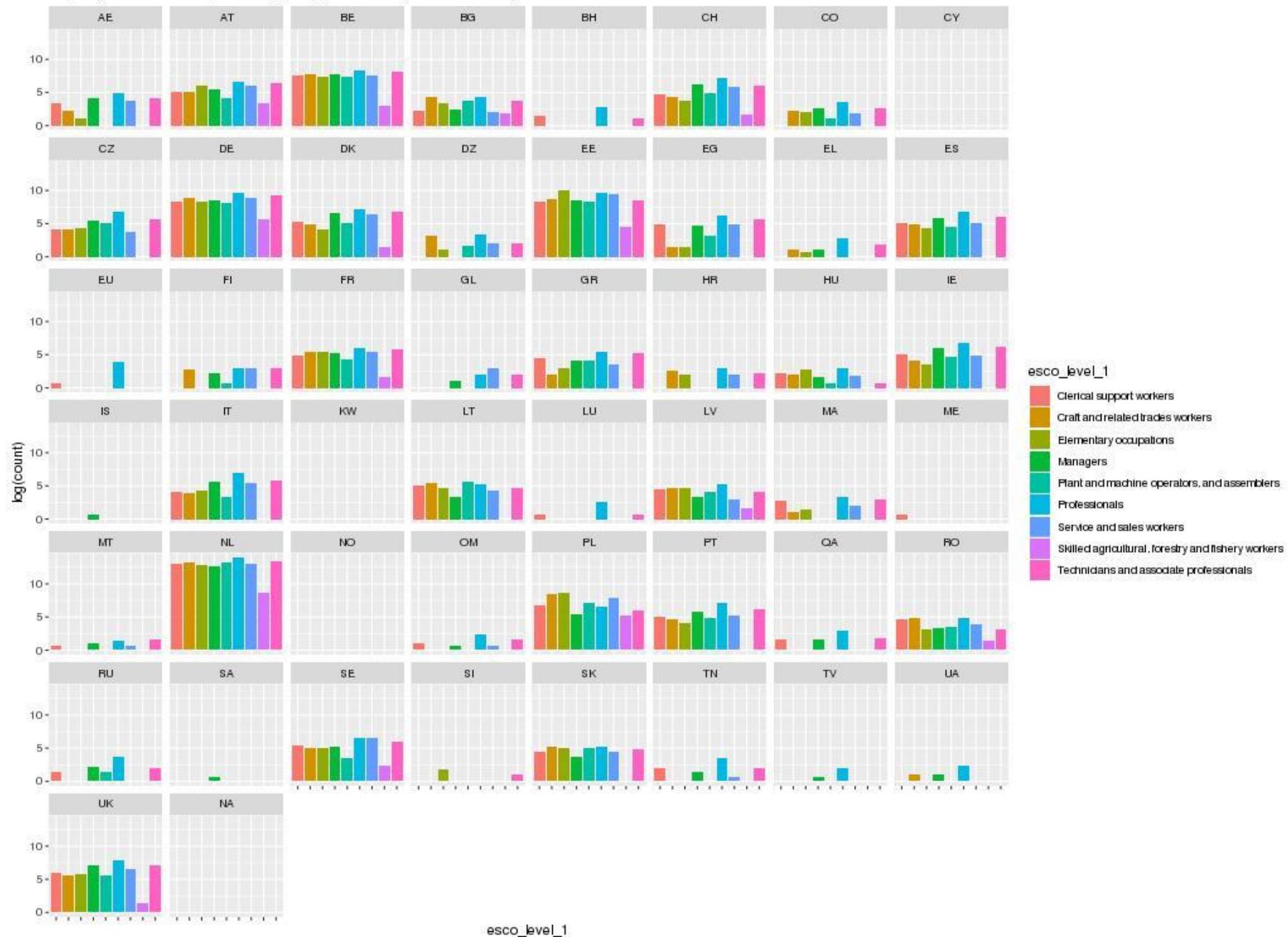
Log of job ads counts per esco_level_1 for LU by source country



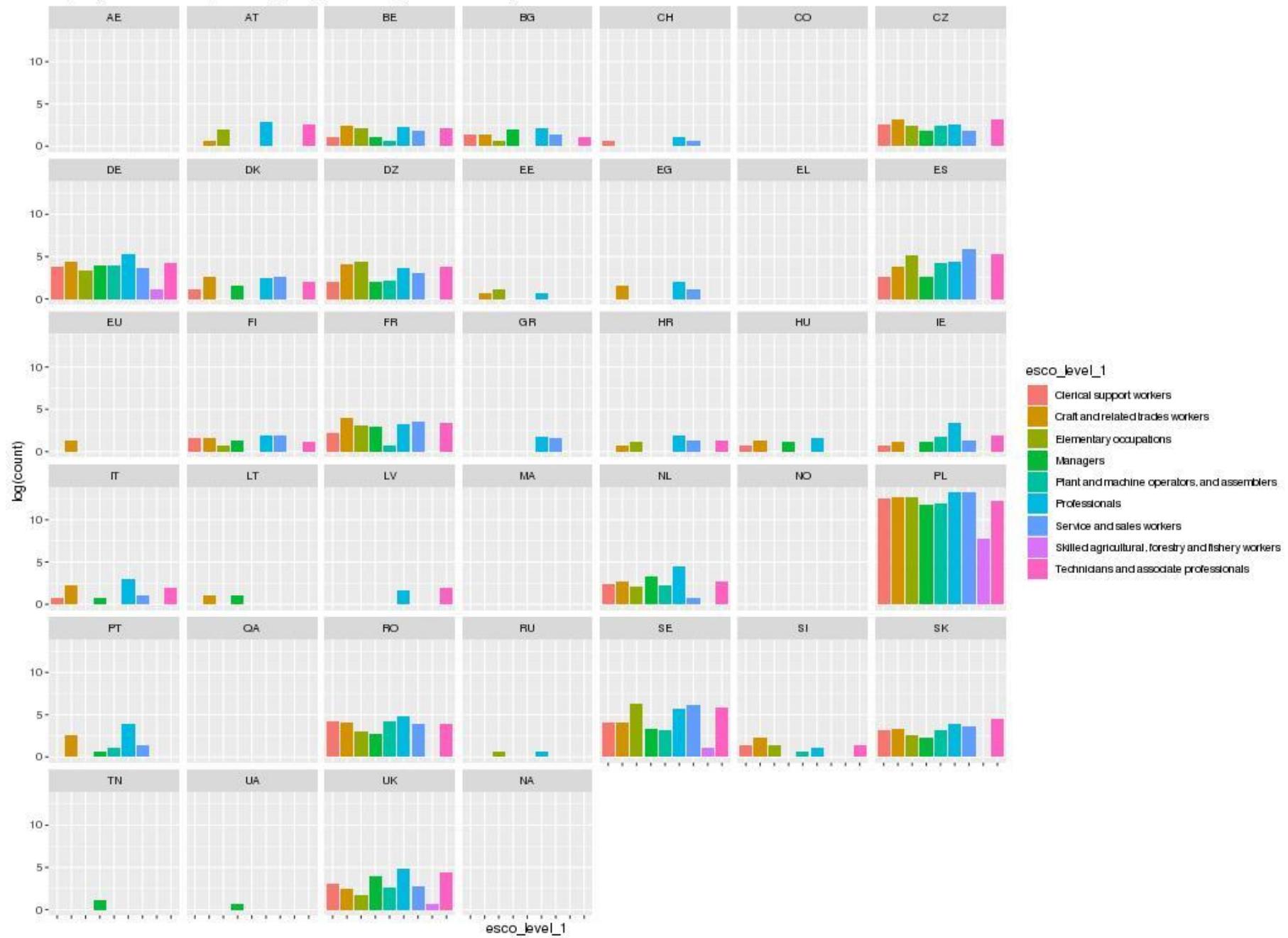
Log of job ads counts per esco_level_1 for LV by source country



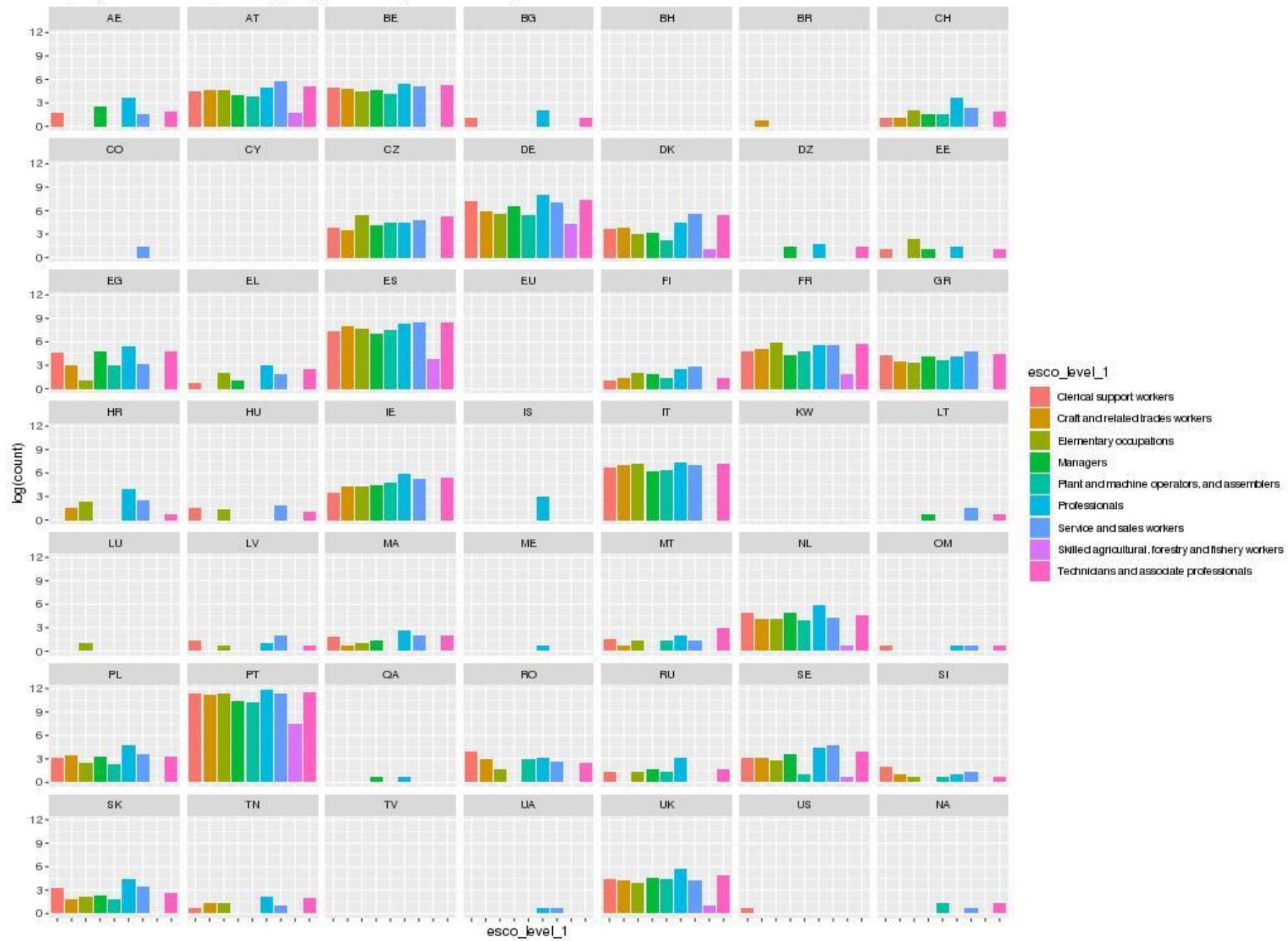
Log of job ads counts per esco_level_1 for NL by source country



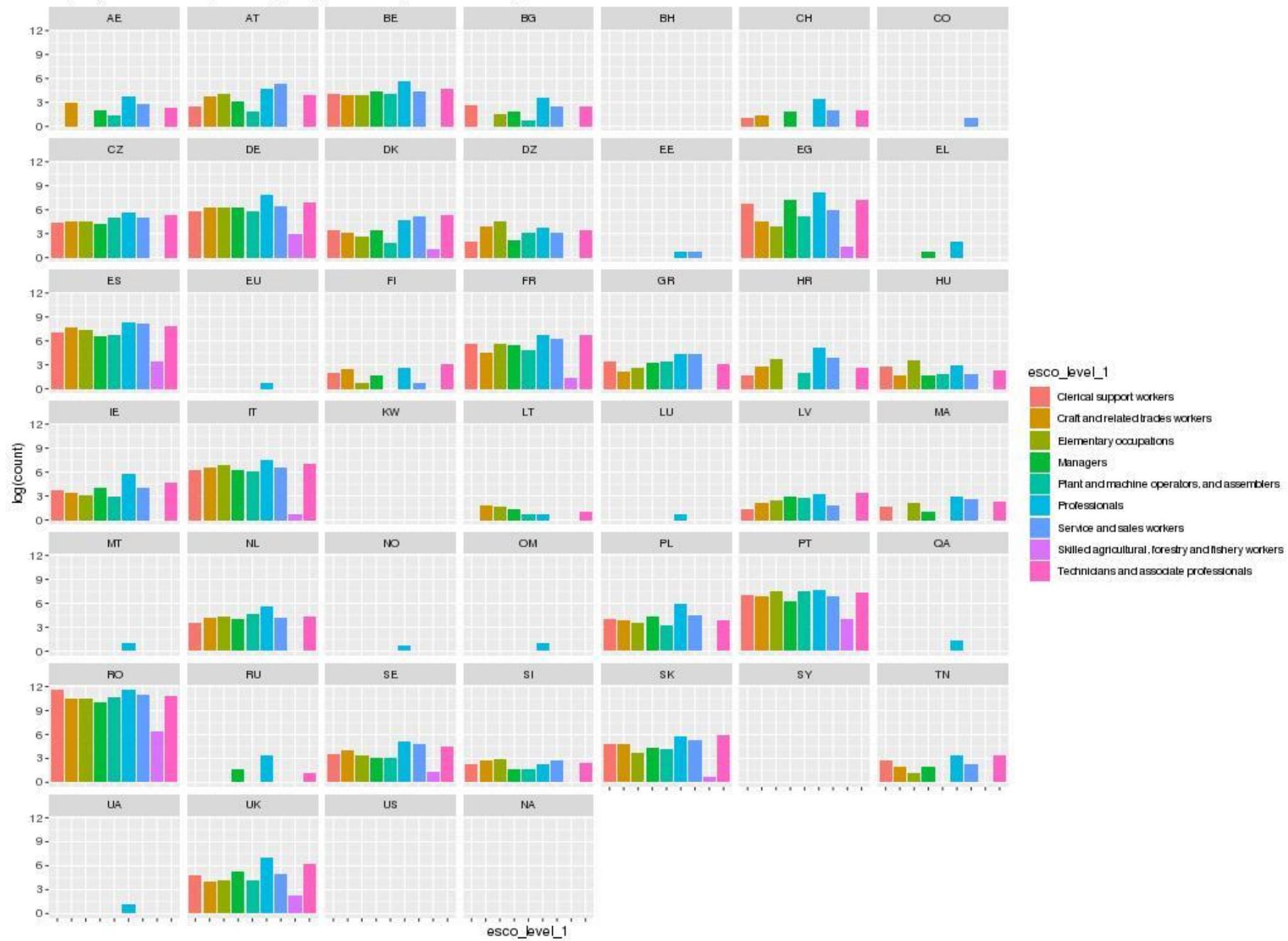
Log of job ads counts per esco_level_1 for PL by source country



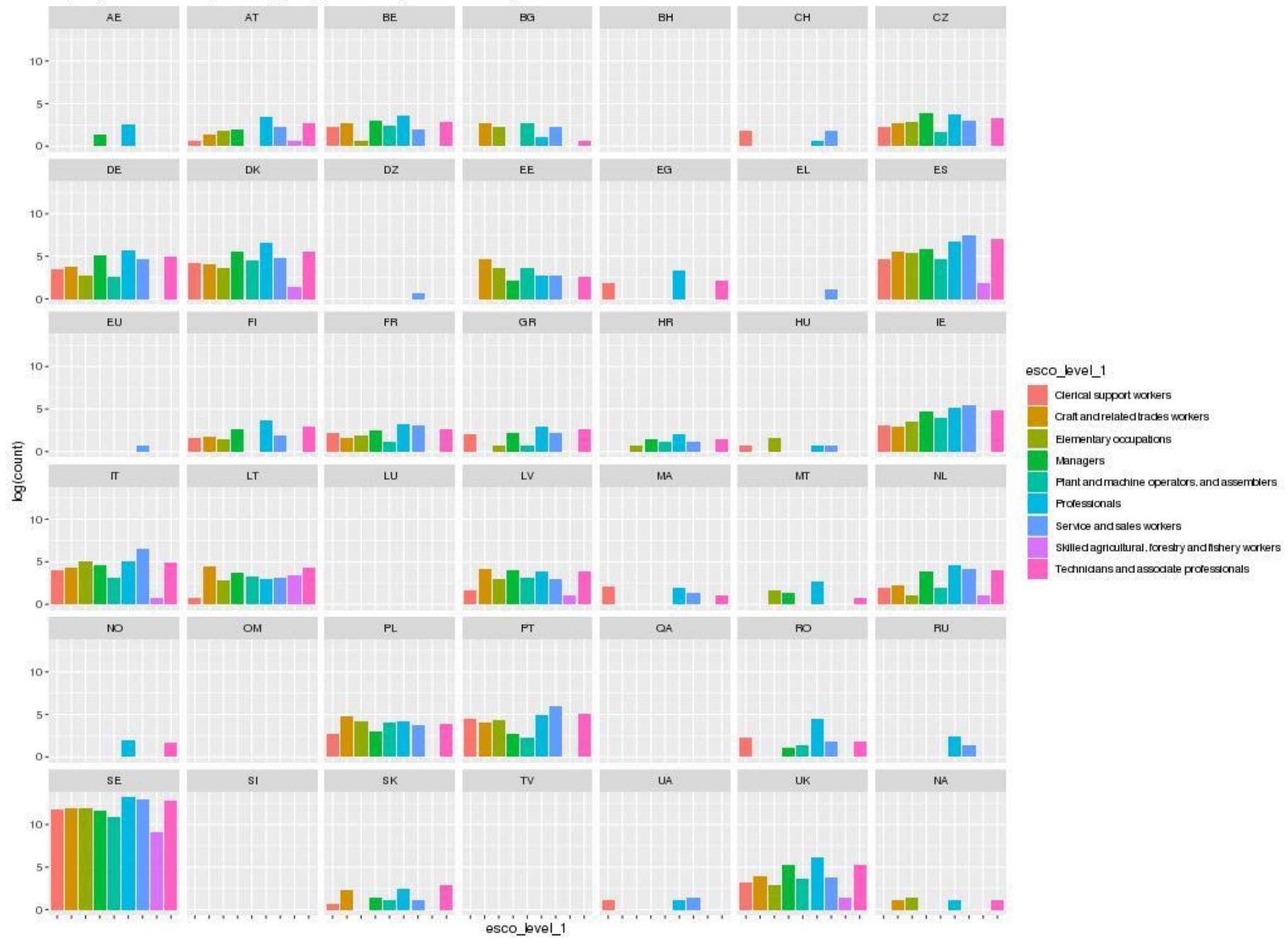
Log of job ads counts per esco_level_1 for PT by source country



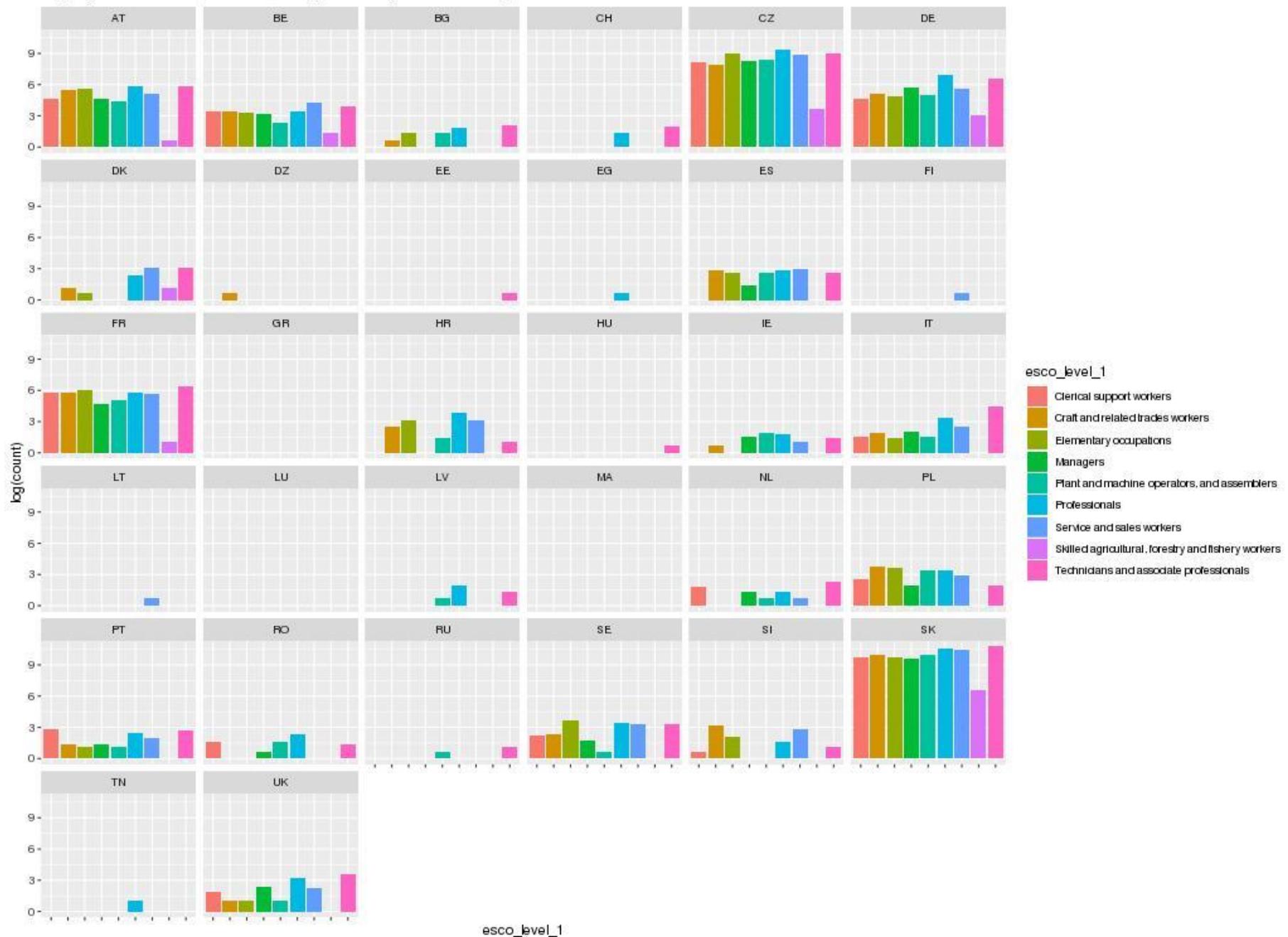
Log of job ads counts per esco_level_1 for RO by source country



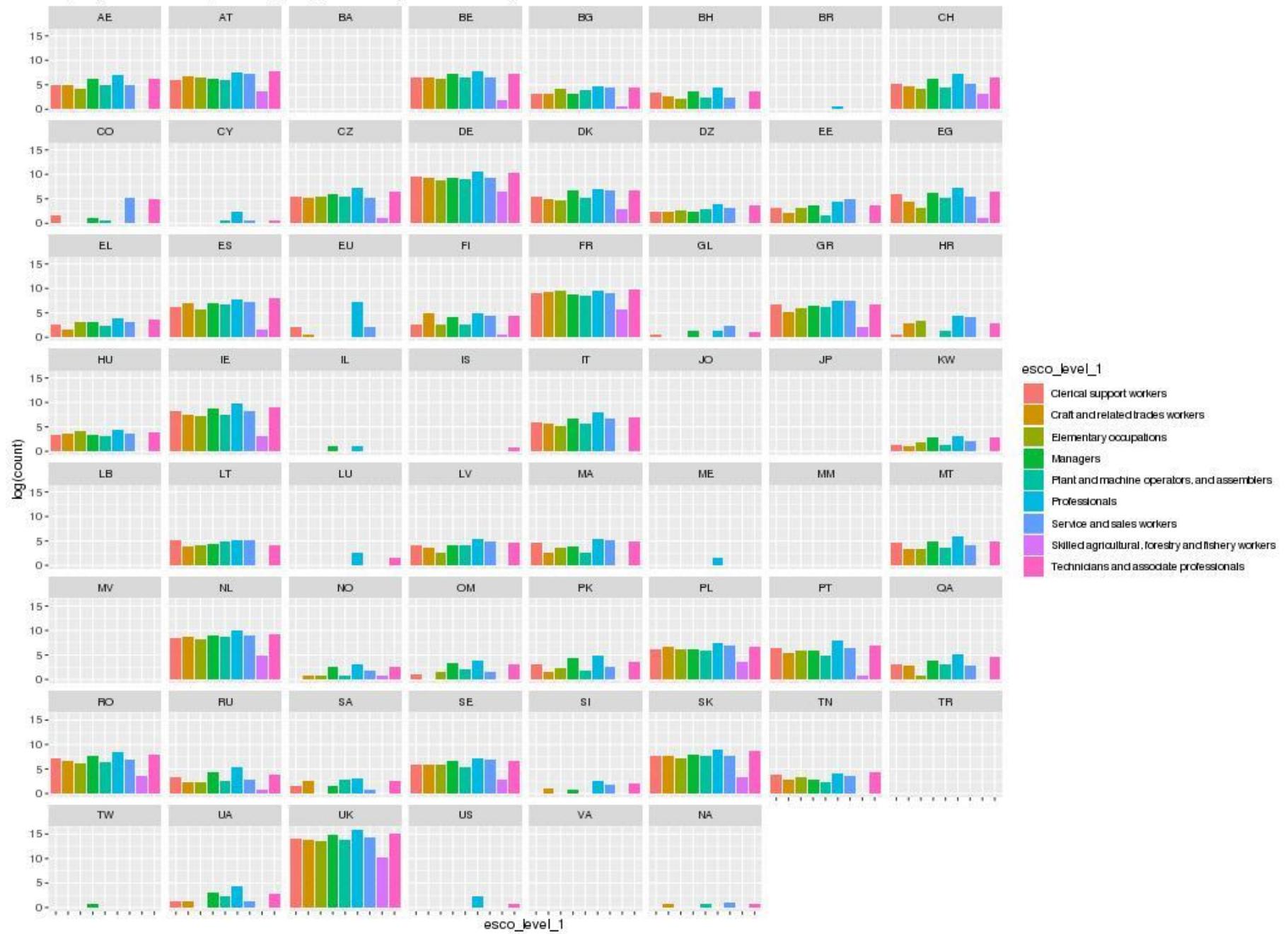
Log of job ads counts per esco_level_1 for SE by source country



Log of job ads counts per esco_level_1 for SK by source country

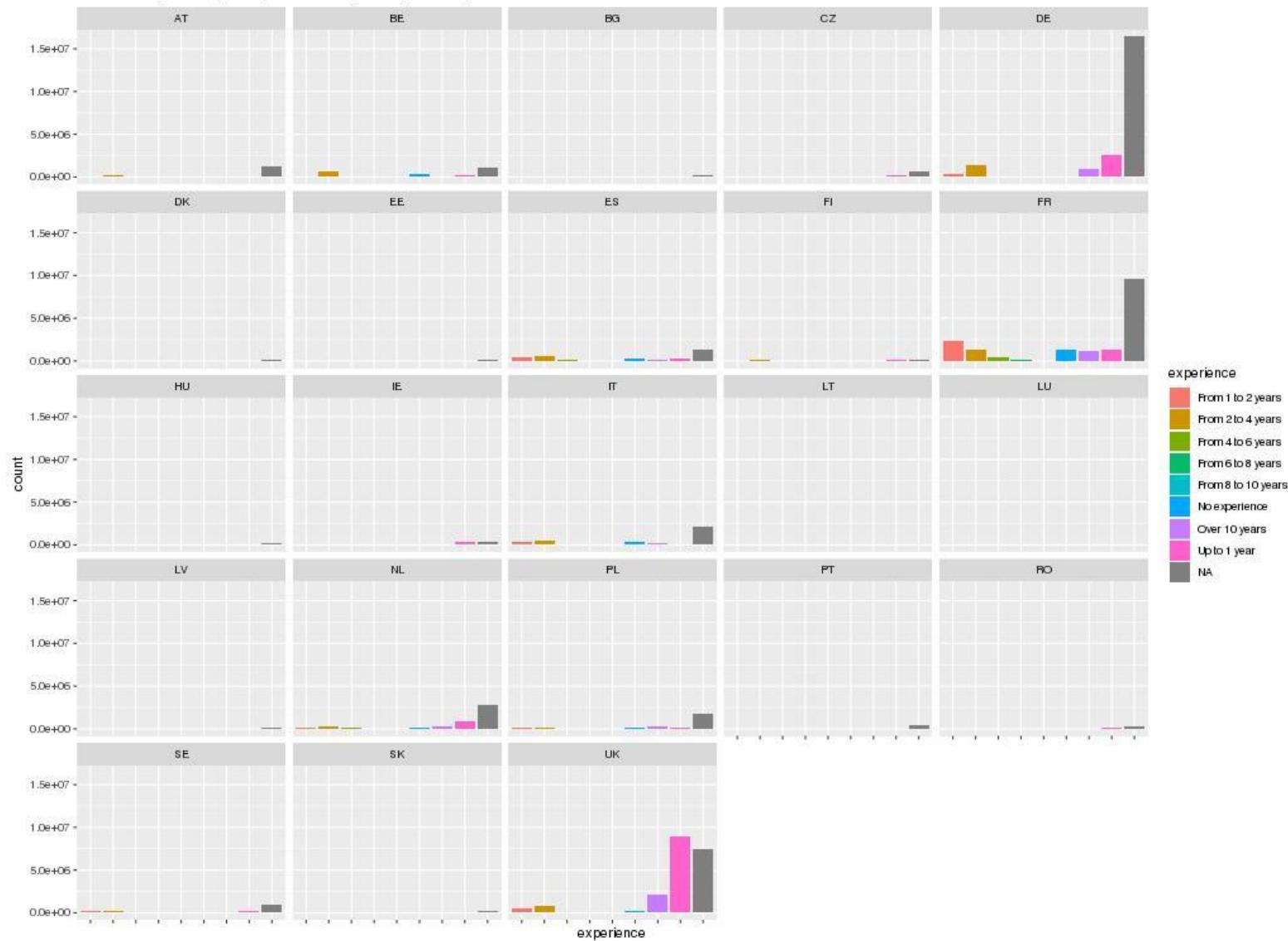


Log of job ads counts per esco_level_1 for UK by source country



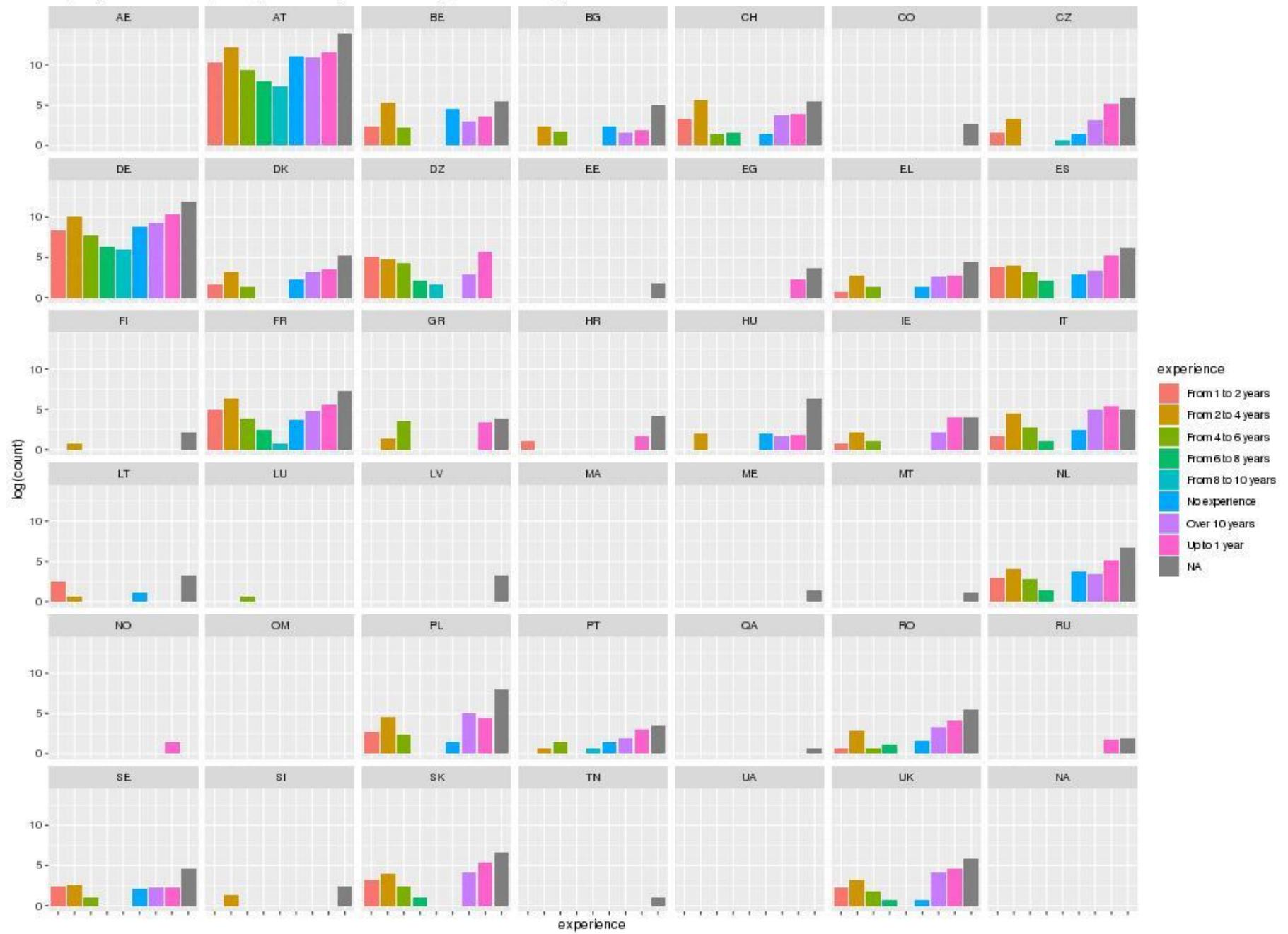
Number of job ads per experience required per country

Number of job ads per experience required by country

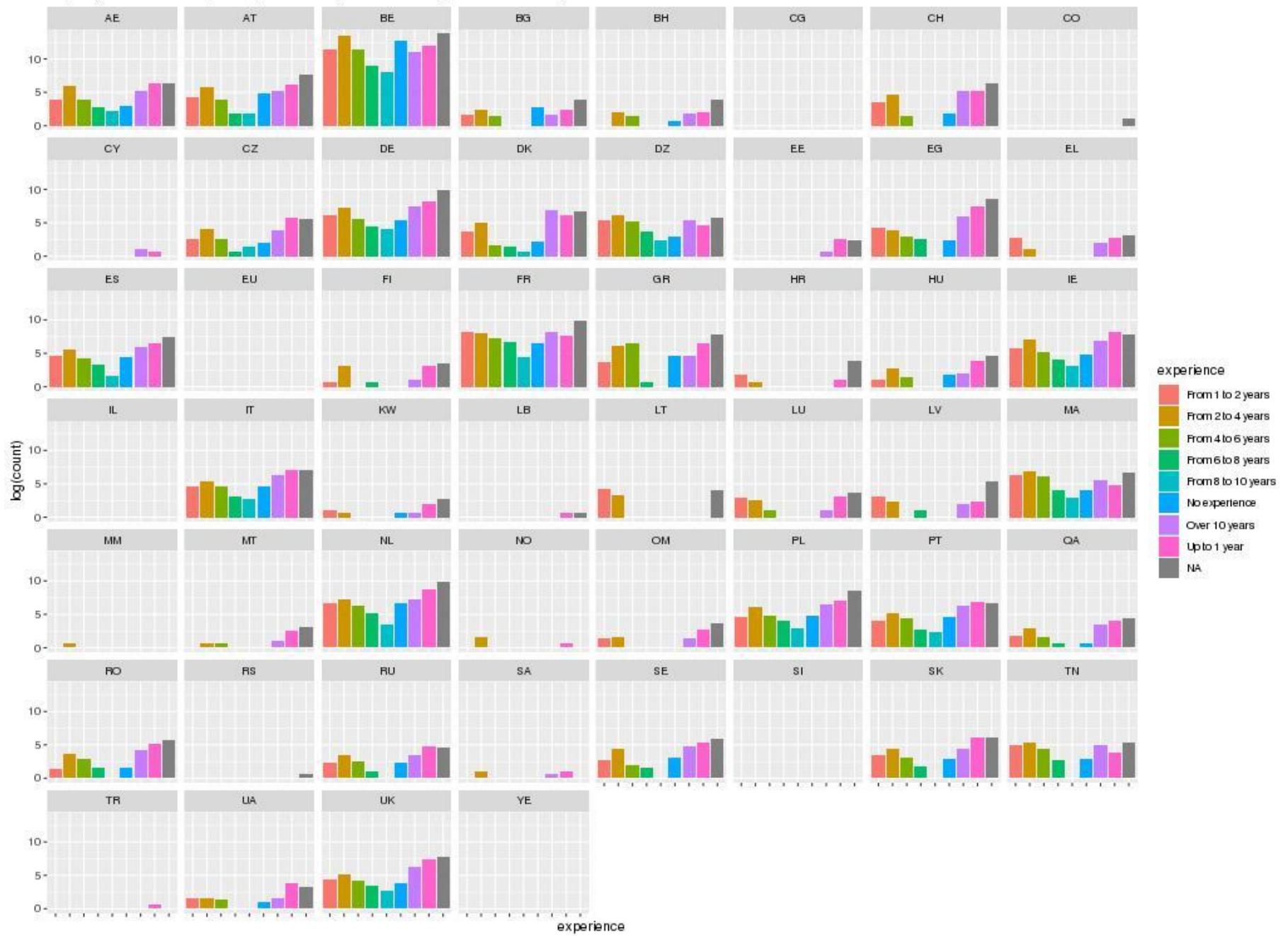


Number of job ads per experience required by source country (*logarithm of counts*)

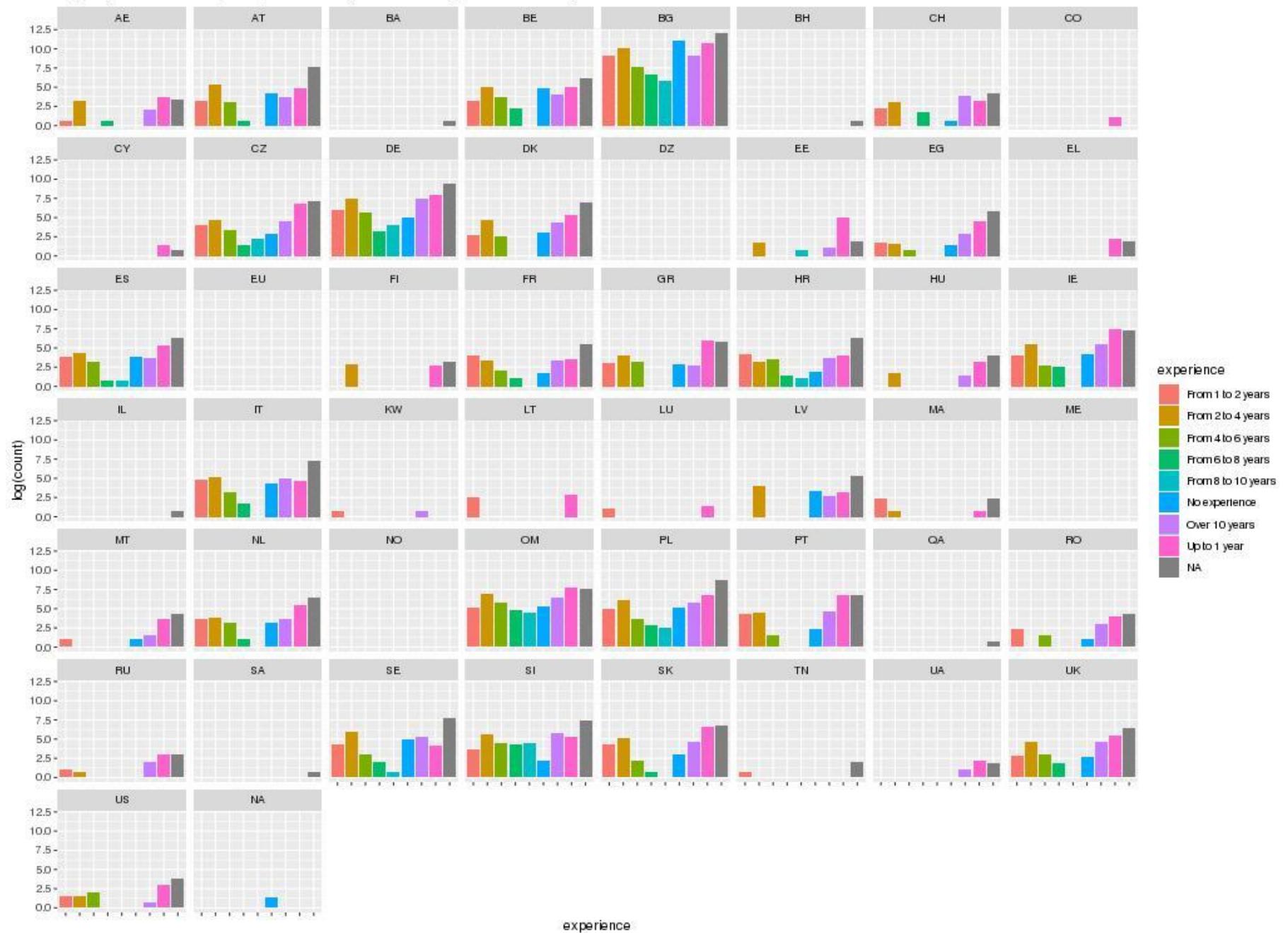
Log of job ads counts per experience required for AT by source country



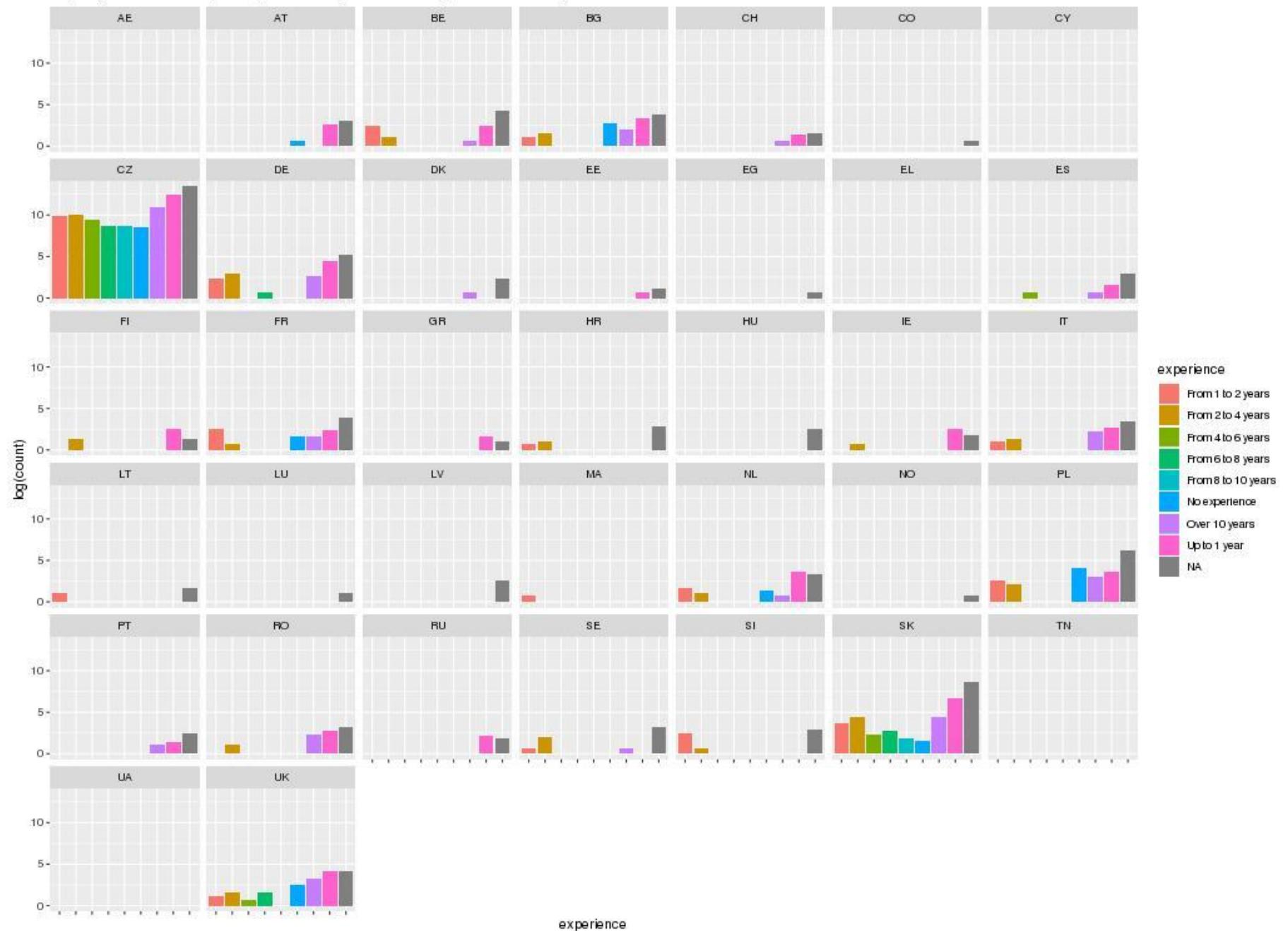
Log of job ads counts per experience required for BE by source country



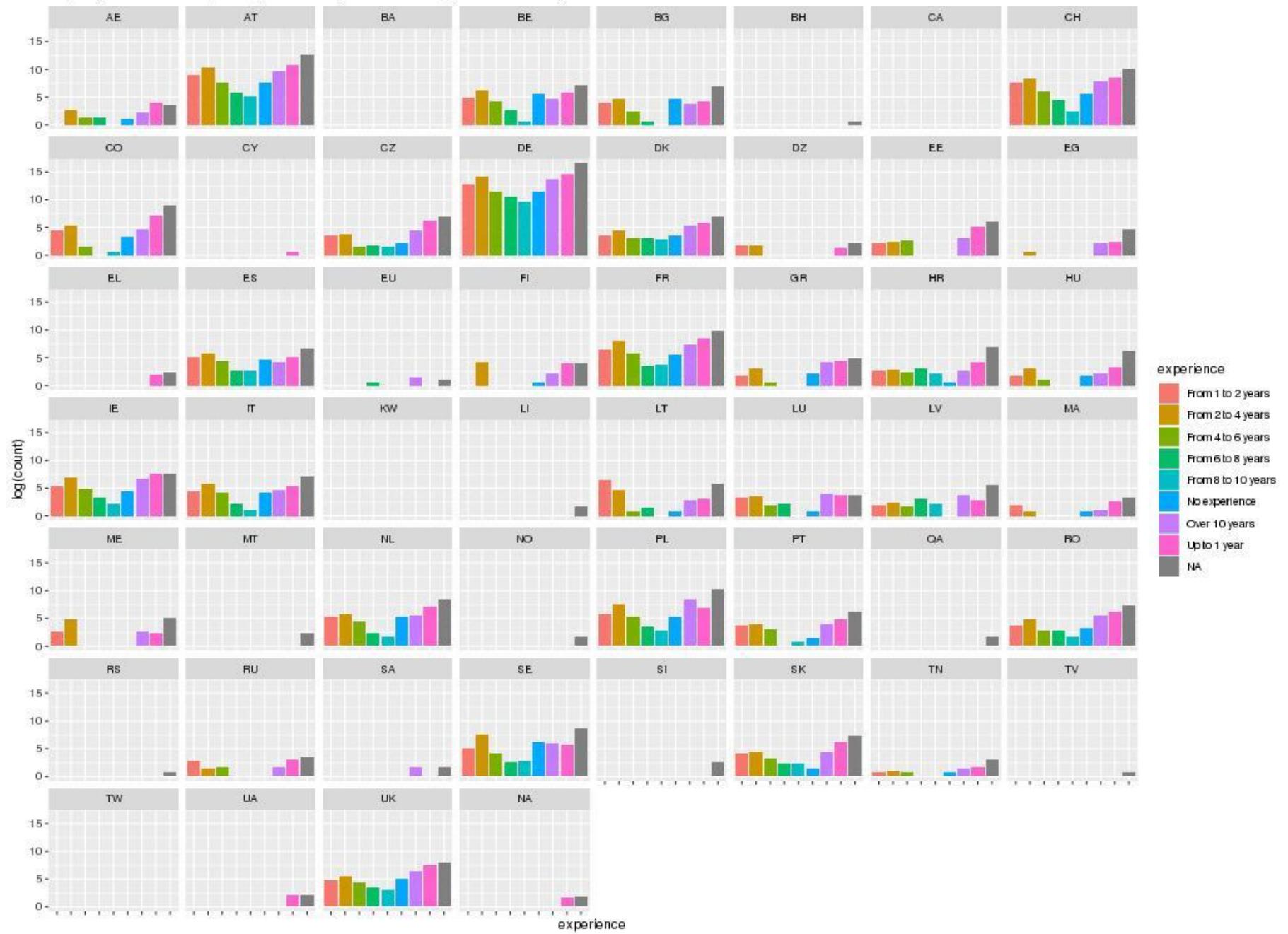
Log of job ads counts per experience required for BG by source country



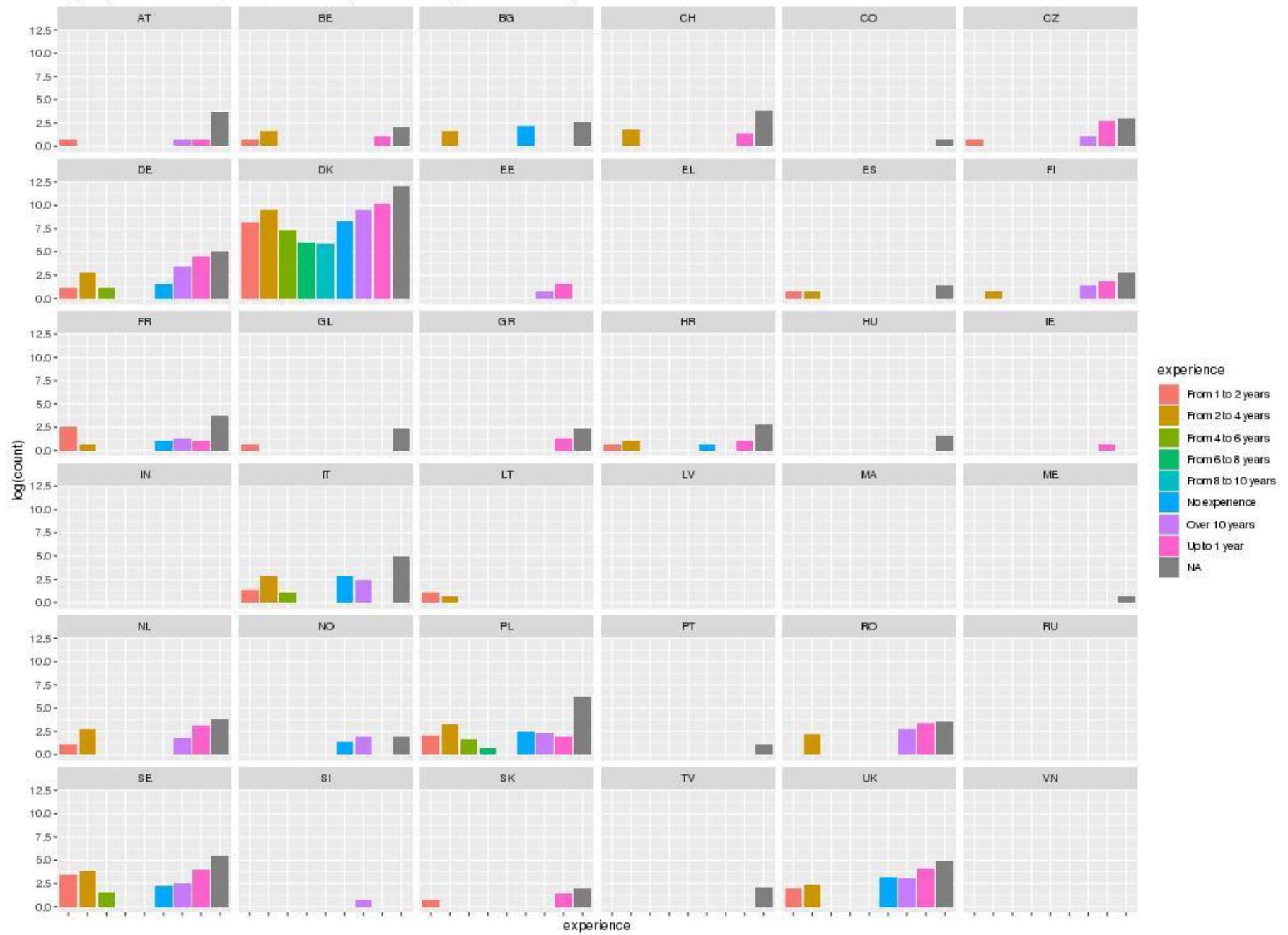
Log of job ads counts per experience required for CZ by source country



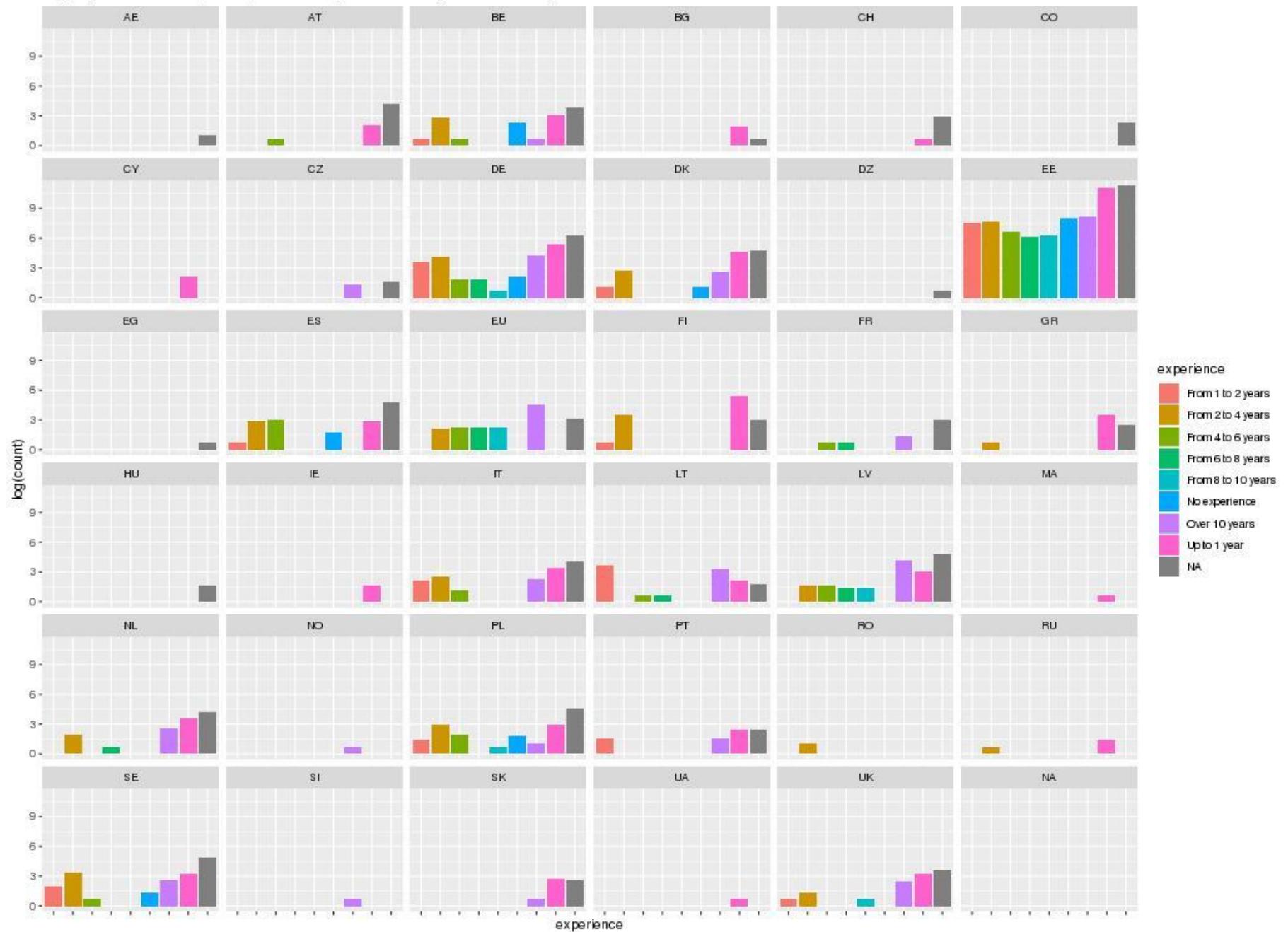
Log of job ads counts per experience required for DE by source country



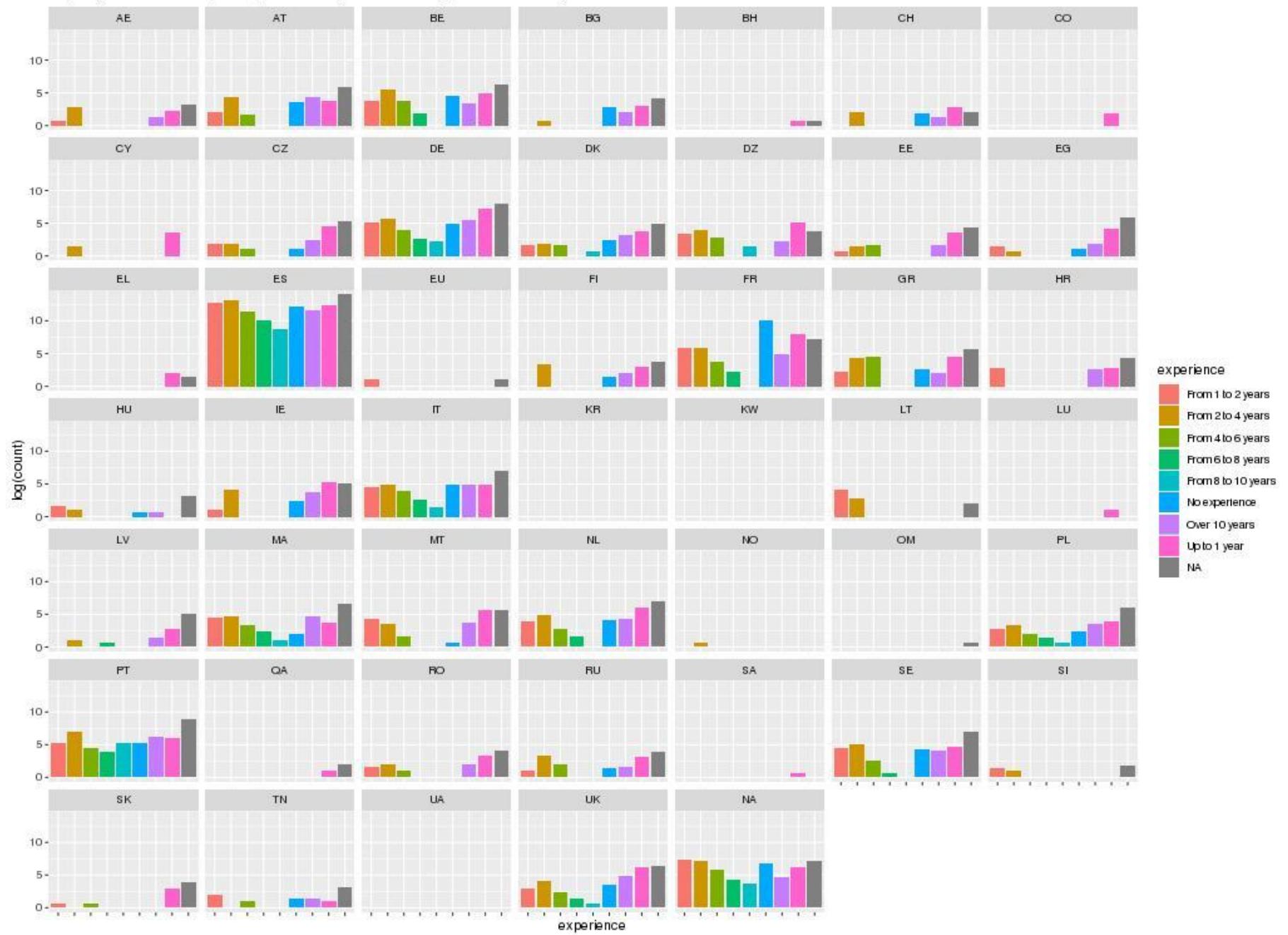
Log of job ads counts per experience required for DK by source country



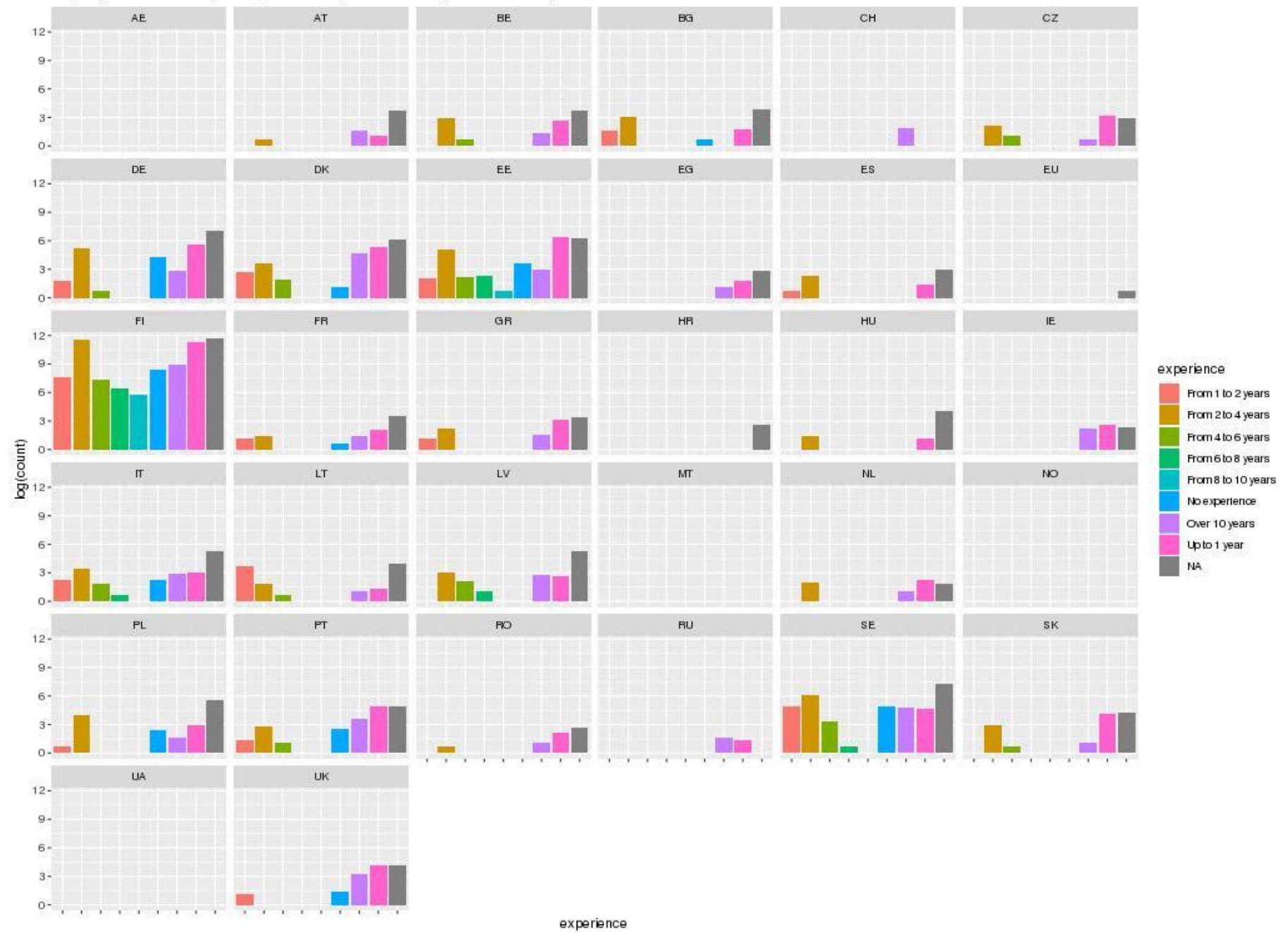
Log of job ads counts per experience required for EE by source country



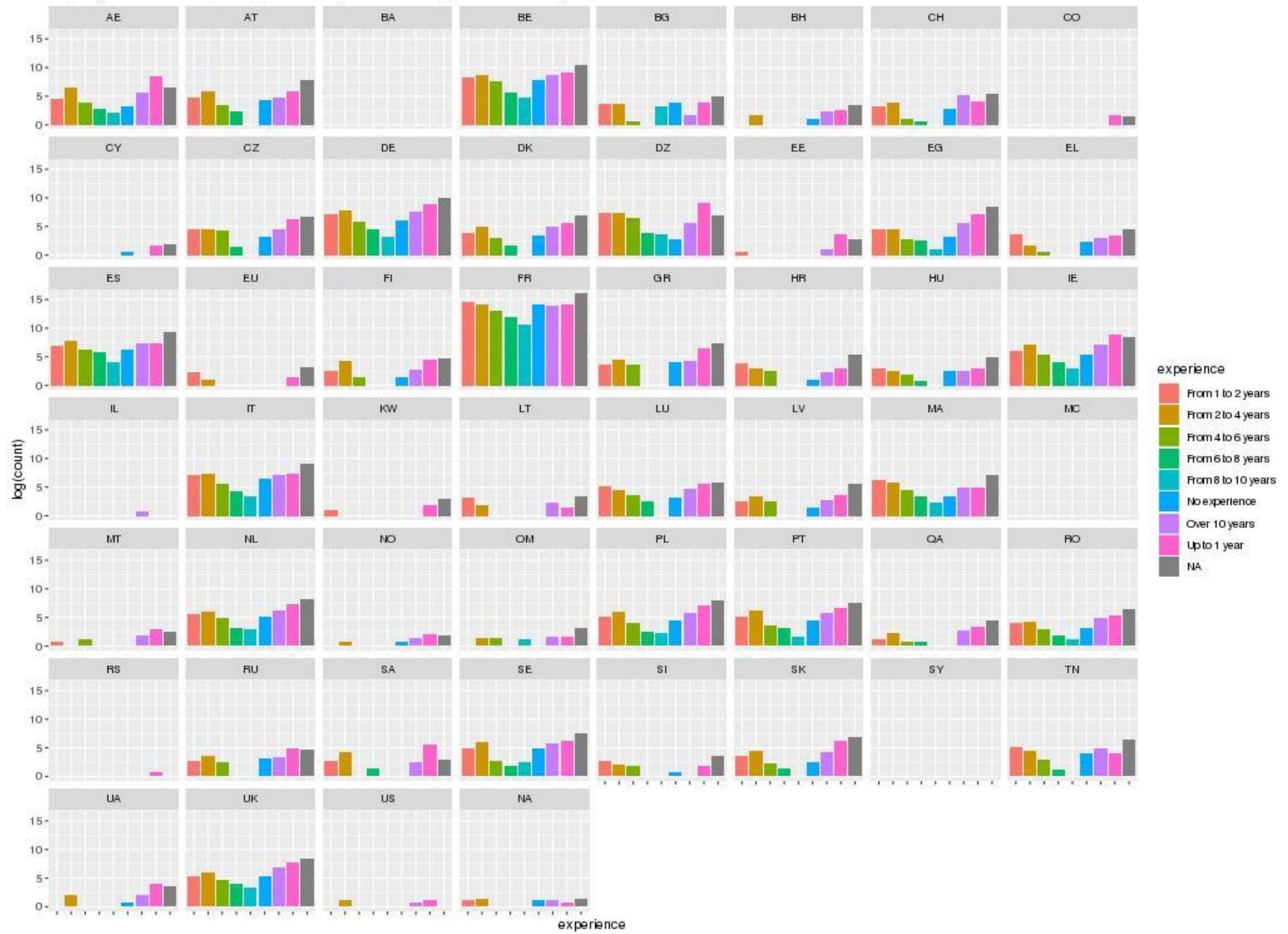
Log of job ads counts per experience required for ES by source country



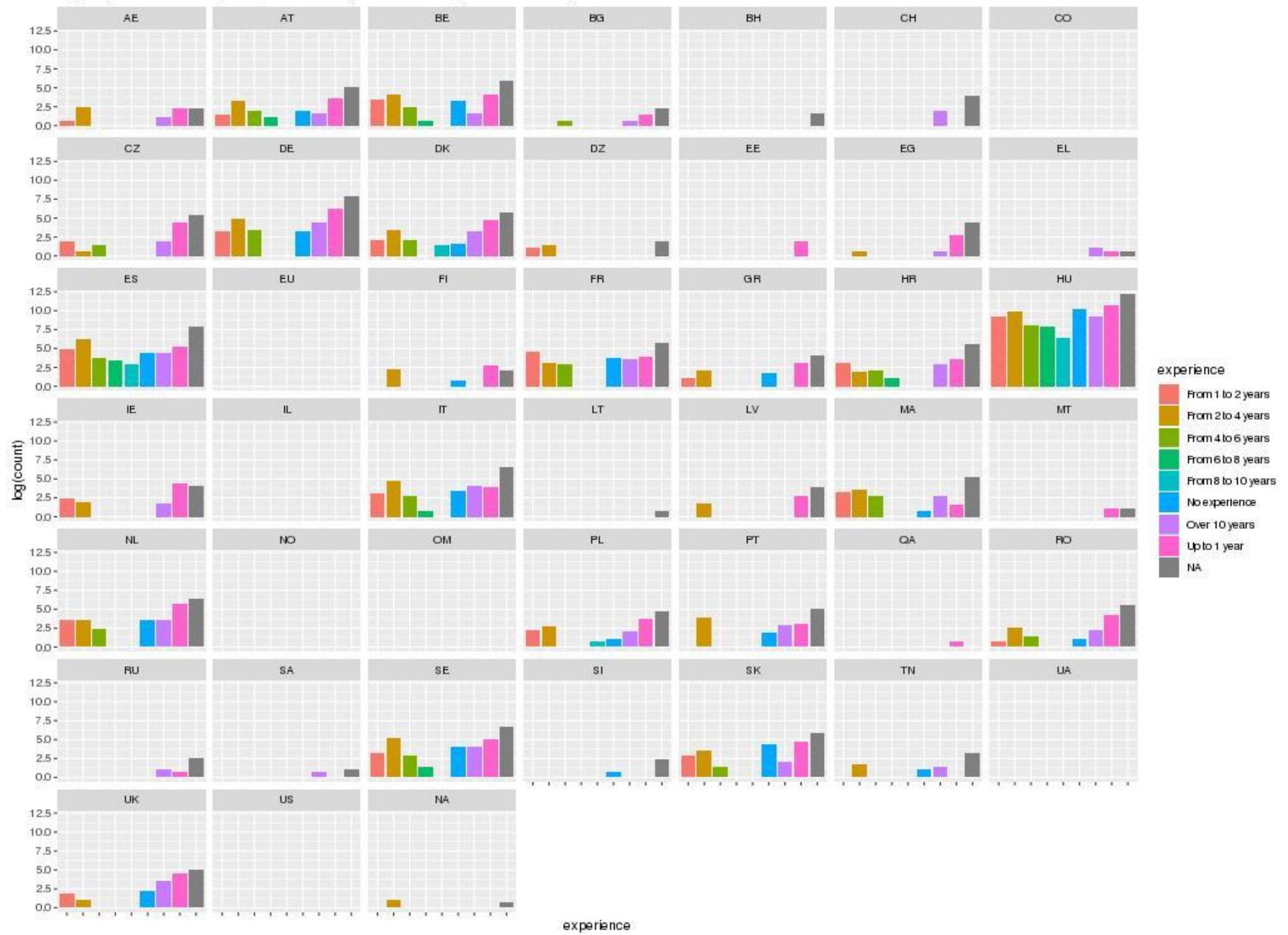
Log of job ads counts per experience required for FI by source country



Log of job ads counts per experience required for FR by source country



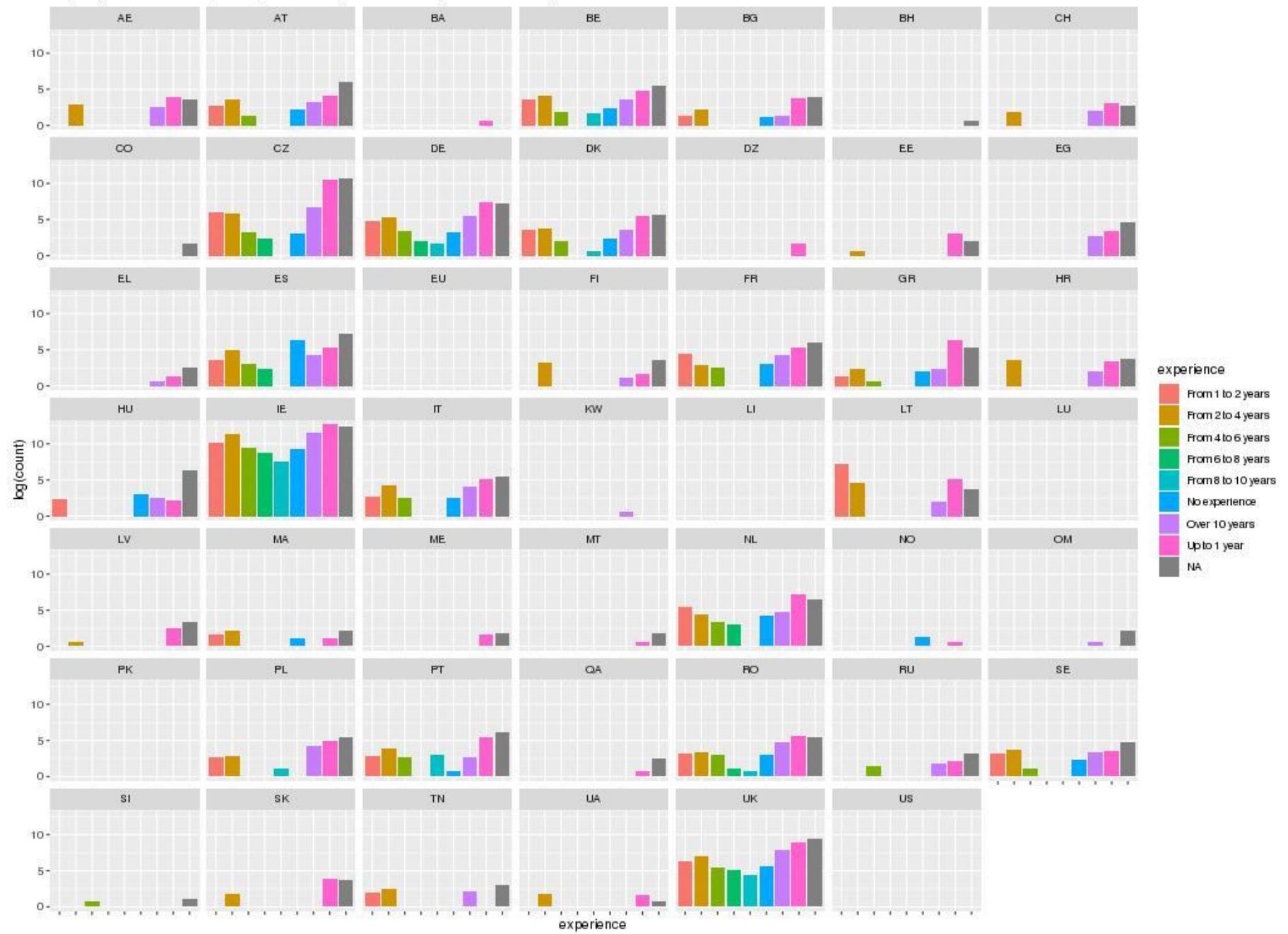
Log of job ads counts per experience required for HU by source country



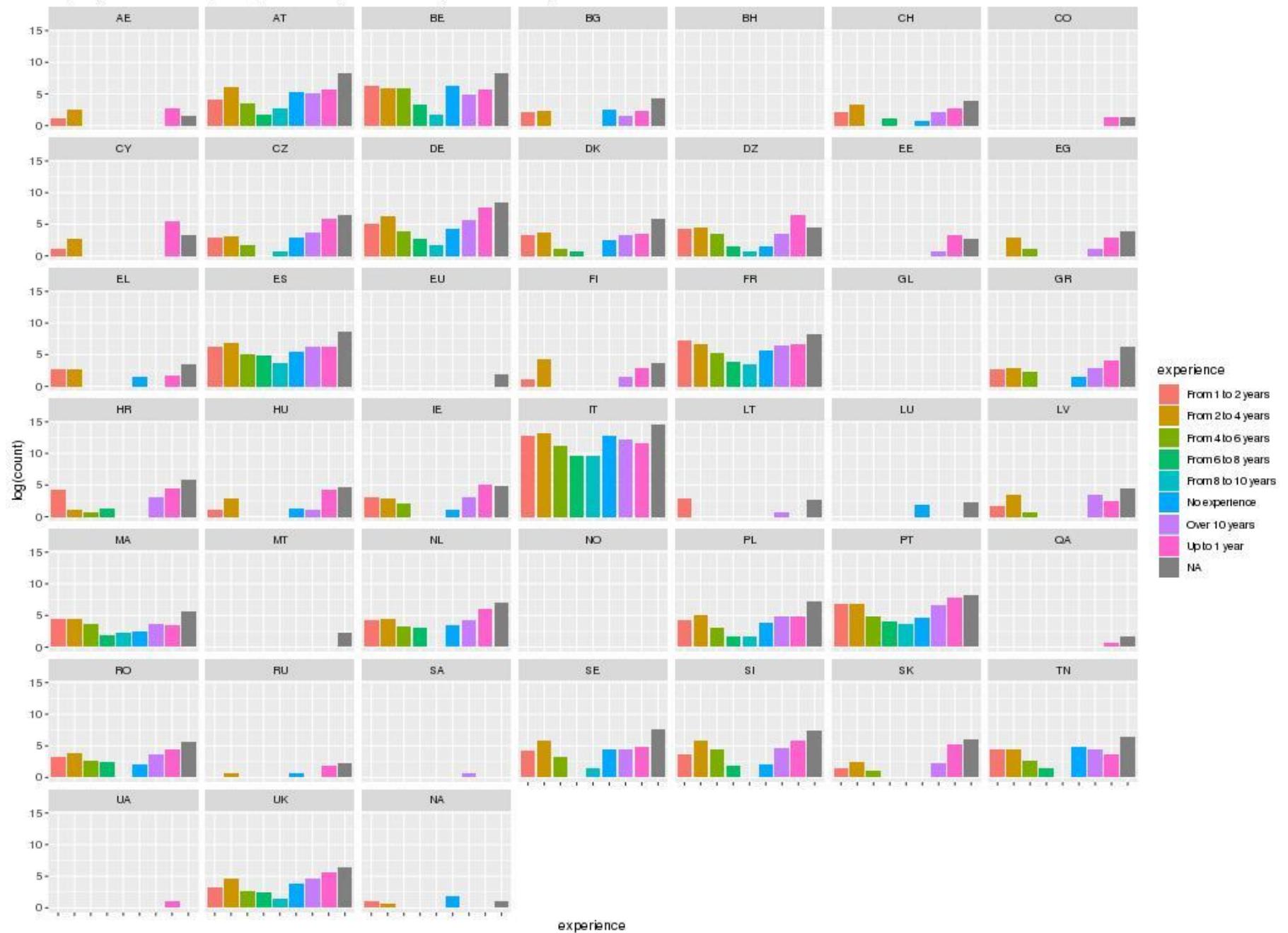
experience

- From 1 to 2 years
- From 2 to 4 years
- From 4 to 6 years
- From 6 to 8 years
- From 8 to 10 years
- No experience
- Over 10 years
- Up to 1 year
- NA

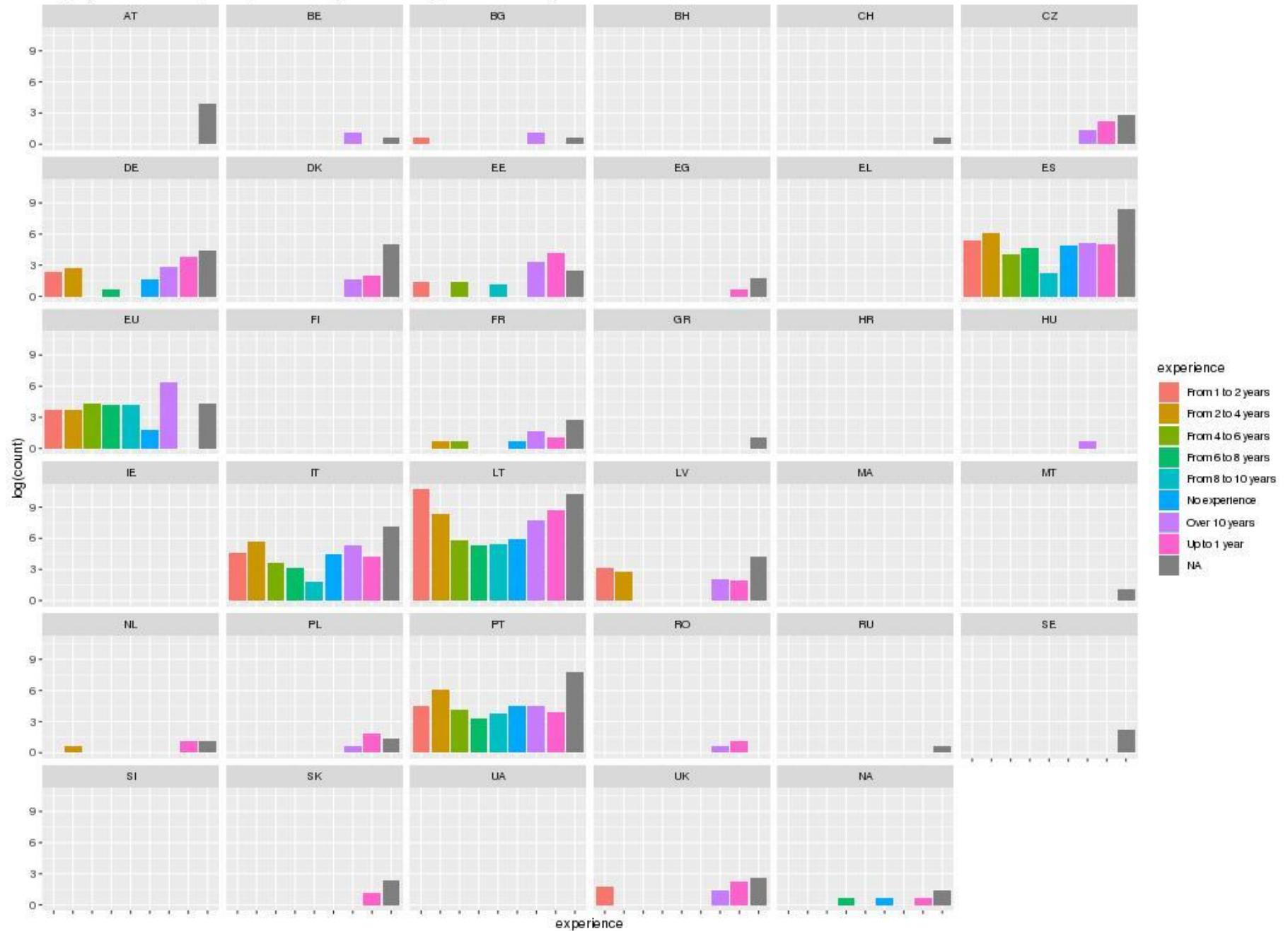
Log of job ads counts per experience required for IE by source country



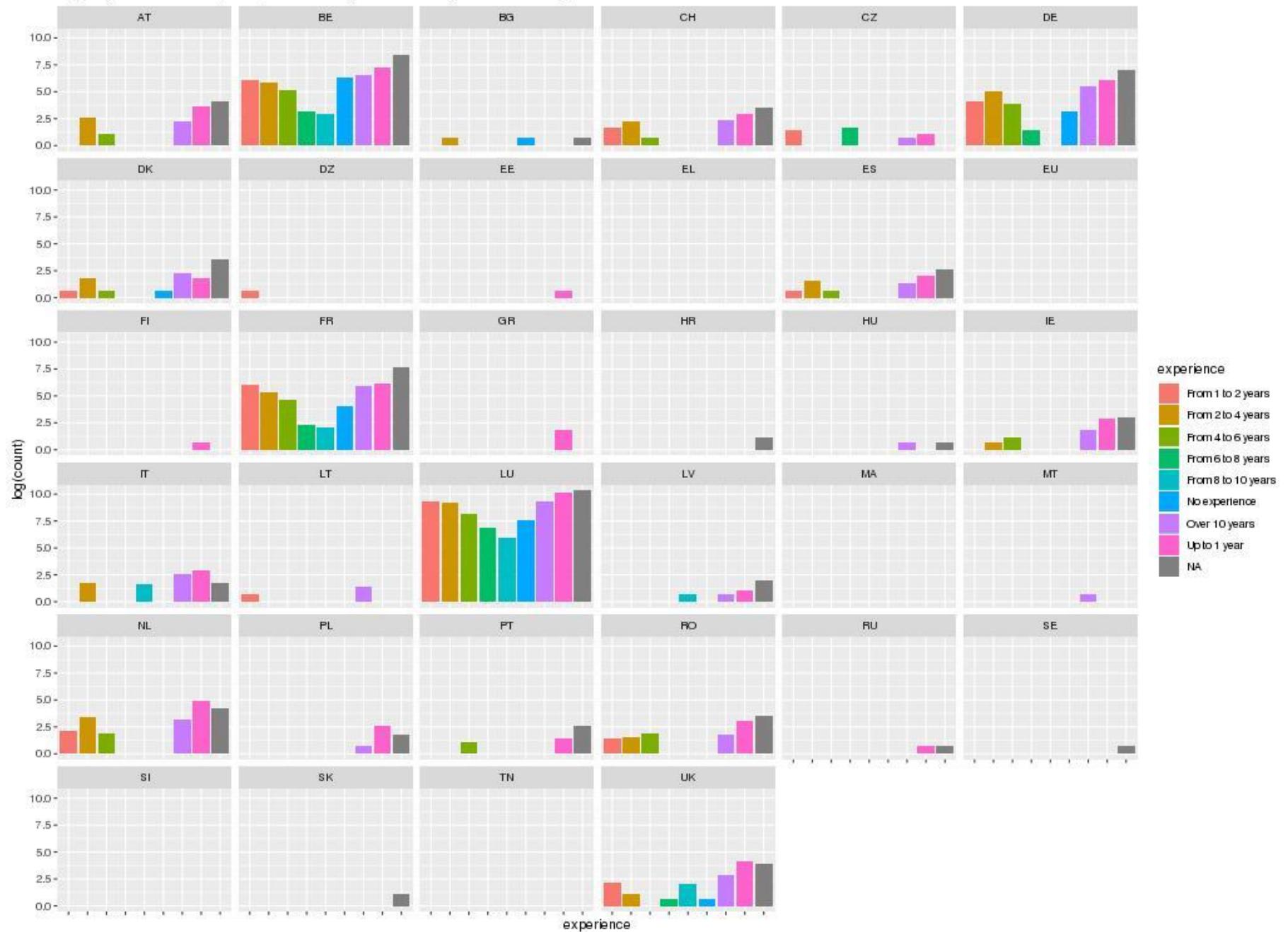
Log of job ads counts per experience required for IT by source country



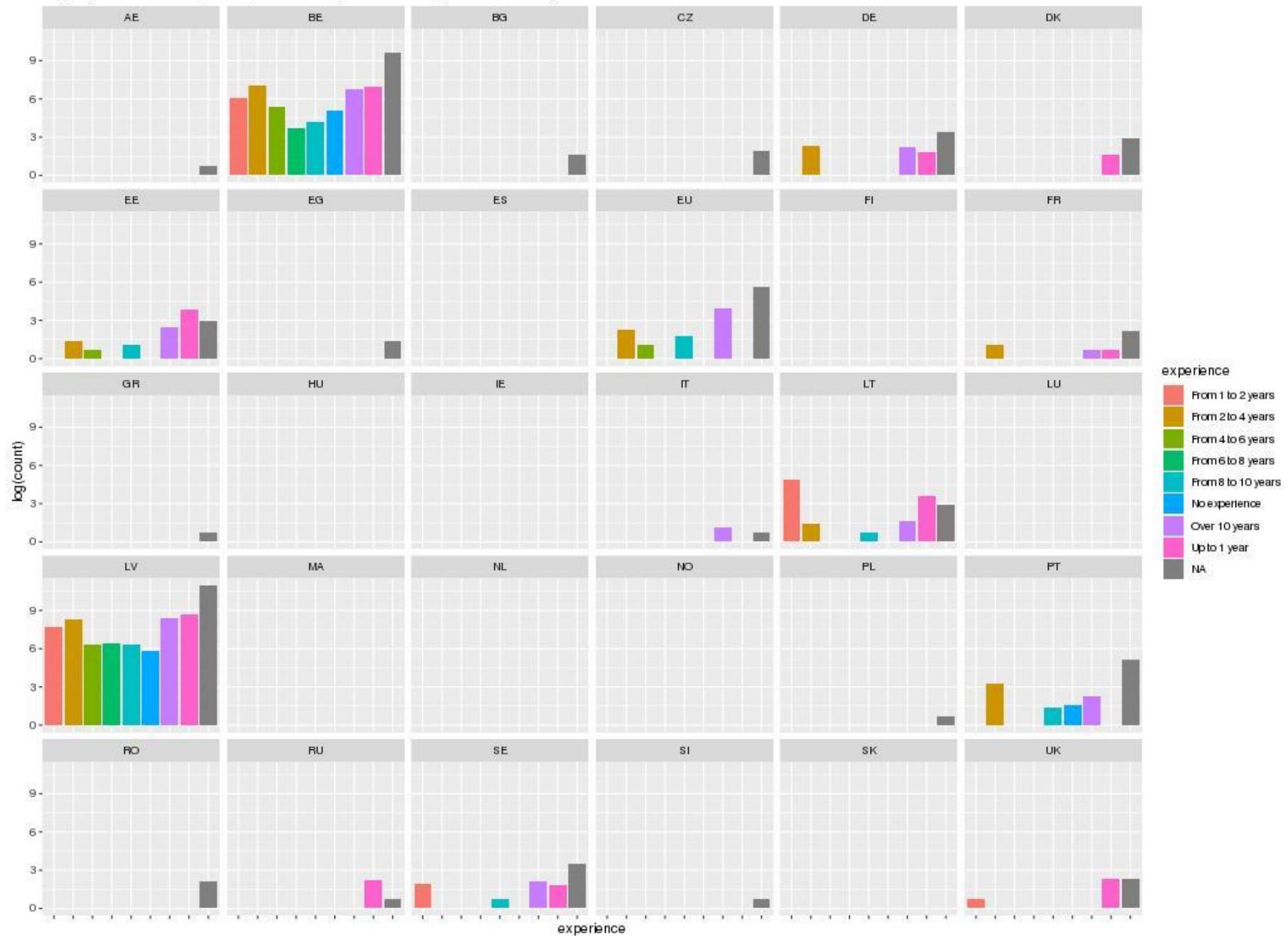
Log of job ads counts per experience required for LT by source country



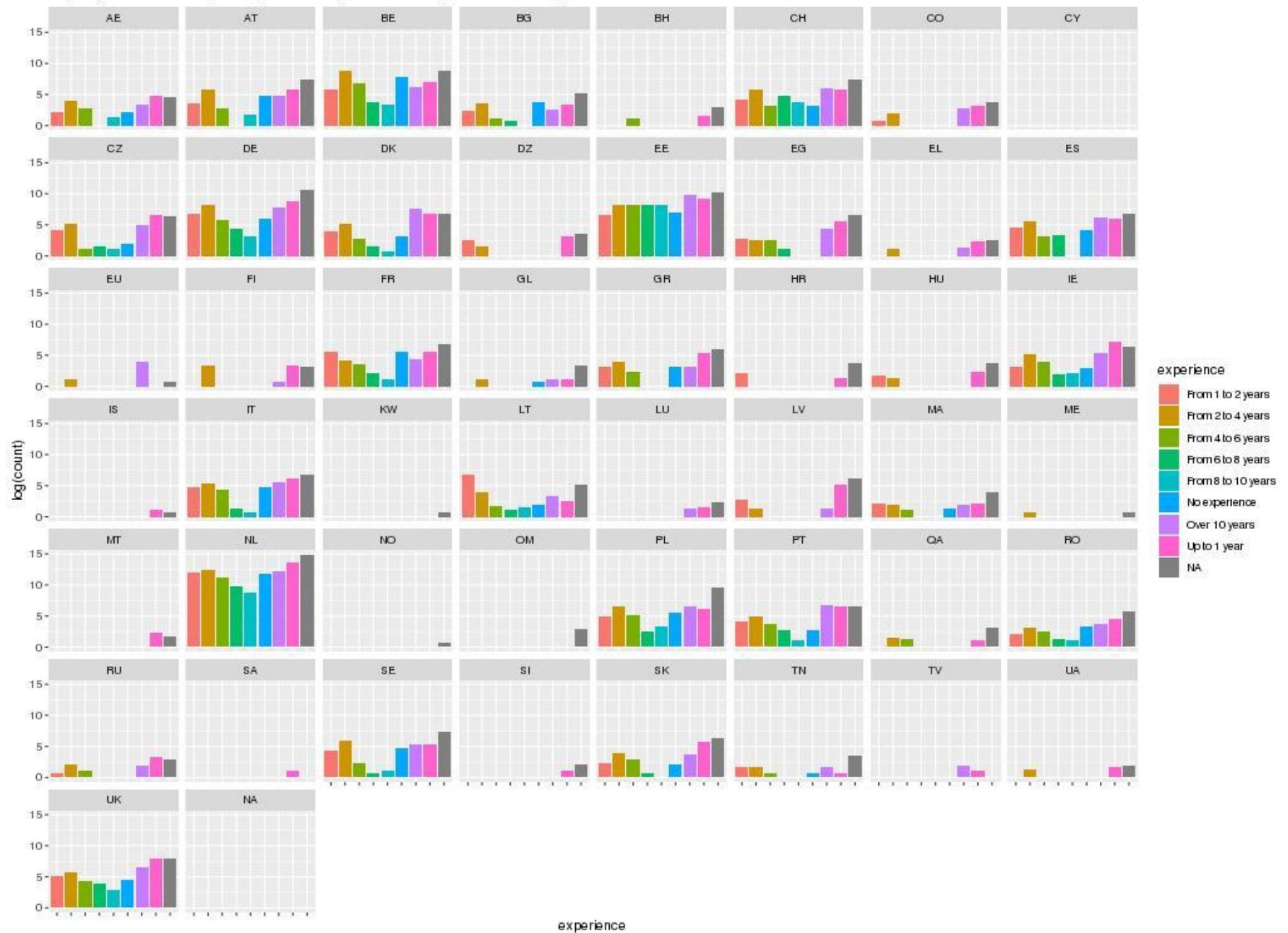
Log of job ads counts per experience required for LU by source country



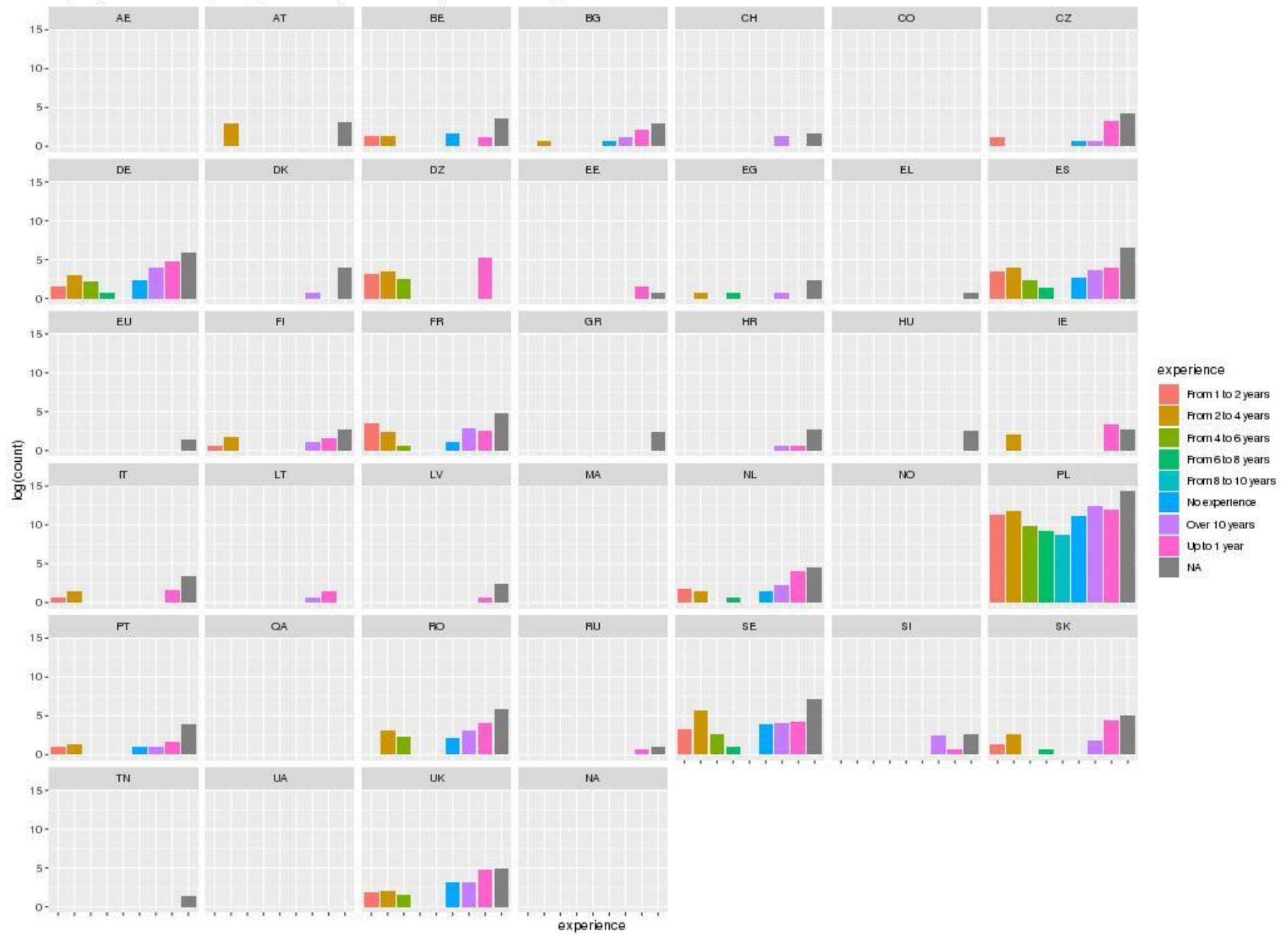
Log of job ads counts per experience required for LV by source country



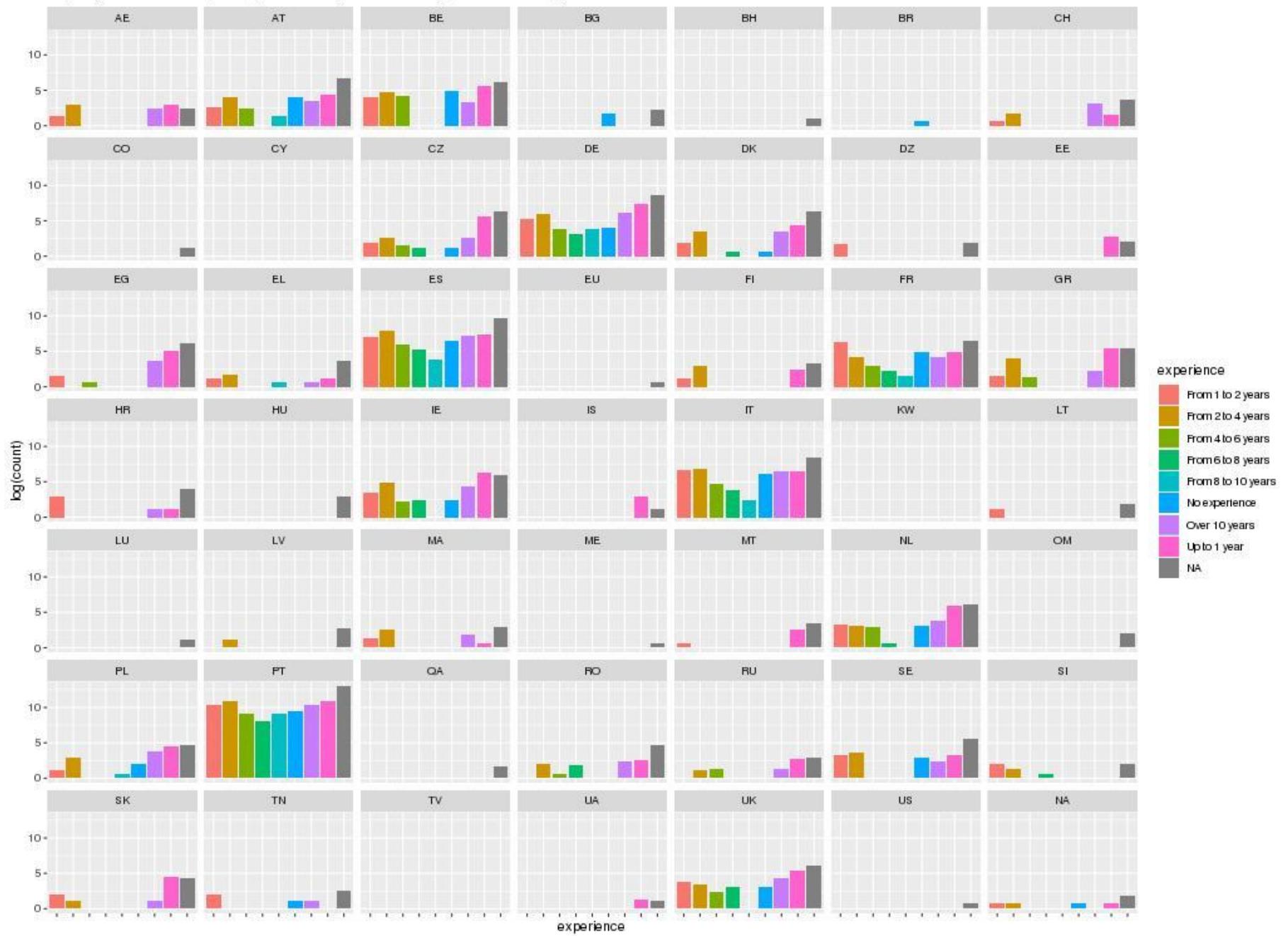
Log of job ads counts per experience required for NL by source country



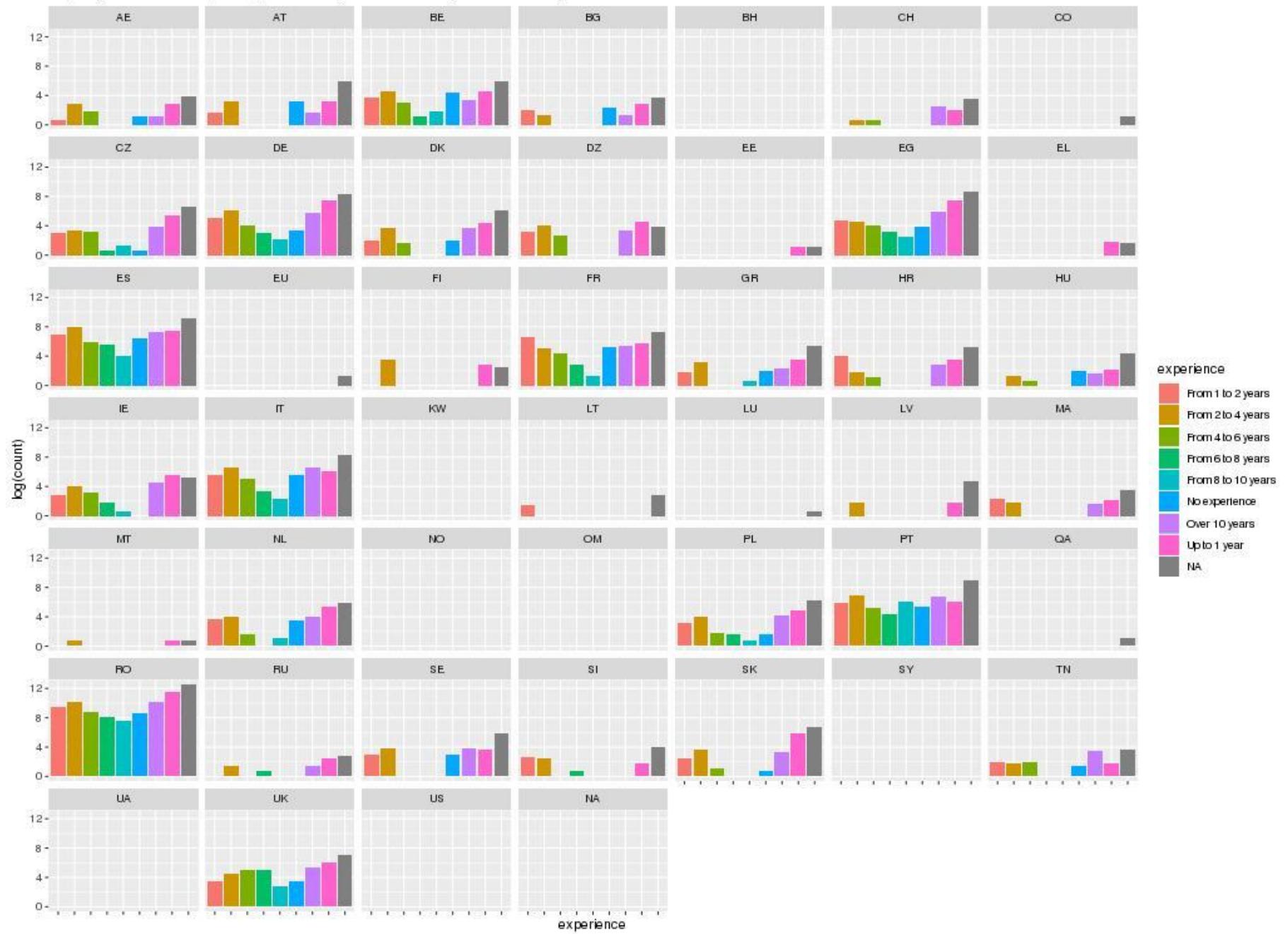
Log of job ads counts per experience required for PL by source country



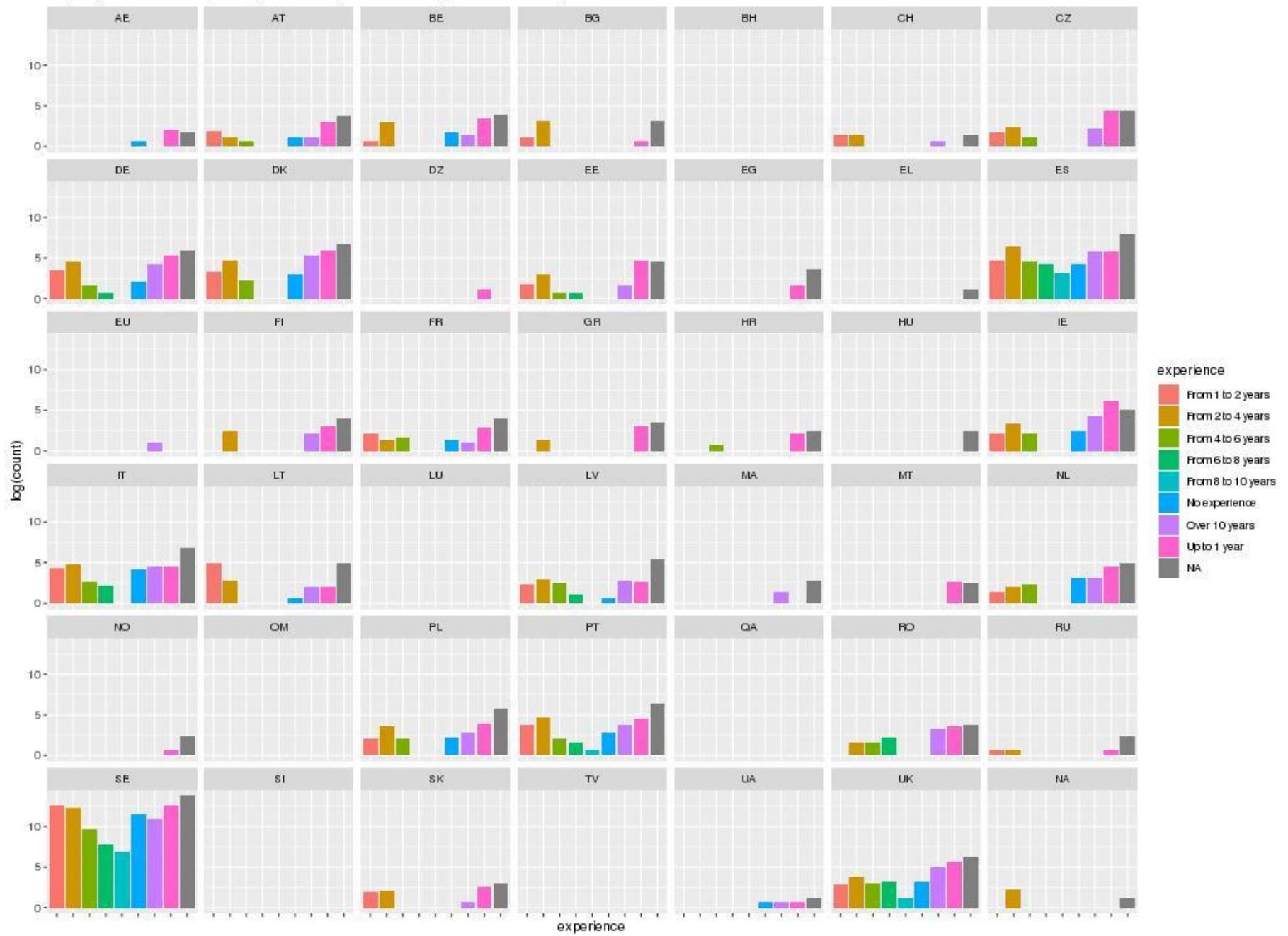
Log of job ads counts per experience required for PT by source country



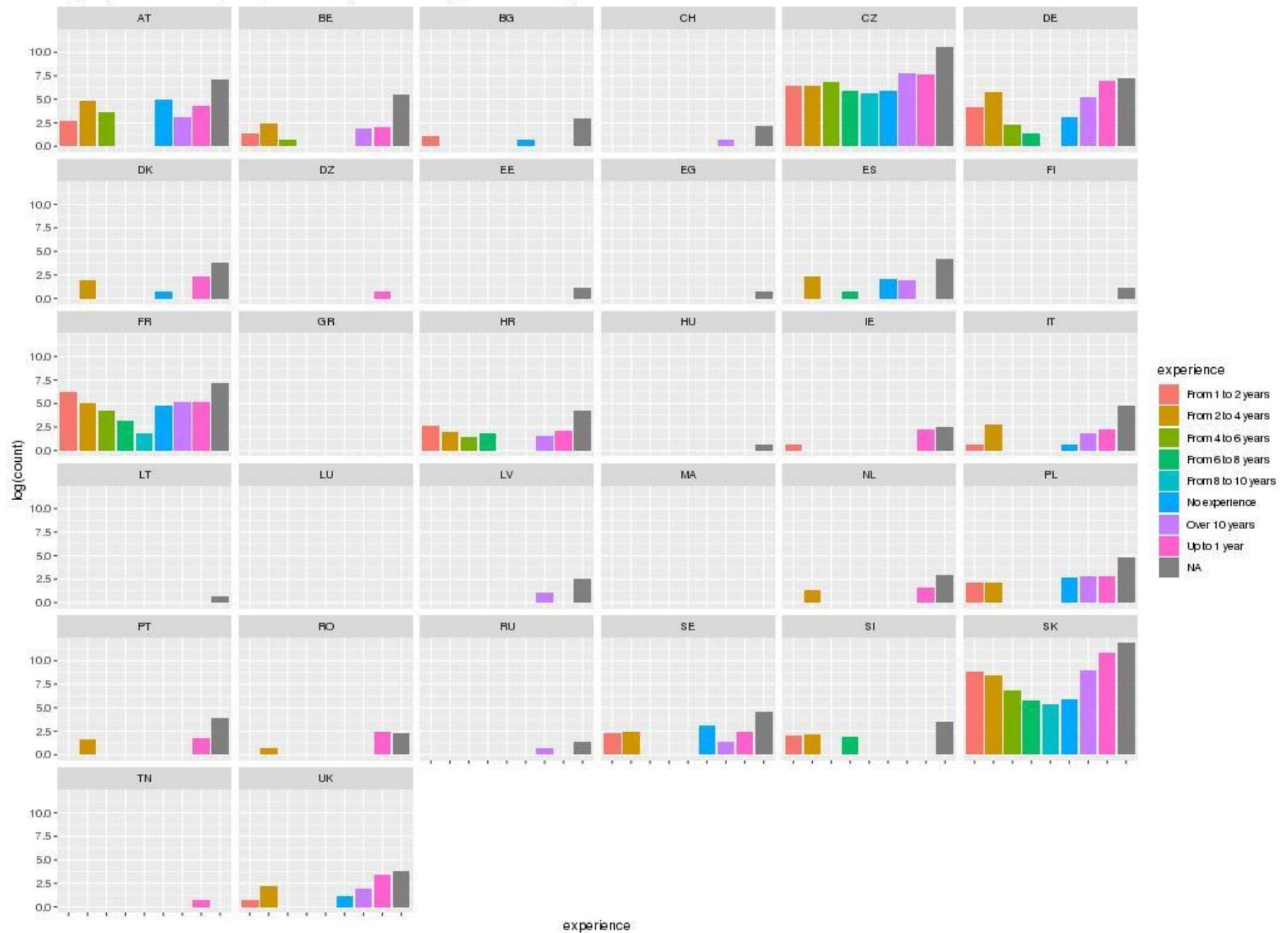
Log of job ads counts per experience required for RO by source country



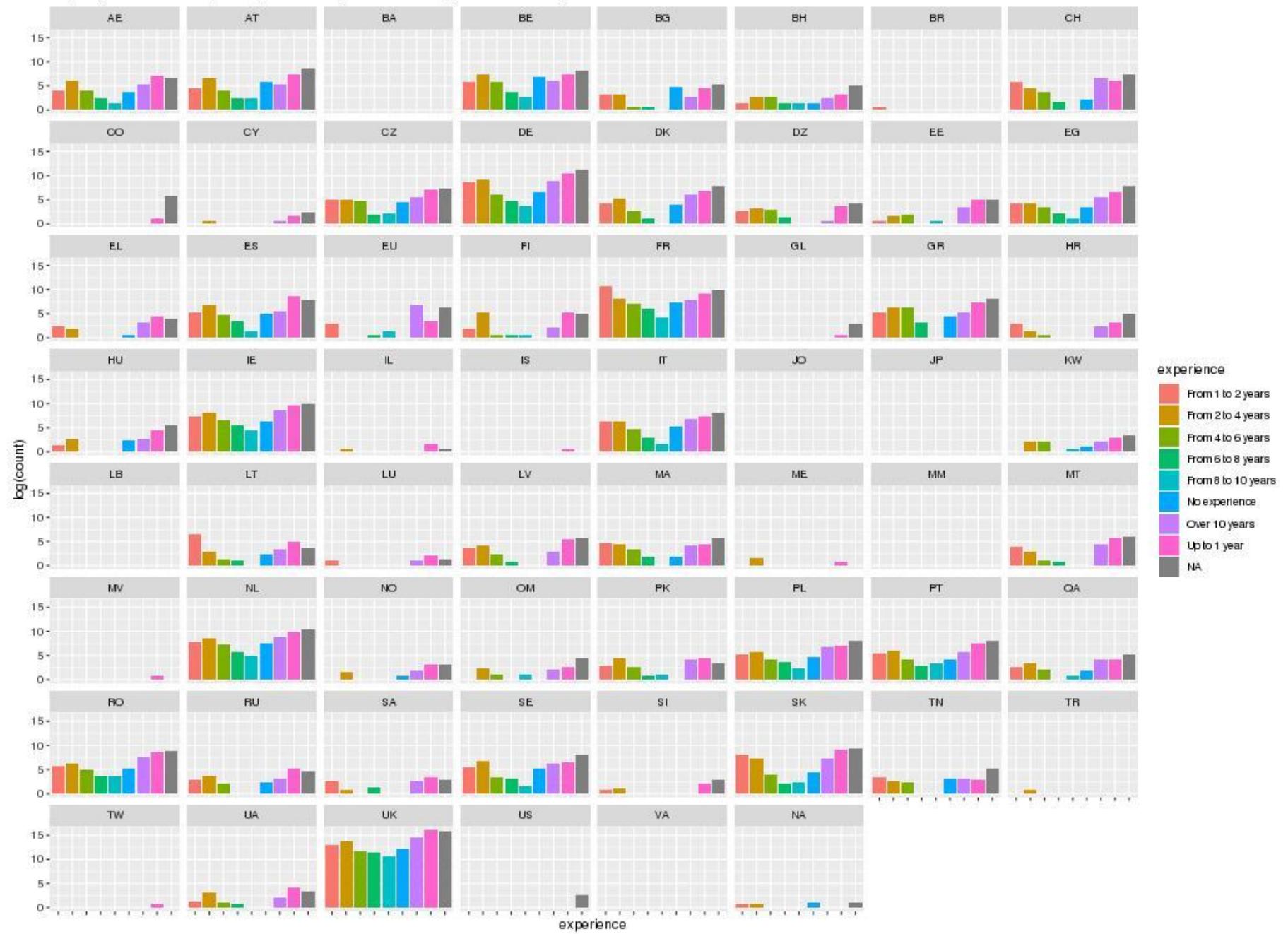
Log of job ads counts per experience required for SE by source country



Log of job ads counts per experience required for SK by source country



Log of job ads counts per experience required for UK by source country



Case study –Romanian websites as data sources

Figure 1

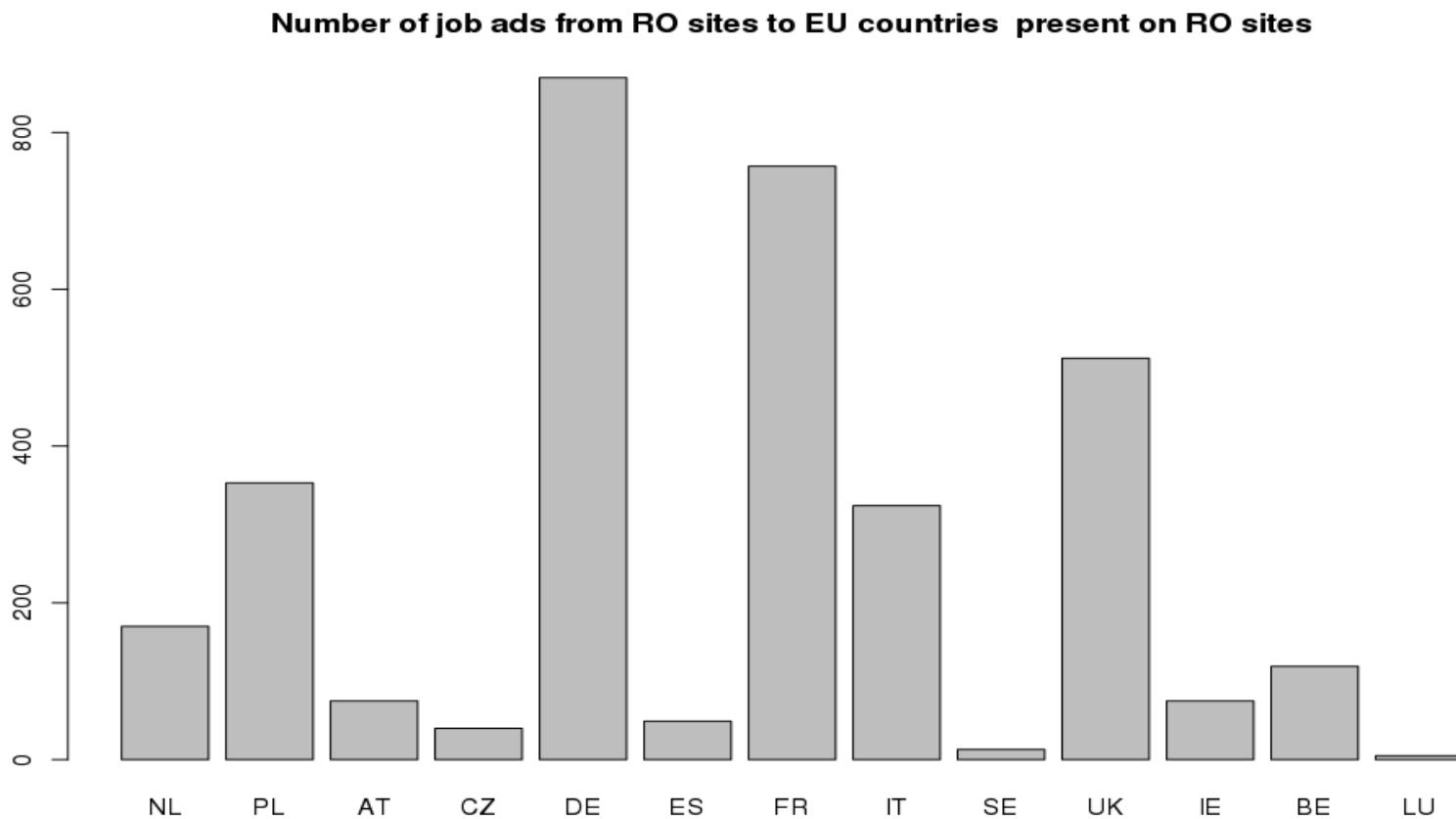


Figure 2:

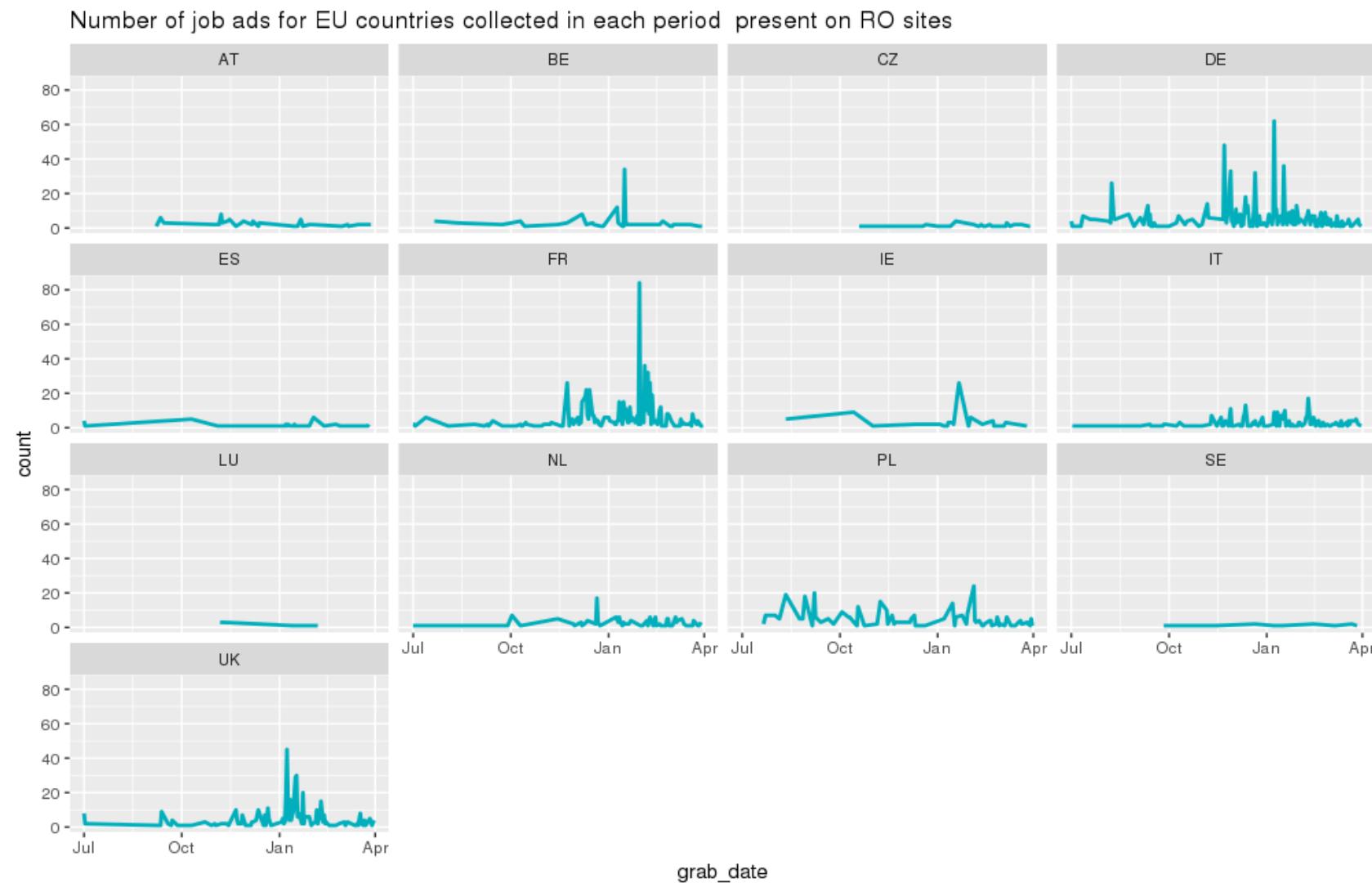


Figure 3:

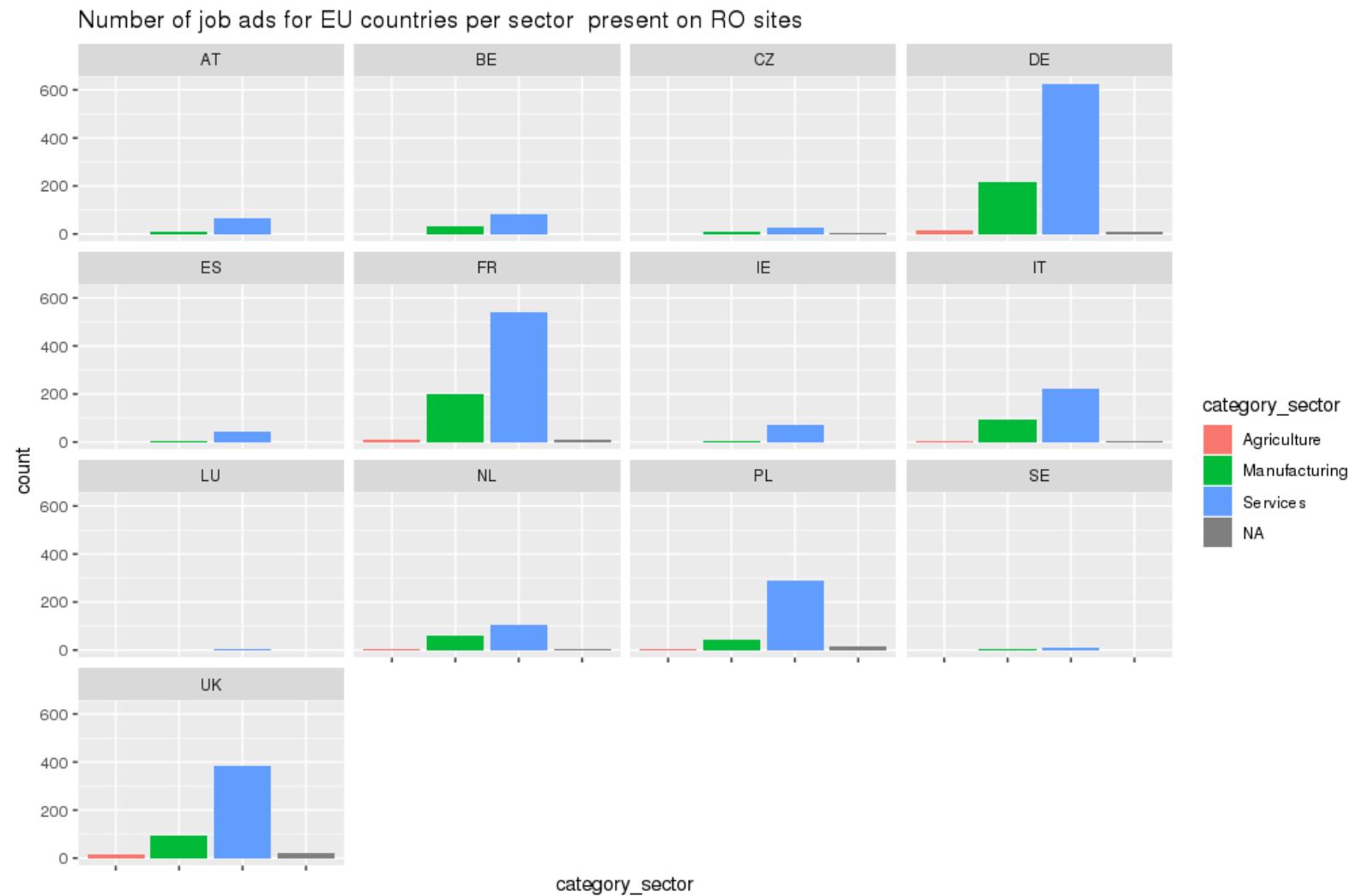


Figure 4:

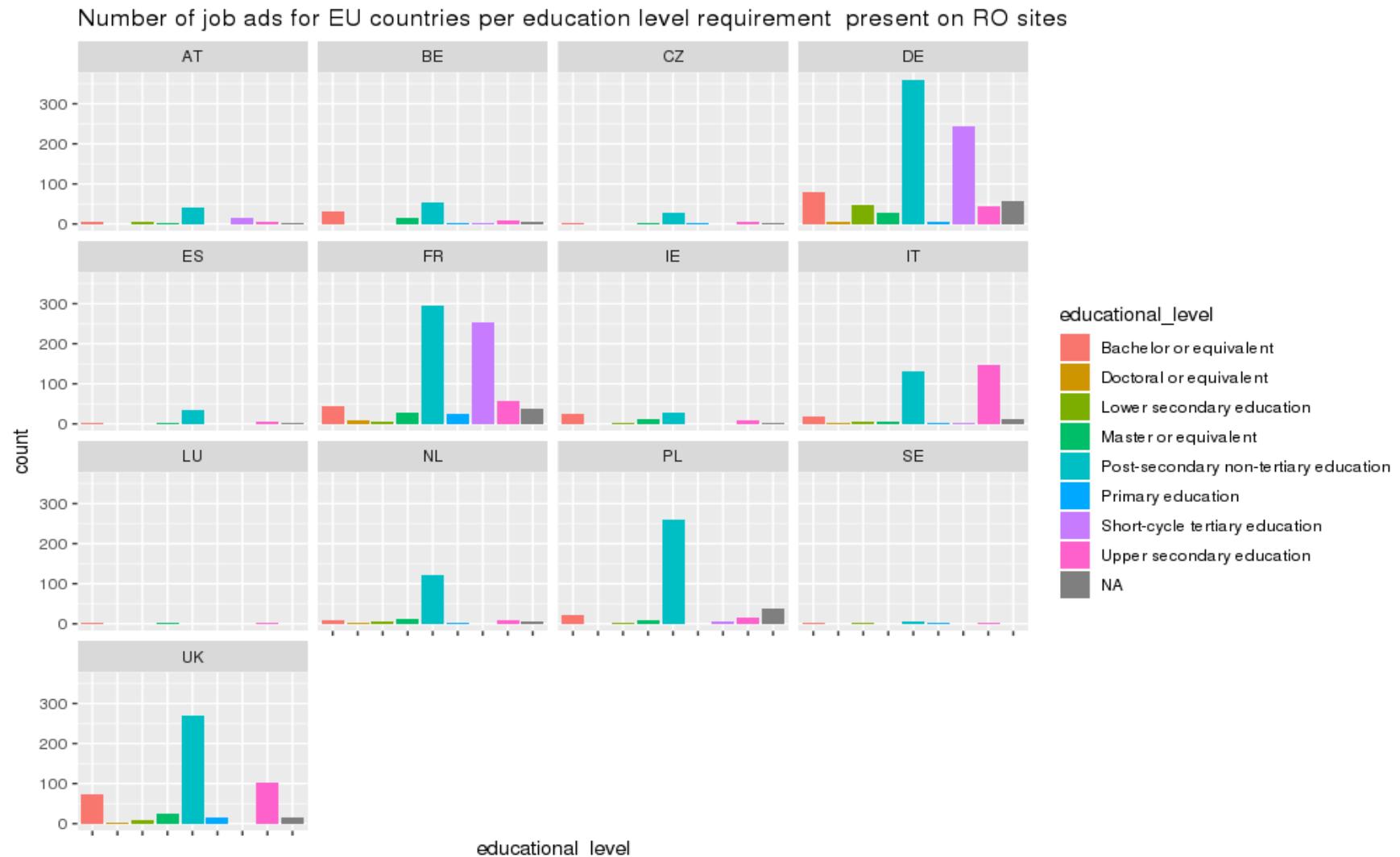


Figure 5:

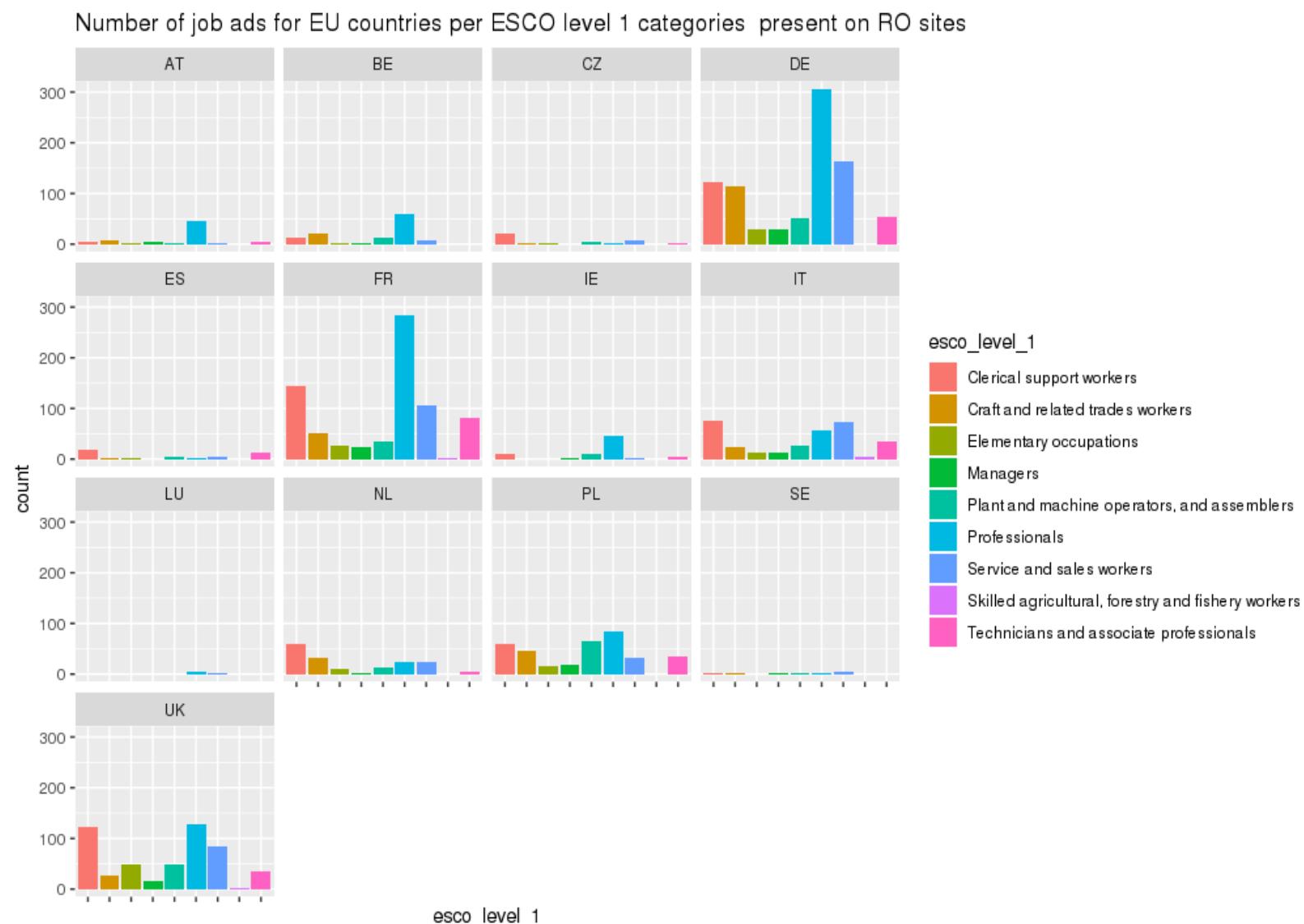


Figure 6:

