

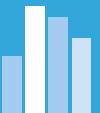
Meeting new users demands due to COVID-19: Danish experiments in business and trade statistics

Søren Schiønning Andersen, ssa@dst.dk

Experimental statistics during Covid-19

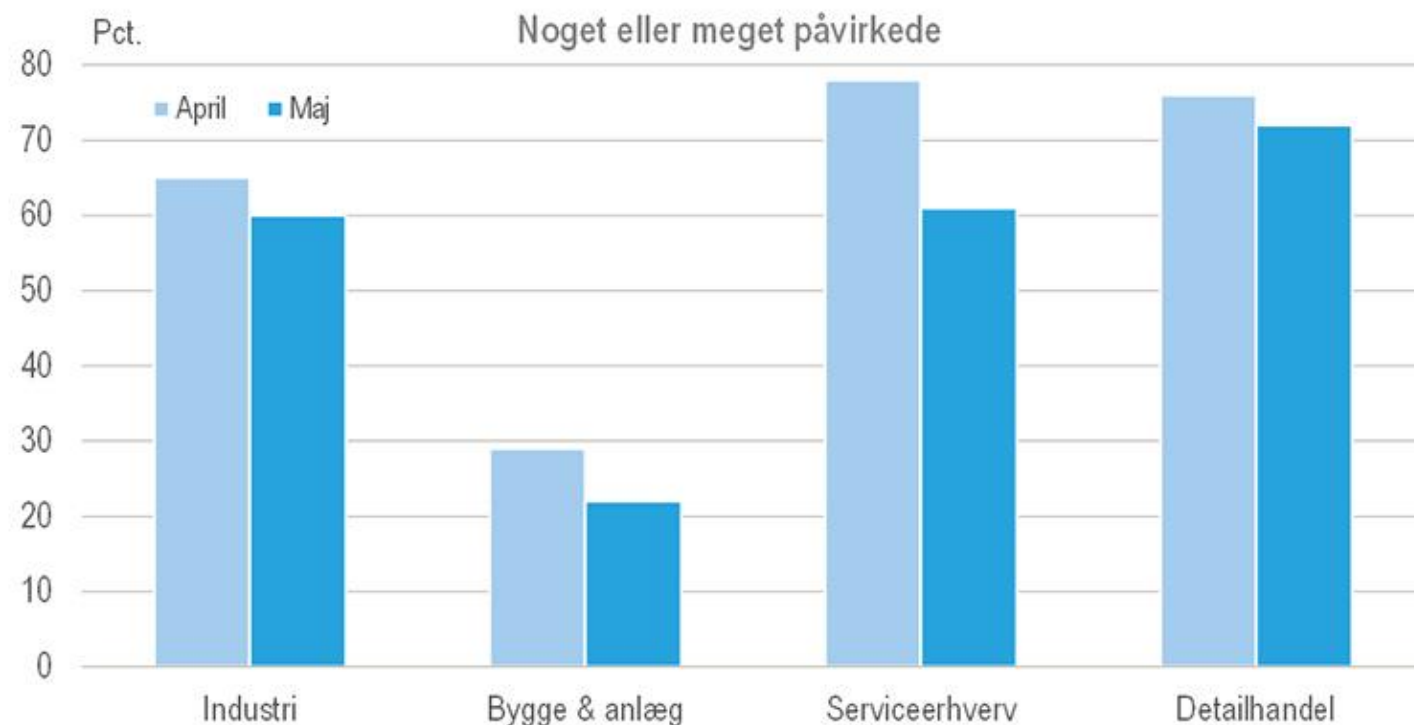
- Deaths
- Spreading of COVID-19
- **Business**
- **Foreign trade**
- Labour market
- Expenditure
- Real estate market
- **Transport**

<https://www.dst.dk/da/Statistik/eksperimentel-statistik-covid-19>



Impact on business climate: Questions added to sentiment survey

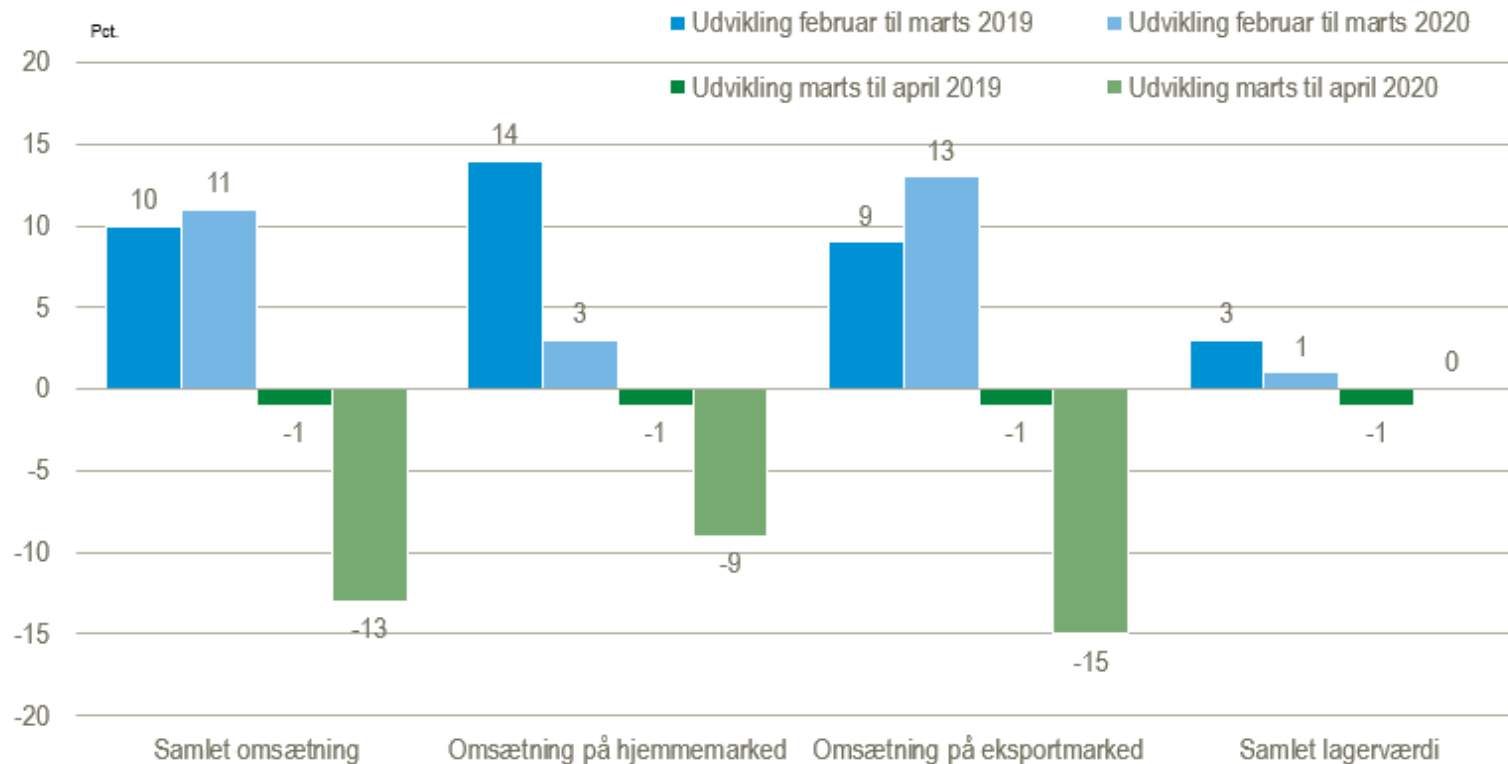
Virksomhedernes påvirkning af inden- og udenlandske restriktioner i forbindelse med COVID19



Opgjort 25. maj 2020.

Manufacturing (prod. and turnover): Earlier release of totals

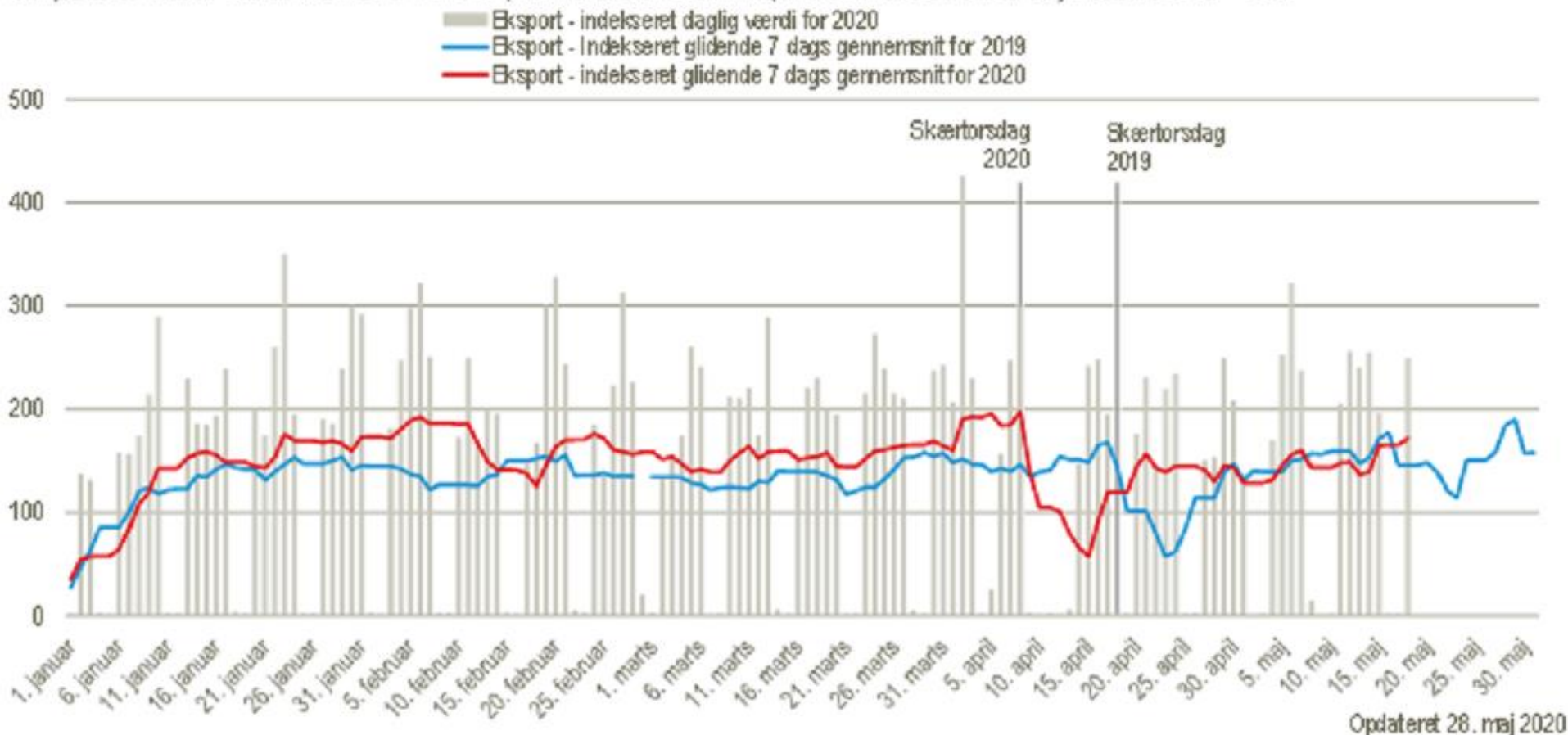
Udvikling i omsætning og lagre for industrien



Opdateret 18. maj

Export to third countries: New use of existing data source

Eksport af varer til lande uden for EU (ekskl. brændsel mv.). Indekseret værdi 7. januar 2019 = 100



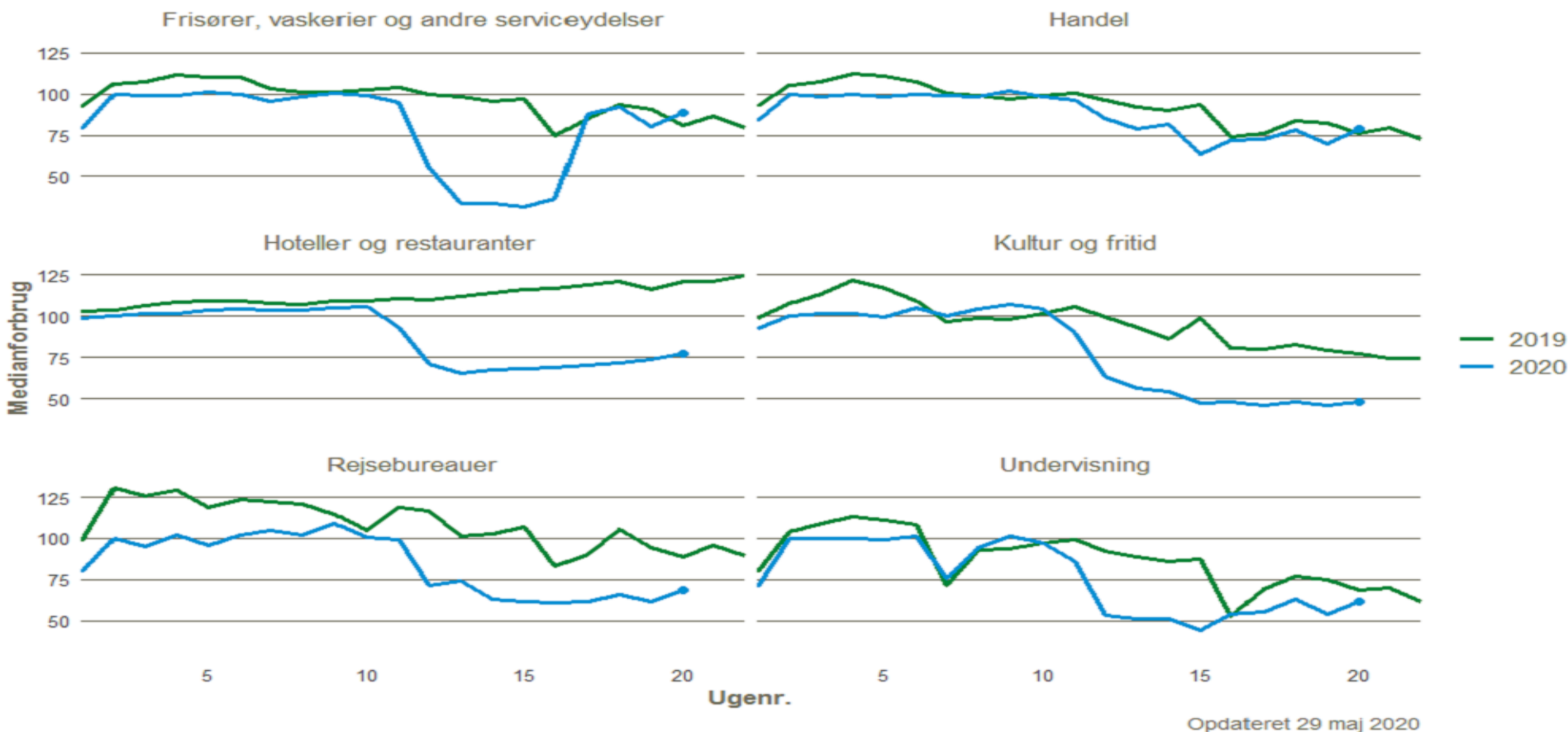
Opdateret 28. maj 2020



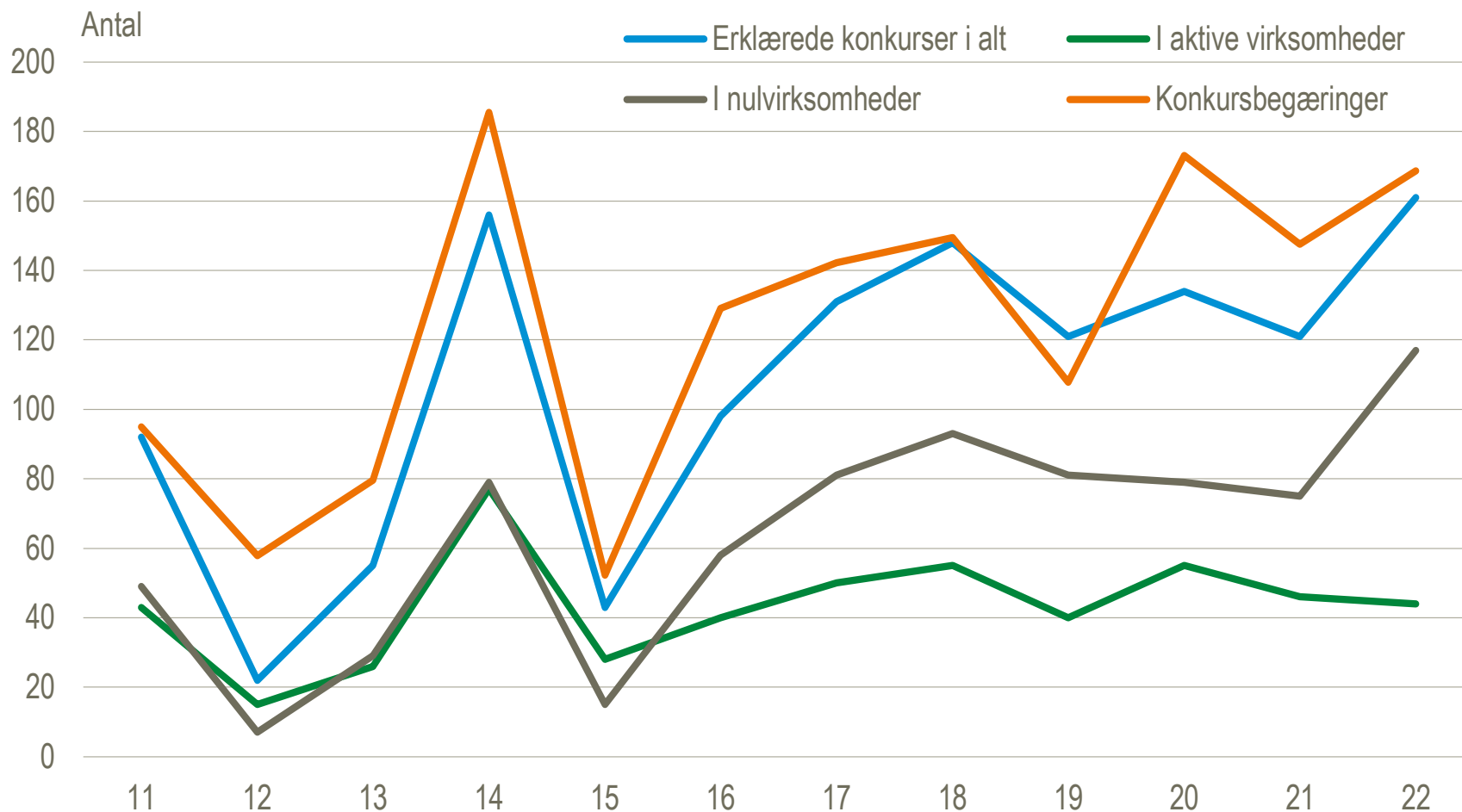
Businesses activity ~ use of electricity: Access to a new (complex) data source

Erhvervenes elforbrug

Indekseret forbrug for branchen (uge 2, 2020 = 100)

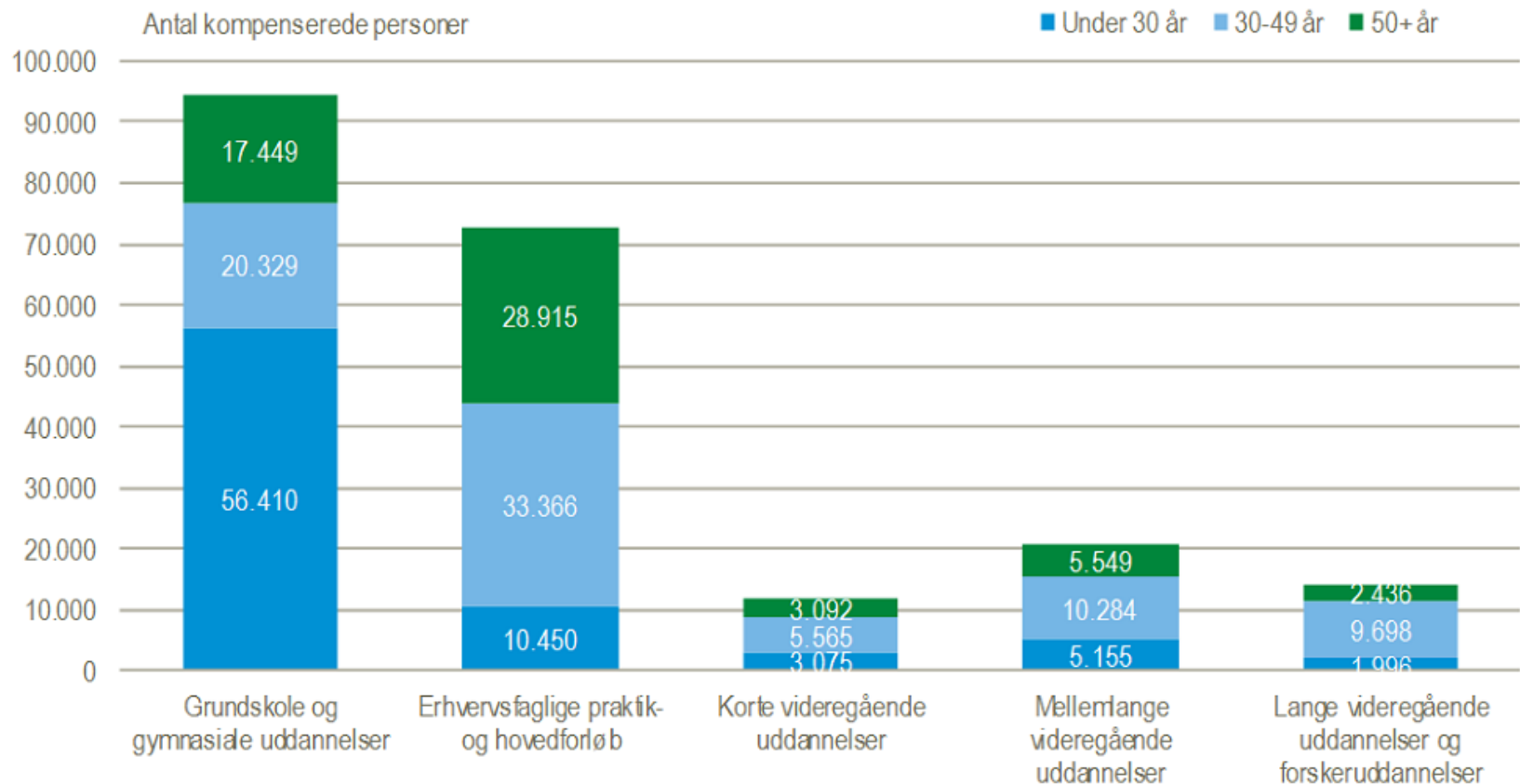


Filing for bankruptcy (weekly): Access to a new (simple) data source



Govt. COVID compensation schemes: Access to a new ad-hoc admin. data source

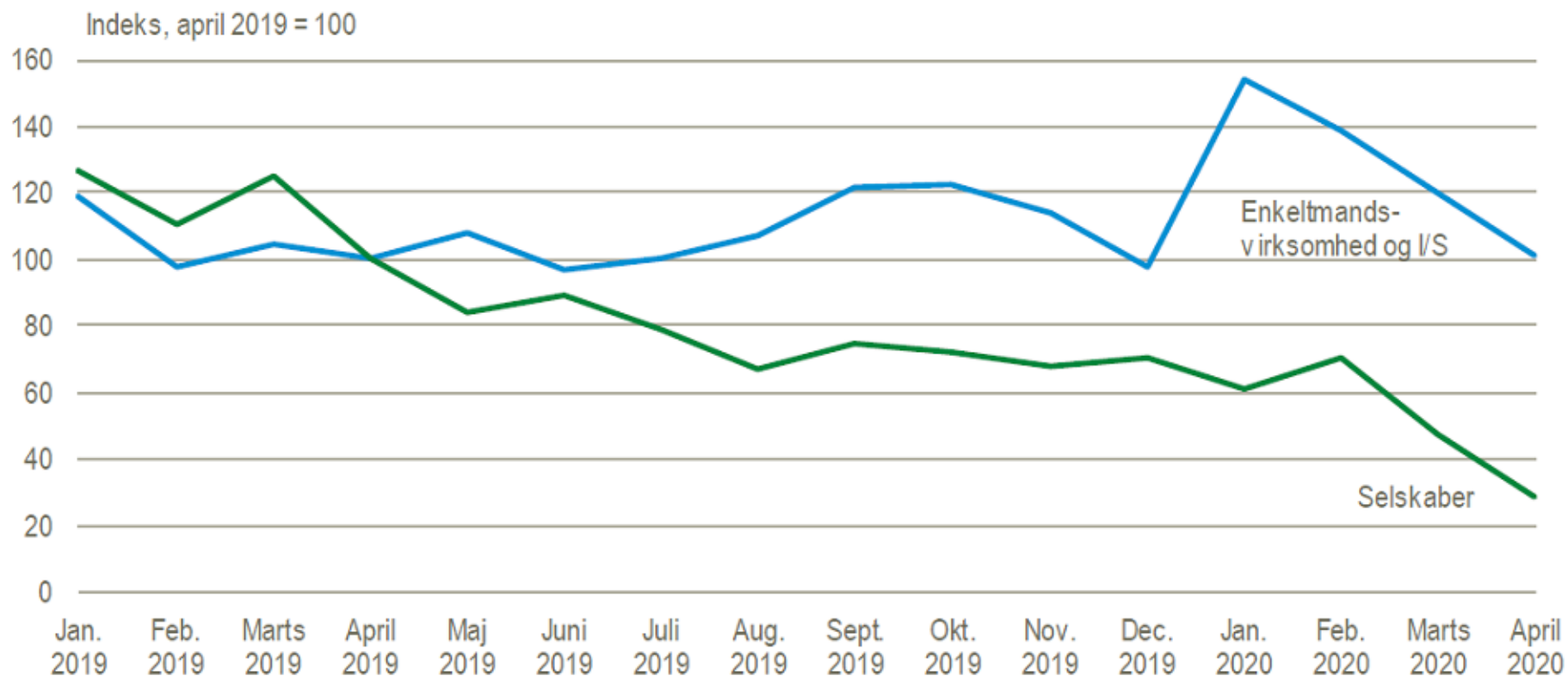
Antal kompenserede personer fordelt efter alder og højest fuldførte uddannelse



Opdateret juni 2020

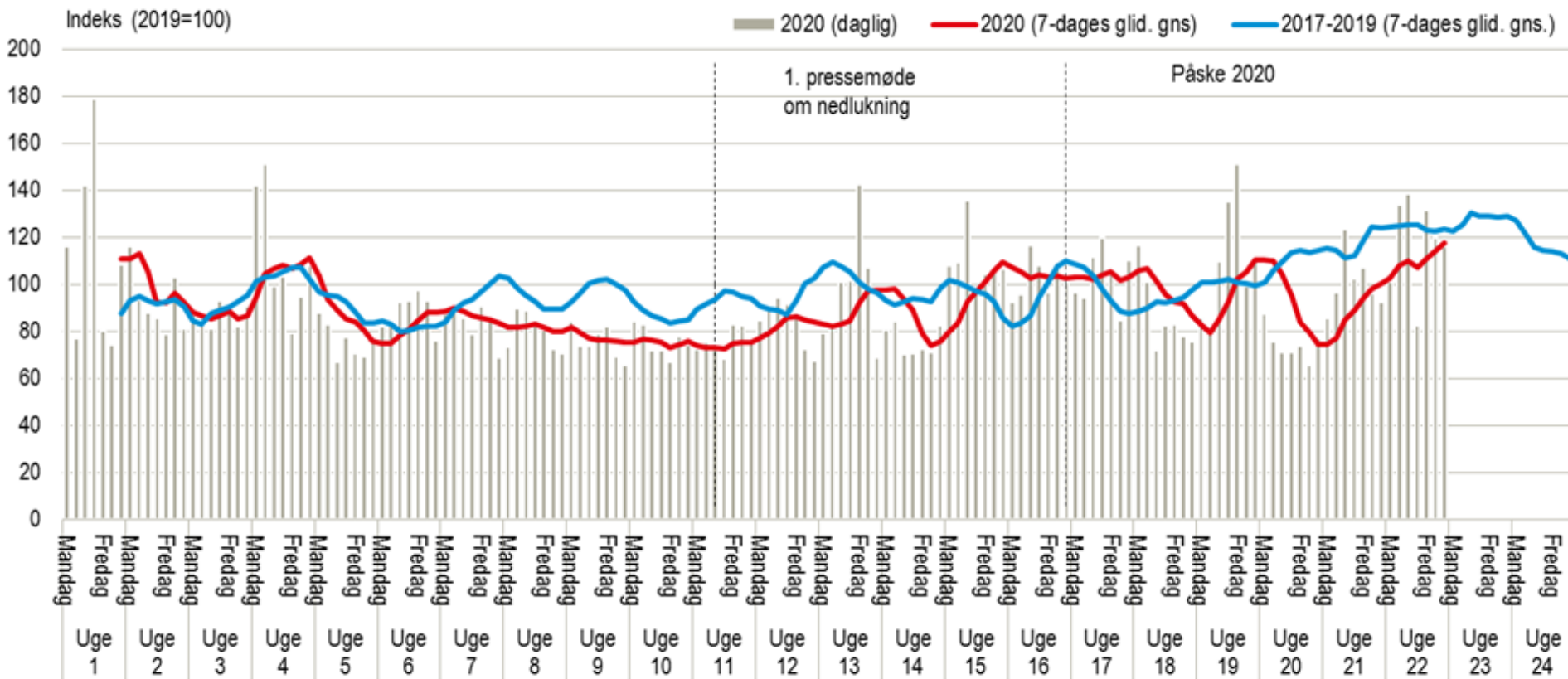
New active enterprises: New use of existing admin. sources

Nystartede virksomheder fordelt på selskaber og personligt ejerskab. Januar 2019 – april 2020



Arrivals of cargo ships in DK harbours: Use of Big Data

Antal fragt- og containerskibe i havn per dag (indekseret)



Opdateret 2. juni 2020

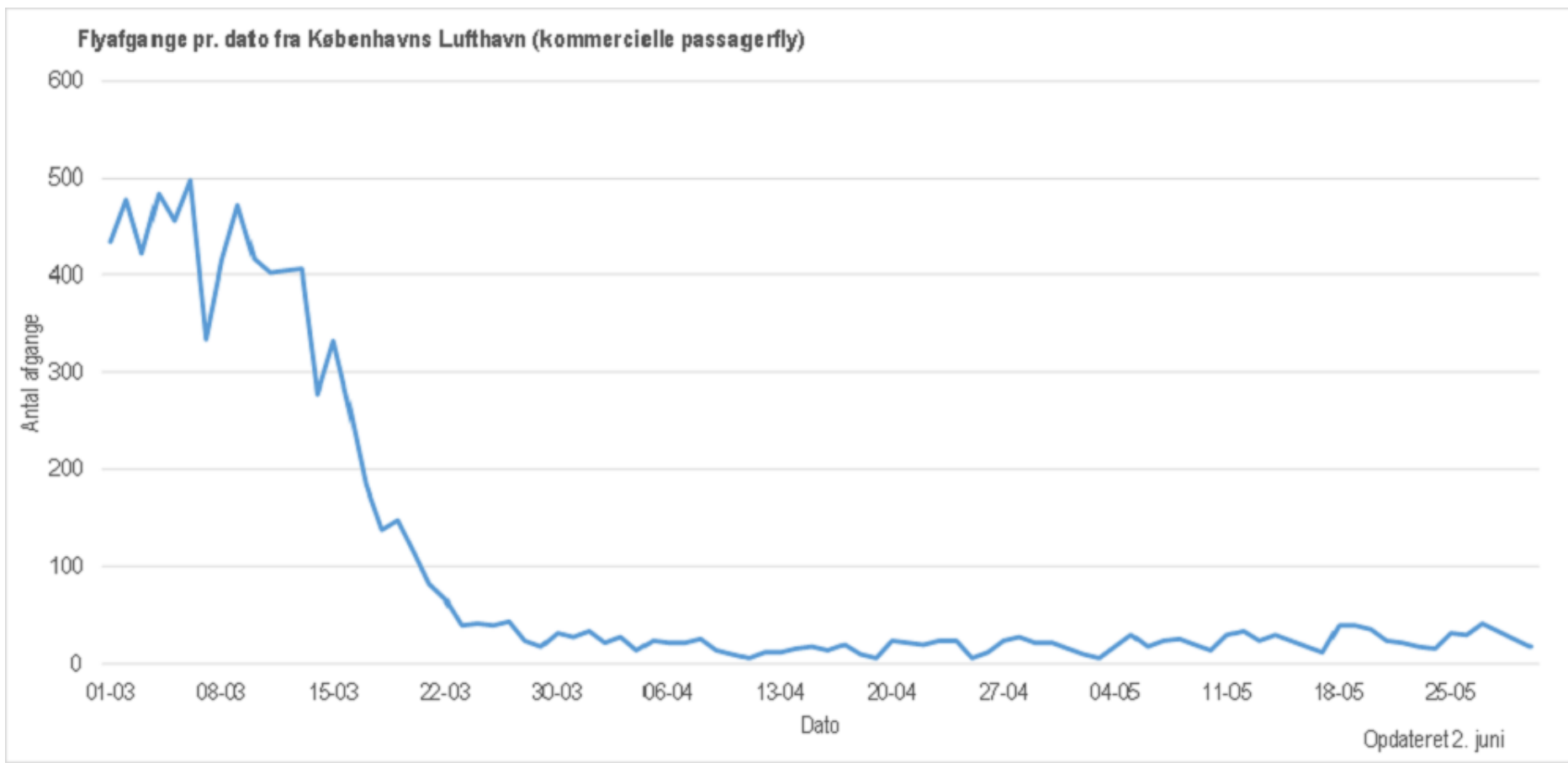
Road traffic as proxy for activity: Indicators from other authorities

Daglig vejtrafik i hele landet

1. pressemøde om nedlukning af Danmark



Commercial flights from CPH airport: Based on open data



Monthly turnover based on VAT

Turnover > 7 mill. EUR = monthly

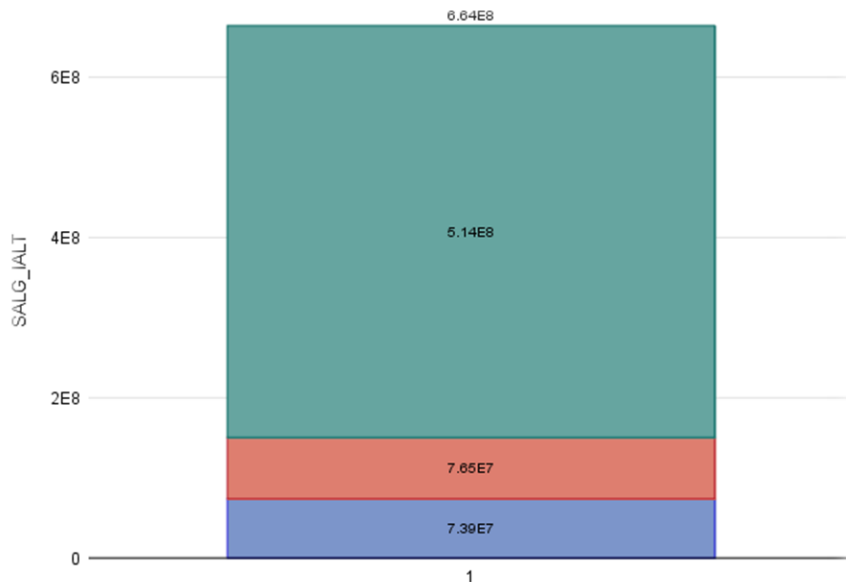
Turnover > 0,7 – 7 mill. EUR = quarterly

Turnover > 7.000 – 0,7 mill. EUR = half-yearly

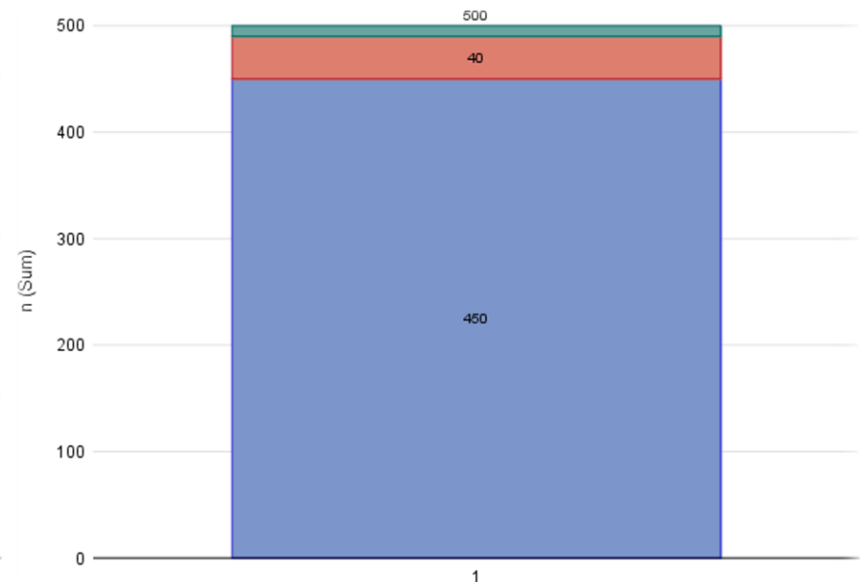
approx. 10.000 enterprises

approx. 40.000 enterprises

approx. 450.000 enterprises



Total sales = 4 x VAT



No. of enterprises

The challenge

- The govt. decided with immediate effect to extend VAT payments in order to support the liquidity of private businesses during the COVID crisis:
 - Monthly declarations/payments extended one month; quarterly/half-yearly declarations/payments one quarter/half-year;
- **Consequence for statistics:**
 - The risk of a very serious data gap
 - The fact that our model for imputing non-reported turnover, which is based on historical data, would overestimate.
At the worst possible moment in time!



The solution

- Reducing the data gap: *'Declare now – pay later'*:
 - We tried to influence the legislation – no success
 - We tried to influence communication from TAX – limited success
 - We made an appeal to enterprises via the media – effect unknown
 - **Fortunately, 70 per cent actually declared turnover for March**
- Extending the imputation model:
 - A task force was established with participants from STS, QNA and the Methodology division in order to:
 - Identify for each activity (127 groups) where adjustments to non-reported VAT would be needed and by how much
 - Prepare a suite of possible manual 'correction factors' to be used within different activities
 - Assess at which level turnover figures for March could be disseminated
 - **Result: Consistency between STS and QNA, micro data in SBR**



Factors of success and lessons learned

- **External framework:** Use network and partnerships (incl. co-financing) – no time for legislation
- **Internal framework:** Agility and resilience
- **Access to new sources:** Independent + competent = trusted
- **Data processing:** Micro data linking = new insights
- **Leadership:** Take risks (statisticians are not born courageous)
- **Management:** Reduce control – retain accountability
- **Quality:** The perfect solution next year is not in demand
- **Transparency:** Be open that this is ‘prescriptive statistics’



