

# Data-based decision-making - a case from Denmark



# Services offered

Tailored surveys

Tailored analyses (consulting)

Focus of my presentation

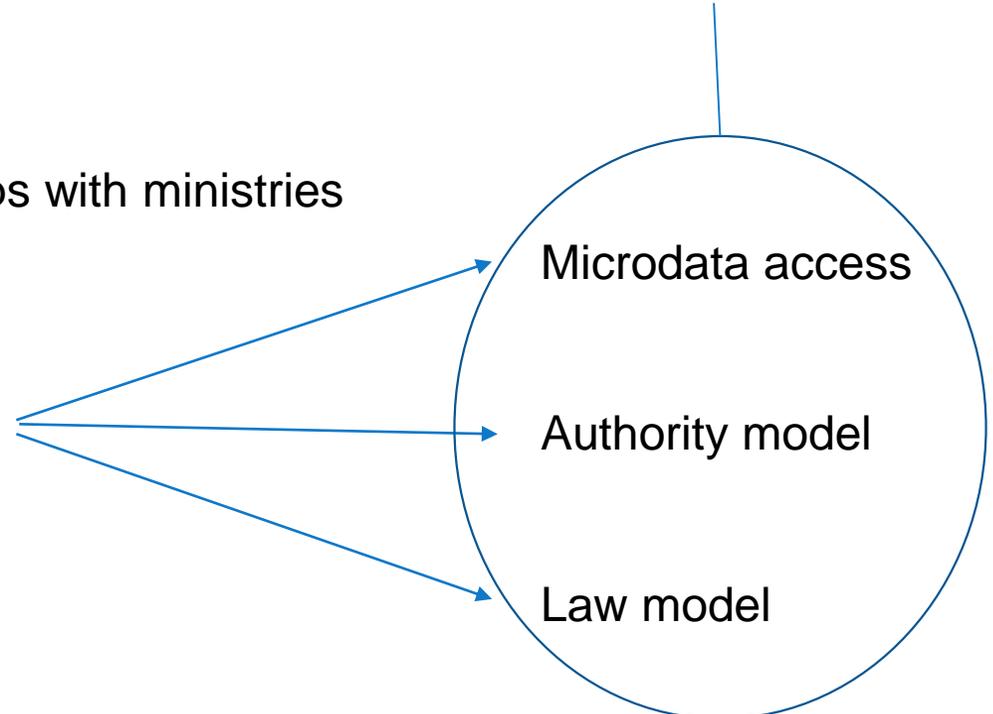
Tailored partnerships with ministries

Microdata services

Microdata access

Authority model

Law model



# The Danish law model system

- The Law Model was established by government decision in 1978.
- Currently 12 governmental institutions and 200 users has access to data through the Model.
- The main purpose is to investigate the economic and/or social impact of current or new legislation and to deliver knowledge to the policy planning process.
- Institutions apply for specific projects to cooperate across department areas – to evaluate or estimate an impact.
- Statistics Denmark provides model populations and administrative data and delivers the IT-setup such as servers, licenses etc.



Picture: Danish Parliament

# The authority model



Picture: Analysis/graph

- The authority model provides microdata for institutions that carry out regulatory tasks, i.e. departments, agencies and directorates, regions and municipalities.
- The main purpose is to meet the need for ad-hoc analysis with short deadlines. Therefore, authorities have quick and flexible access to the entire package of data relevant to their specific department area.
- The package of data and written agreement between Statistics Denmark and the authority is evaluated and renewed each year.

# Micro data access



Picture: Analysis/graph

- The micro data access model offers access to microdata institutions in The Danish Kingdom, including private companies
- Users must describe the purpose of their analyses and the societal benefit.
- Possible to set up a wider project database with sub-projects.
- Each project must be approved.

# The three models

## Law model

DATA OCEAN

User: Controlled by the  
Ministry of Finance

Purpose: prepare new  
legislation, service ministers  
and parliament etc.

## Authority model

DATA LAKE

Users: public authorities

Purpose: analyses on a  
specific authority's resort  
area

## Micro data access

DATA POOL

Users: originally  
researchers, now also  
public organisations,  
companies etc.

Purpose: Analyses,  
research and statistics.

Control of results – and actions

# The main differences

## Law model

No control of projects

Performers most work on their own.

Only data access needs to be approved.

## Authority model

Data access checked annually

No control of projects

Fast track

## Micro data access

Projects controlled individually.

Database possible, but divided into sub-projects

Some users also have access via an authority model

HPC-project

Price models differ

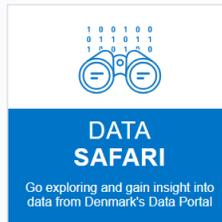
# What do we offer access to?

DENMARK'S DATA PORTAL

[About Denmark's Data Portal](#) | 
 [Data Safari](#) | 
 [Become a User](#) | 
 [Contact](#) | 
 [Log in](#) | 
 [Dansk](#)

## Welcome to Denmark's Data Portal

Denmark's Data Portal is an initiative by Statistics Denmark, which greatly benefits society by giving researchers and analysts easy and secure access to Danish data. The application includes over 350 registers classified by subjects such as business, health, education and economy. In "Data Safari", you can go exploring and get a general idea of the data that you can request as a user of Denmark's Data Portal.



### Short cuts

[Data for research](#) | 
 [Data for authorities](#) | 
 [Customised statistics](#) | 
 [Surveys](#) | 
 [StatBank Denmark](#)

### Partners

[Partners](#)

### About

[FAQ](#) | 
 [Accessibility statement](#) | 
 [Contact](#)

**Statistics Denmark**  
 Sankt Kjelds Plads 11  
 DK-2100 Copenhagen

[www.danmarksdatavindue.dk](http://www.danmarksdatavindue.dk)

- "Amazon" for requesting data access – not used by the law model.
- 450+ registers available - plus user's own data

Arbejde, indkomst og formue	Work, income, fortune	Registers 64
Befolkning og valg	Population and elections	Registers 34
Eksterne data	External data	Registers 7
Erhvervslivet på tværs	Business – cross sector	Registers 53
Erhvervslivets sektorer	Business sectors	Registers 15
Geografi, miljø og energi	Geography, environment and energy	Registers 30
Kultur og kirke	Culture and church	Registers 3
Levevilkår	Living standards	Registers 88
Penge og kapitalmarked	Money and capital markets	Registers 1
Priser og forbrug	Prises and consumption	Registers 12
Sundhed	Health	Registers 106
Uddannelse og viden	Education and knowledge	Registers 50
Udenrigsøkonomi	Foreign trade etc.	Registers 5



### Step 1 Authorisation Certification



Supplementary process for the authority model.

### Step 2 Project approval



Data combined via keys – e.g. personal numbers. Available in all registers to tie it all together.

User can see pseudo-anonymised data. Necessary for quality assurance  
AI can be used – we work to improve possibilities.

Control module has ben developed. Supports users as well.

User sends data request to FSE – via the Danish Data Portal.

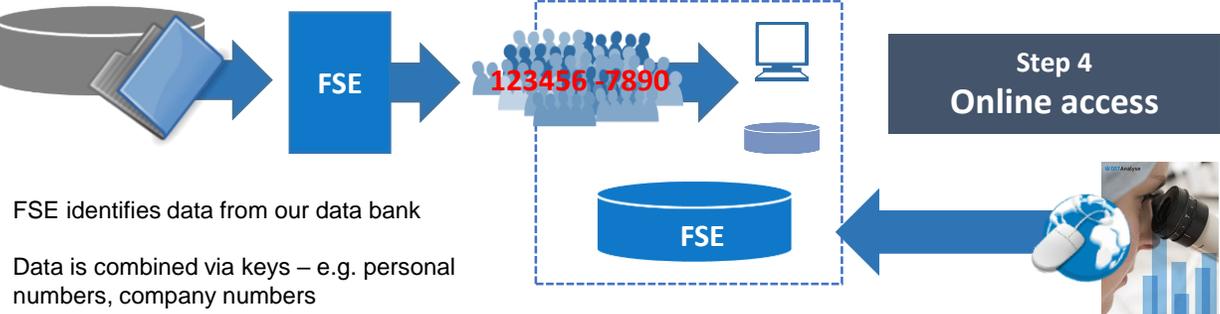
Must describe:

- 1) Purpose (sceince, statistics)
- 2) Relevance to society
- 3) Data needed – possibly own data or external data included.

FSE approves

Mean time: 20 days from first contact to delivery (4 days from approved project to delivery)

### Trin 3 Data work



FSE identifies data from our data bank

Data is combined via keys – e.g. personal numbers, company numbers

Pseudo-anonymisation. One key per project.

FSE stiller et sikkert miljø til rådighed, hvor projektdata Z opbevares og bearbejdes af Forsker X.

### Step 4 Online access

### Step +5 Control and sanctions

### Step 5 Results can be taken home



# Confidentiality – two main principles

## Principle 1

Data can only be used for science and statistics.

Commercial purposes are ok, e.g. development of products.

But NOT:

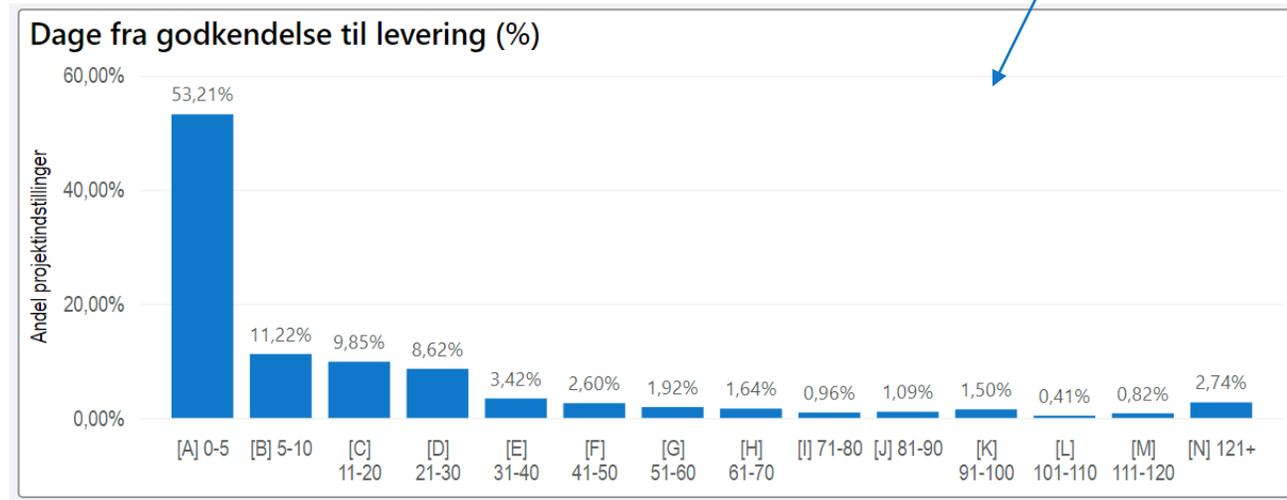
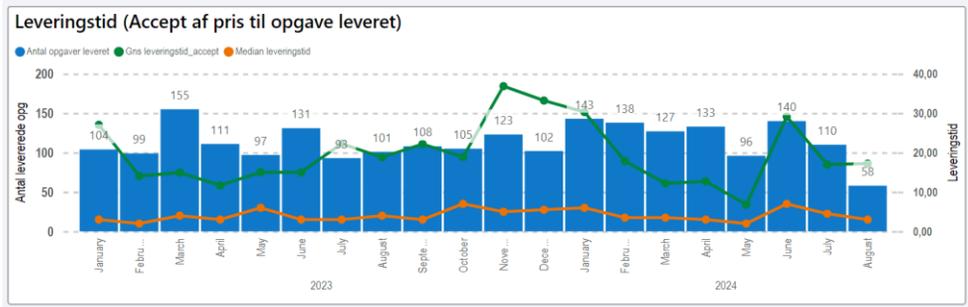
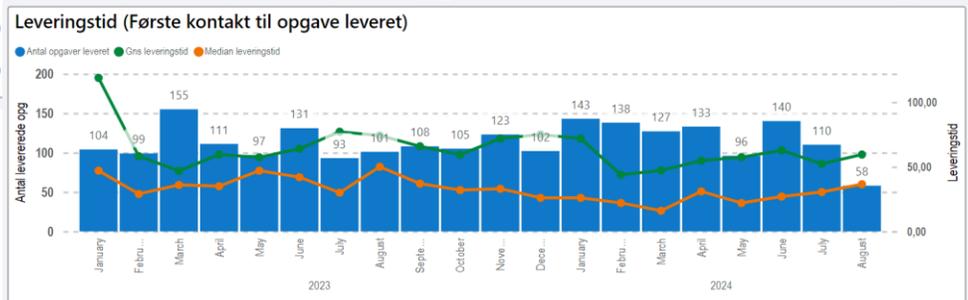
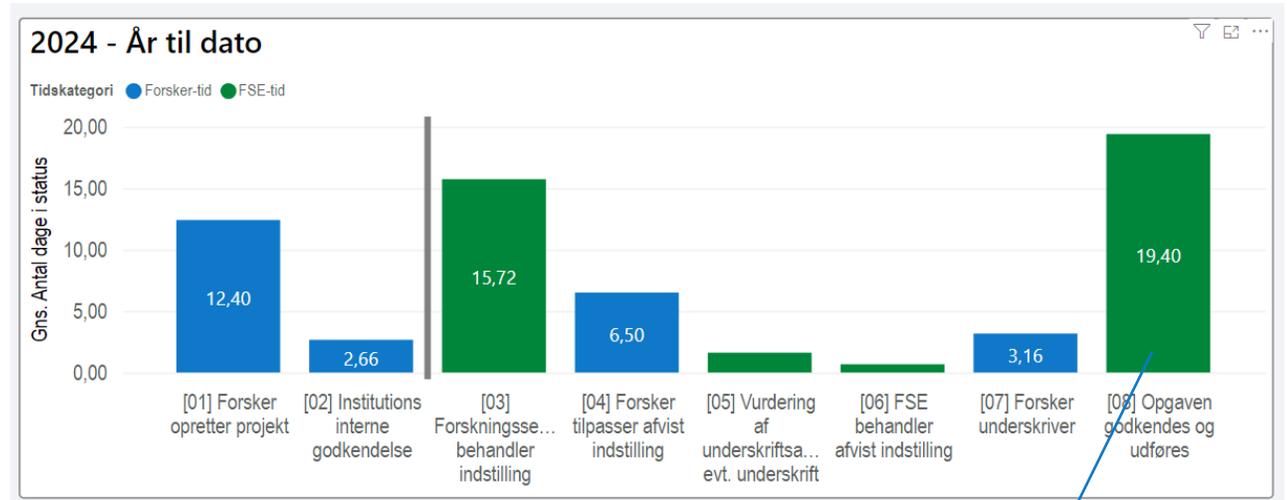
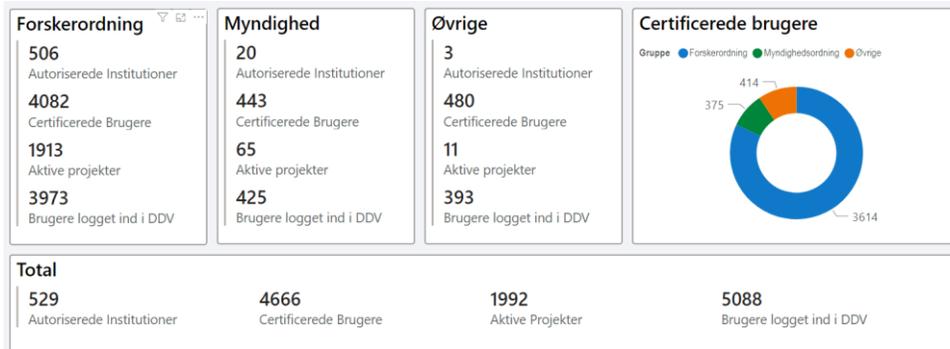
Administrative purposes  
Marketing etc.

## Principle 2

Knowledge on individual persons or individual companies must not be substracted.

Only aggregated results.

# A few numbers on use of the platform



Authority model not included. Delivery times do not include the law model (fast track) and the authority model