

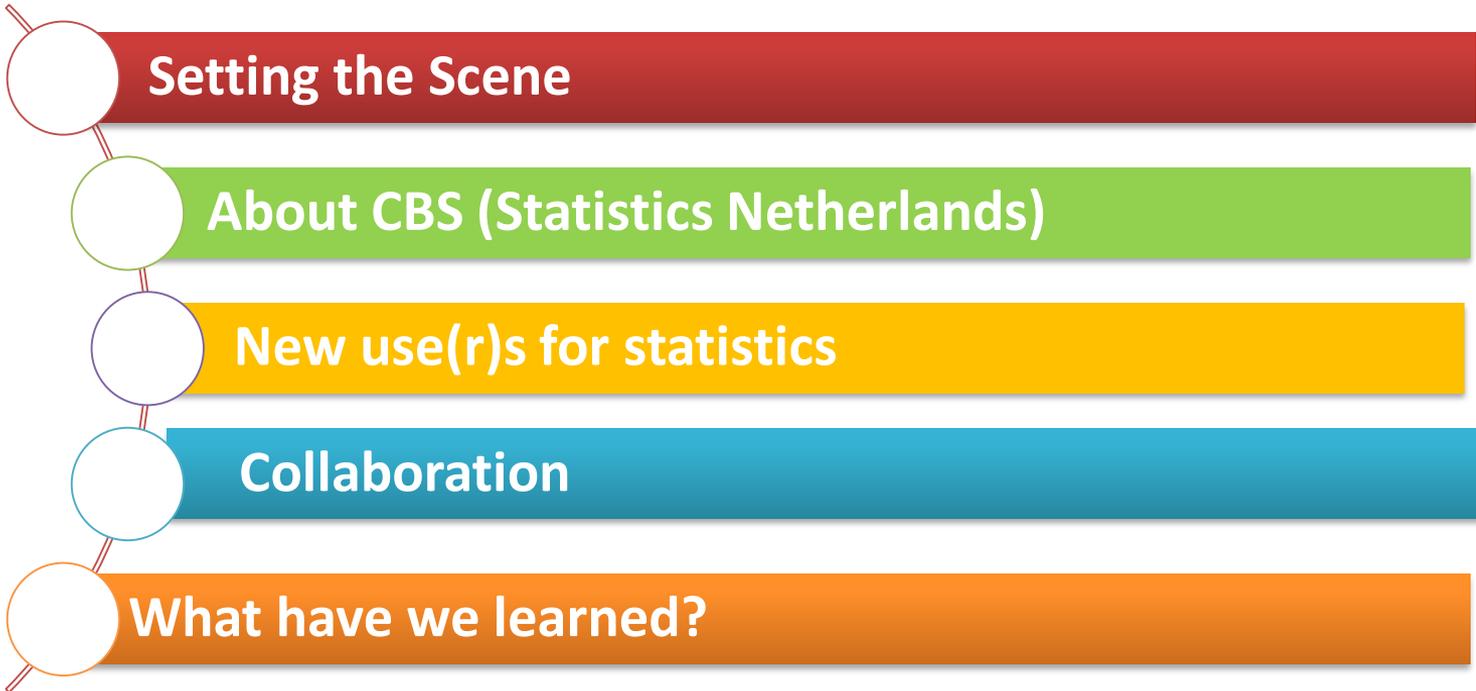
Statistics in the 21st Century

Data for better policies

Barteld Braaksma, Innovation Manager (bbka@cbs.nl)

Digital Government Conference, Helsinki, 22 October 2019

Statistics in the 21st Century



Setting the scene



Data is an EU priority

Commission and its priorities | Policies, information and services



European Commission > Strategy > Digital Single Market > Policies >

Digital Single Market

POLICIES

Building a European data economy

PAGE CONTENTS

Useful links

Building a European data economy is part of the Digital Single Market strategy. The initiative aims at fostering the best possible use of the potential of digital data to benefit the economy and society. It addresses the barriers that impede the free flow of data and other emerging challenges to achieve a European digital single market.



- Blog posts
- News
- Events
- Projects
- Funding
- Consultations
- Reports and studies
- Laws



Data is an EU priority

Data should be able to flow freely across borders and within a single data space. We need a coordinated and pan-European approach to make the most of data opportunities, building on strong EU rules to protect personal data and privacy.



Andrus Ansip



European
Commission

#dataeconomy



Hal Varian 'on workers and managers'



The McKinsey Quarterly, Januari 2009:

- ✓ Chief economist at Google
- ✓ Emeritus professor at Berkeley

I keep saying the sexy job in the next ten years will be statisticians (...)

Because now we really do have essentially free and ubiquitous data. So the complimentary scarce factor is the ability to understand that data and extract value from it.

I think statisticians are part of it. (...) Managers need to be able to access and understand the data themselves.

But- is the time of statistics over?



In a post-truth world, statistics could provide an essential public service
John Pullinger (National Statistician UK)

By combining the best of both worlds
Statistics Netherlands

<https://www.theguardian.com/politics/2017/jan/19/crisis-of-statistics-big-data-democracy>

Data, data everywhere

Information has gone from scarce to superabundant.



A glimpse of the future?

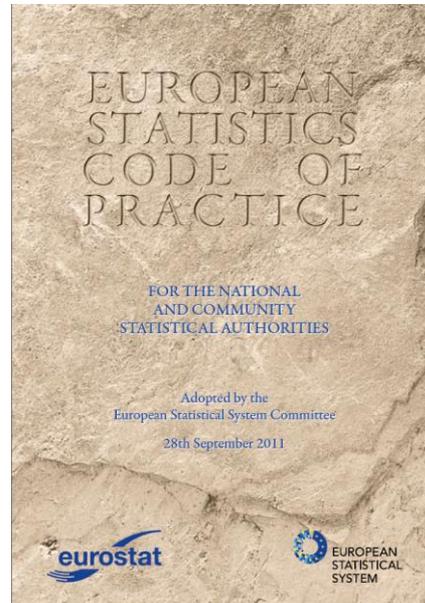
“the largest audience ever to witness an inauguration, period, both in person and around the globe”

(spokesman Spicer about Trump’s inauguration, January 2017)



Mission of the European Statistical System

“We provide the European Union, the world and the public with **independent high quality information** on the economy and society on European, national and regional levels and make the information **available to everyone** for decision-making purposes, research and debate.”



- Presupposes availability of **adequate** data sources

About CBS (Statistics Netherlands)



What is CBS (Statistics Netherlands)?

- Established 1899
- Current Statistics Act from 2003
- 3 offices
- 1,800 employees (approximately)
- 3,700 tables in StatLine (online database)
- 20,000 messages in the media (annually)
- 10 million visits of CBS.nl
- 100 thousand followers on Twitter



Bonaire



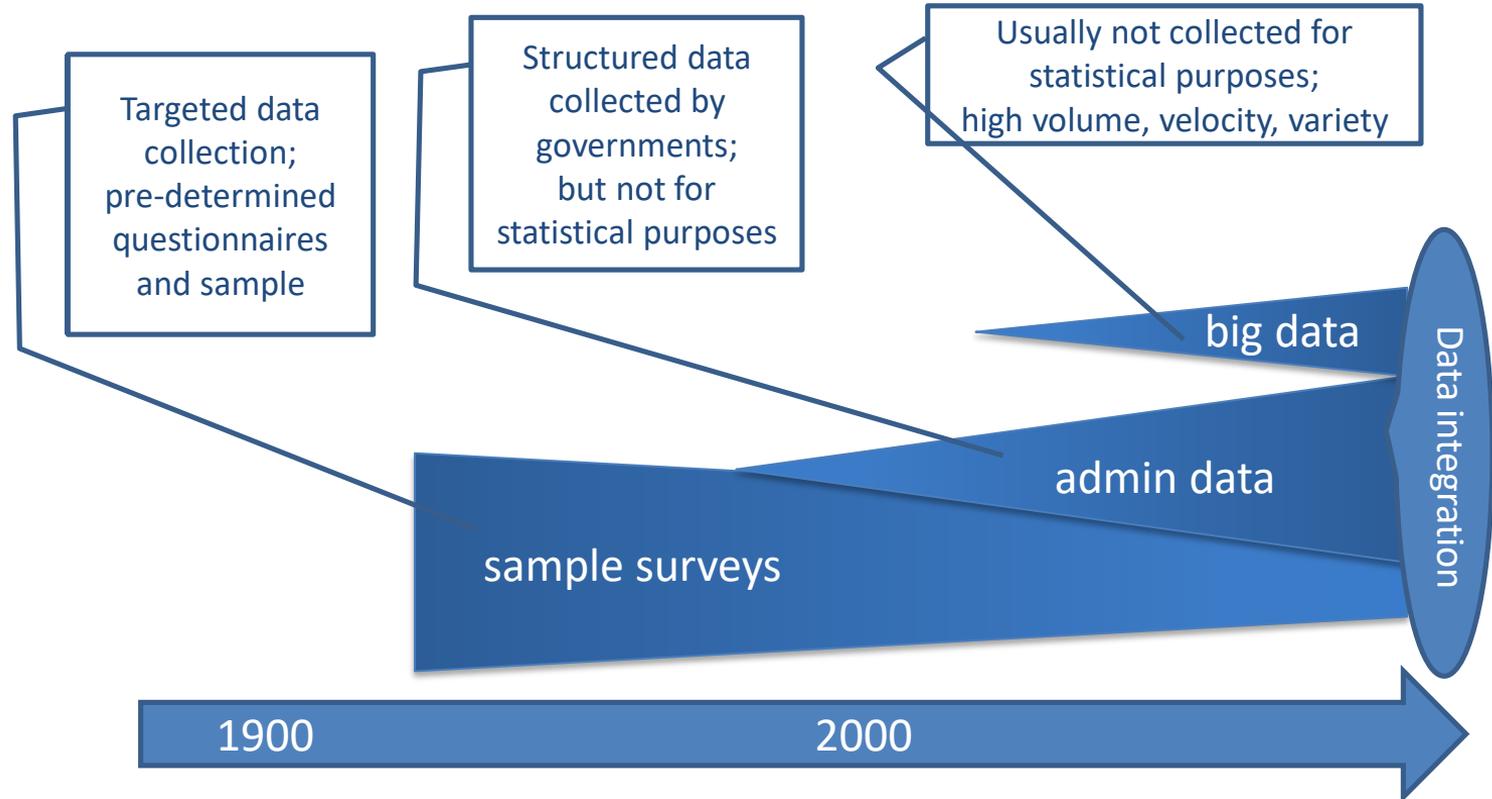
• The Hague



Heerlen •

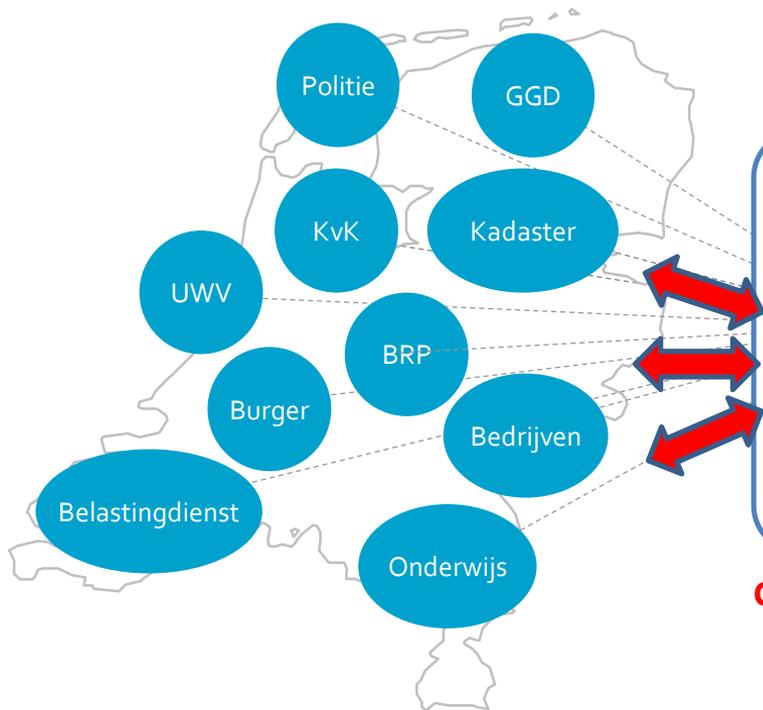


From surveys via admin data to big data

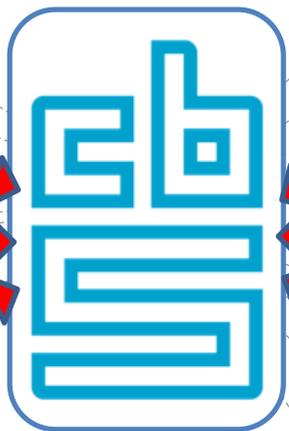


CBS as Data Hub

Data sources



Users

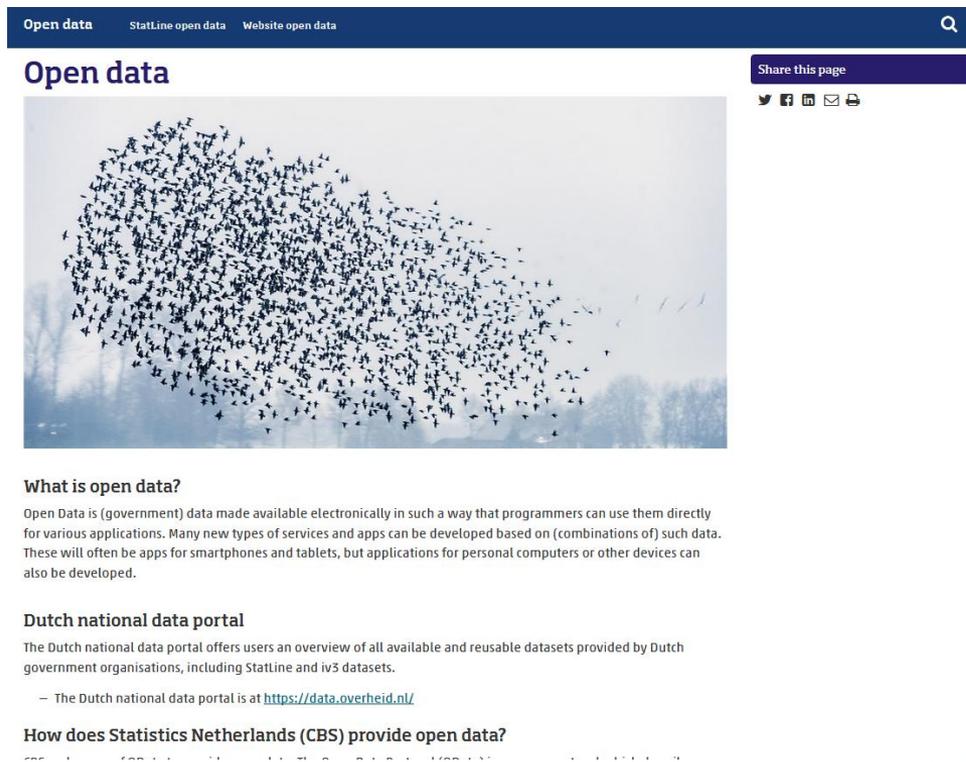


collaboration



On a regular basis: open data

- All statistical output in machine-readable open data format
- Three APIs
- Two user manuals
- LinkedIn group
- Key role for CBS in government's open data policy



The screenshot shows the top navigation bar of the 'Open data' website. It includes links for 'Open data', 'StatLine open data', and 'Website open data', along with a search icon. Below the navigation bar, the main heading 'Open data' is displayed. To the right of the heading is a 'Share this page' button with social media icons for Twitter, Facebook, LinkedIn, Email, and Print. The main content area features a large image of a flock of birds flying in a circular pattern against a light sky. Below the image, there is a section titled 'What is open data?' followed by a paragraph explaining that open data is government data made available electronically for use by programmers. This is followed by a section titled 'Dutch national data portal' which provides an overview of available datasets and includes a link to <https://data.overheid.nl/>. The final section is titled 'How does Statistics Netherlands (CBS) provide open data?'.



On demand: customised research

- Since 2003
- Commissioned studies
- Mostly on existing data
- No policy advice or forecasts
- Everybody could commission
- Under certain conditions

Onderzoek op maat

Hebt u betrouwbare cijfers nodig voor beleidsonderbouwing, brancheonderzoek of marktonderzoek? Met het rijke aanbod aan microdata en de expertise van het CBS kunt u precies die informatie ontvangen die u nodig hebt. Wij kunnen [maatwerk op bestaande data](#) verrichten, maar ook een [volledig nieuw onderzoek](#) uitvoeren.

Maatwerk op bestaande data

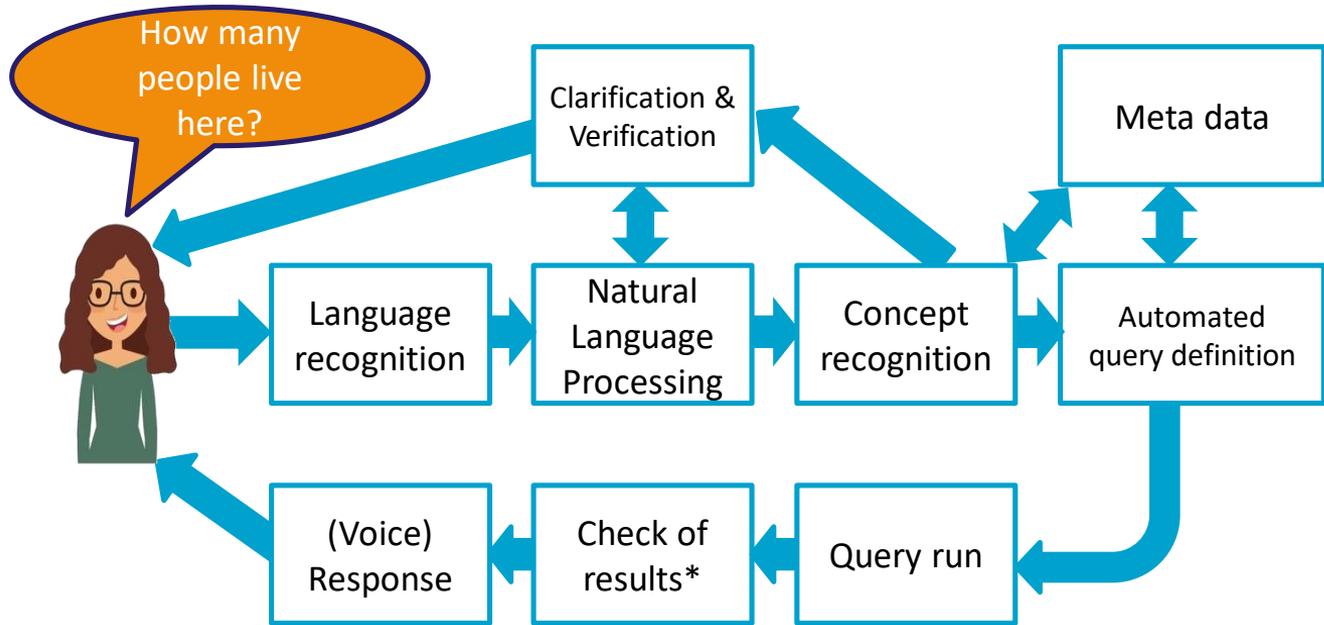
CBS kan onderzoek op maat uitvoeren op basis van alle databestanden die we al tot onze beschikking hebben.



Analyse

Enkele voorbeelden van analyses die wij kunnen uitvoeren:

In future: the information dialogue



First prototype app
July 2018

“An **arbitrary user** can ask CBS any **arbitrary question** at any **arbitrary moment** via any **arbitrary platform** (desktop, tablet, mobile device).

Next, CBS **clarifies the question** in a partly or fully **automated dialogue** and, based on available content (text, images, data, audio, visuals and data visuals) **a single complete answer is given in a format demanded by the user.**”

* And confidentiality-on-the-fly



IT: new architecture to deal with changess

1. Single entry-point to explore and query ALL data

- ⇒ Data at your fingertips – Better knowledge of usage and access - avoid creating multiple versions of truth – build trust at Data Owners

2. Create a self-service culture for data consumers

- ⇒ Low knowledge threshold for users – Use the tools the user is most comfortable with – lower dependency on IT services

3. Implement security & governance across multiple systems

- ⇒ Reduce data copying - minimize risk of a data breach – centralized authentication and authorization



New use(r)s for statistics



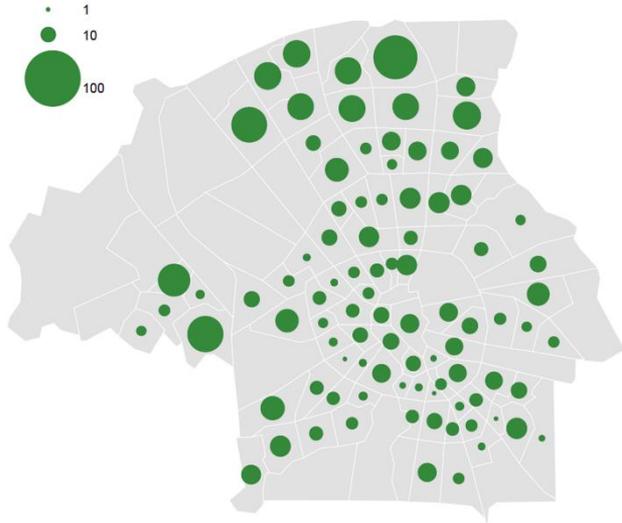
Urban Data Centers (and more)

- Collaboration of CBS with municipalities
- Relevance of regional information is growing!
- Both classical sources and big data used
- “Smart cities”

- Now eight UDCs established
- And two DDCs, three PDC, an ADC, RDC, ...



UDC example Eindhoven- electric cars



- ❖ City of Eindhoven wants to stimulate electric car use
- ❖ But where are they?
- ❖ We know!

Is it possible to create fair algorithms?



Figures Labour and income Economy Society Regional Corporate

Q NEDERLANDS

Share this page



Study on fair algorithms for policy-making

14/08/2019 10:00 / Author: Miriam van der Sangen

Read more

municipalities
innovation
big data



More news



Manufacturing output prices hardly changed

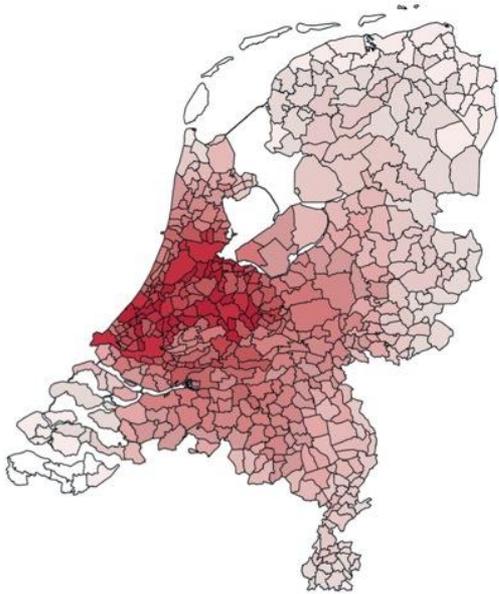
30/08/2019 15:00



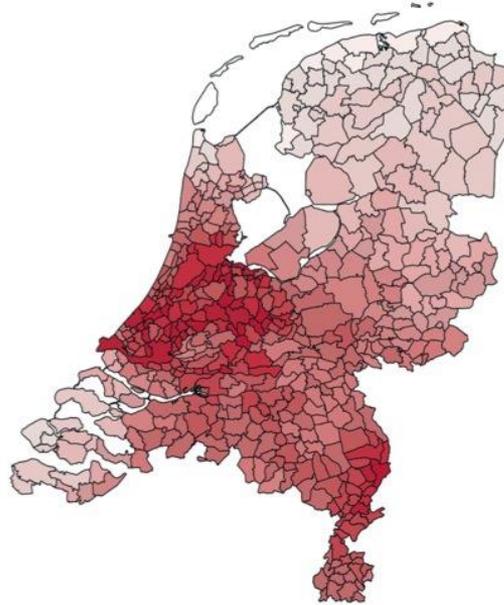
- ✓ Joint work City of Amsterdam/University of Amsterdam/CBS
- ✓ Follow-up funded by Ministry of Internal Affairs
- ✓ Huge response from media



Cross-borders statistics: where are the jobs?



Aantal bereikbare banen per inwoner binnen één uur reistijd. Alleen Nederlandse banen tellen mee



Aantal bereikbare banen per inwoner binnen één uur reistijd. Alle banen tellen mee, ook in de Euregio. (Bron: Atlas voor Gemeenten)

Cooperation of CBS and IT.NRW



Publication on labour market in border region NL-NRW

(August 2015)

CBS as judge in day-care policy debate



Arbeid en inkomen Economie Maatschappij Regio Corporate Cijfers

Deel deze pagina



Lees meer over

overheidsbeleid
kinderopvang
Ministerie van Sociale
Zaken en
Werkgelegenheid
statistische methoden

CBS levert berekeningen voor nieuw beleid kinderopvang

3-10-2018 11:00 / Auteur: Masja de Ree



© Hollandse Hoopje / Caspar Huisdeman Fotografie

Het CBS is de leverancier van betrouwbare cijfers en kan op basis van zijn wettelijke taak op verzoek ook statistisch advies of ondersteuning geven. Senior methodoloog Peter-Paul de Wolf: 'Het CBS kan als onafhankelijke derde op verzoek meedenken over statistische berekeningen en methoden, waarbij we de cijfers en het beleid strikt scheiden. Transparantie en openbaarheid van onderzoek is daarbij een voorwaarde.'

Juiste cijfers

Recent heeft het CBS op verzoek van het ministerie van Sociale Zaken en Werkgelegenheid (SZW) een bijdrage geleverd aan berekeningen rond het nieuwe beleid van de kinderopvang. Het was een bliksemverzoek, waar De Wolf en collega-methodoloog Sander Scholtus voor stonden. Want het antwoord werd binnen een week verwacht. Aanleiding is een aanstaande wijziging in de regels voor de kinderopvang. Het ministerie past per 1 januari 2019 de aanpak van de kinderopvang aan. Kinderen van twee tot drie jaar worden nu in de kinderopvang opgenomen. Dit is een verandering van de huidige situatie.

The right figures

Last year, CBS has, at the request of the Ministry of Social Affairs, contributed to computations around the new childrens' day-care policy. It was a lightning request, carried out by methodologists Peter-Paul de Wolf and Sander Scholtus. The answer was expected within a week.

gere inkom
giste



Aantal faillissementen op laagste
niveau deze eeuw
11-10-2018 06:30

Uitgelicht



CBS as judge in day-care policy debate



Arbeid en inkomen Economie Maatschappij Regio Corporate Cijfers

Deel deze pagina



CBS levert berekeningen voor nieuw beleid kinderopvang

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© Hollandse Hoogte / Caspar Huardeman Fotografie

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Juiste cijfers

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(...) As of January 1 2019 , a day-care professional should look after three babies aged zero (instead of currently four). How much money will that cost?

The Ministry of Social Affairs and the Union of Child Care Professionals came up with different figures. CBS was asked to decide what were the right figures. (...)

gere inkomens
gisteren 00:00



missiesementen op laagste
nu deze eeuw
11-10-2018 06:30

Uitgelicht

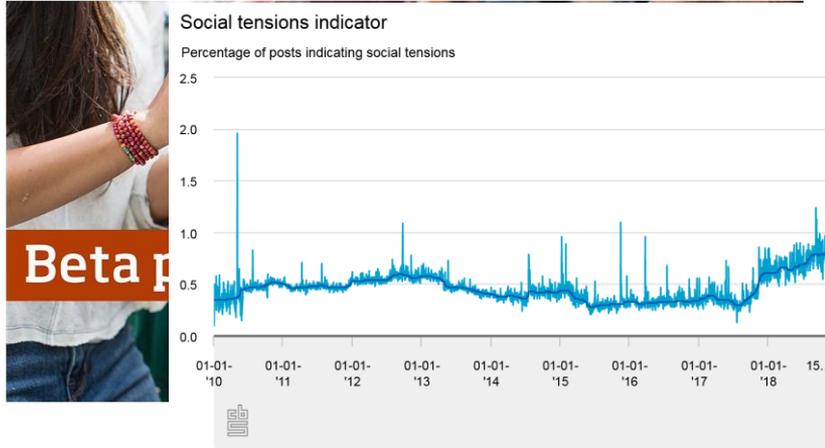


Social tension indicator based on Twitter

<https://www.cbs.nl/en-gb/our-services/innovation/project/social-tension-indicator-based-on-social-media>



Social tension indicator based on social media



How can social media m
 Statistics Netherlands (C
 indicator. The indicator Very specifically measures tensions or unrest within Dutch society, unlike more general
 measurements of positive or negative sentiments through social media. To define the indicator, qualitative research
 was conducted to compile a validated glossary containing words that are specifically related to (un)safety.
 The indicator identifies those parts of daily messages on Twitter which discuss unrest or unsafety. These say something

COOSTO 2 million new tweets every day in NL



Collaboration



Center for Big Data Statistics

- ❖ New, improved and 'zero footprint' statistics
- ❖ Including realtime statistics
- ❖ Connection to themes like SDGs and smart cities
- ❖ Also cross-cutting issues like privacy
- ❖ Release of experimental results on beta-site
- ❖ Many partners with specific needs and opportunities



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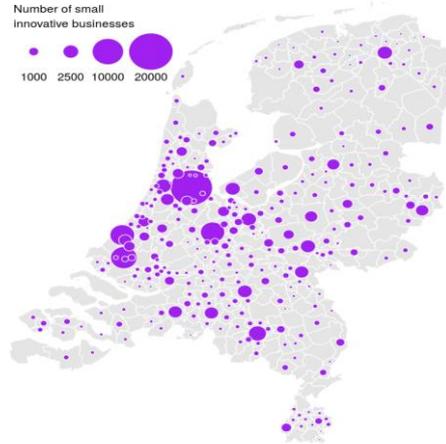
Measuring innovation via websites

First a students' assignment



Then a beta product:

Innovation in small businesses



Based on data from 500,000 SMEs
(CIS: 10,000 non-SMEs)

Now a pilot project for the Ministry of Economic Affairs

- Goals
 - ✓ Better view of innovation landscape
 - ✓ Better targeting of subsidies
- Project in progress, two pilots
 - ✓ Energy transition-related innovation (North of NL)
 - ✓ University spin-offs (Eindhoven region)

➤ Joint work with  Innovatiespotter



Data Camp The Hague 2017

Goals

- Try innovative collaboration model
- Work on relevant statistical questions

Participants

- 30 researchers from city of The Hague, universities and CBS
- 10 persons in supporting roles

Theme

- Poverty, unfortunately very topical
- 8 research questions (6 using 'classical' microdata, 2 with big data)

No concessions to responsible data use!

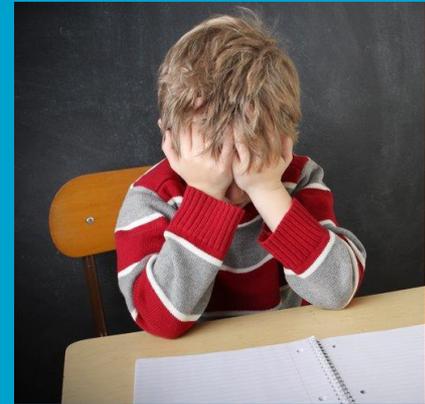
CBS microdata

The Hague microdata

Big data (social media, online election programs)



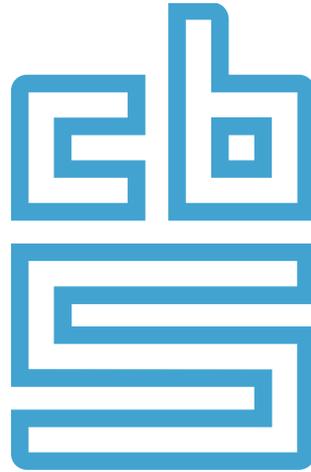
What have we learned?



What have we learned?

1. Data needs in government are growing
2. Articulating the right questions is not easy
3. Providing examples for inspiration helps
4. ...but data access is often an issue
5. We can not do it alone!
6. Collaboration comes in many flavours





Facts that matter