New visual technologies and quantitative data

Making the Poverty and Social Exclusion data sets accessible

www.poverty.ac.uk

The PSE research

- Funded by the ESRC
- Major grant – £4.3 million
- Start April 2010
- End October 2013

The Research team

- University of Bristol
- Heriot-Watt University
- The Open University
- Queen's University Belfast
- University of Glasgow
- The University of York

The consensual method

Sees poverty as:

"an enforced lack of socially perceived necessities"

Examines:

Social as well as material deprivation

Allows for:

Choice distinguishing can't afford from don't want

Analyses:

Lack of necessities against resources

Data

- Deprivation indicators
- Social Exclusion indicators
- Income/resources
- Necessities – from Breadline Britain onwards
- Standard socio-demographic variables

Past data sets

- Townsend: Poverty in the UK 1969
- Breadline Britain 1983
- Breadline Britain 1990
- PSE 1999
- PSE Northern Ireland 2002

PSE 2011 - data

Two stage survey:

1. Necessities survey using the NatCen Omnibus survey in Britain and the NISRA Omnibus survey in February/March 2011
2. Standards of living survey following up the Family Resources Survey between September 2011 and January 2012 with 4,000 households in Britain and further 800 in NI

International data

Looking for access to data from similar "necessities" based surveys of poverty in:

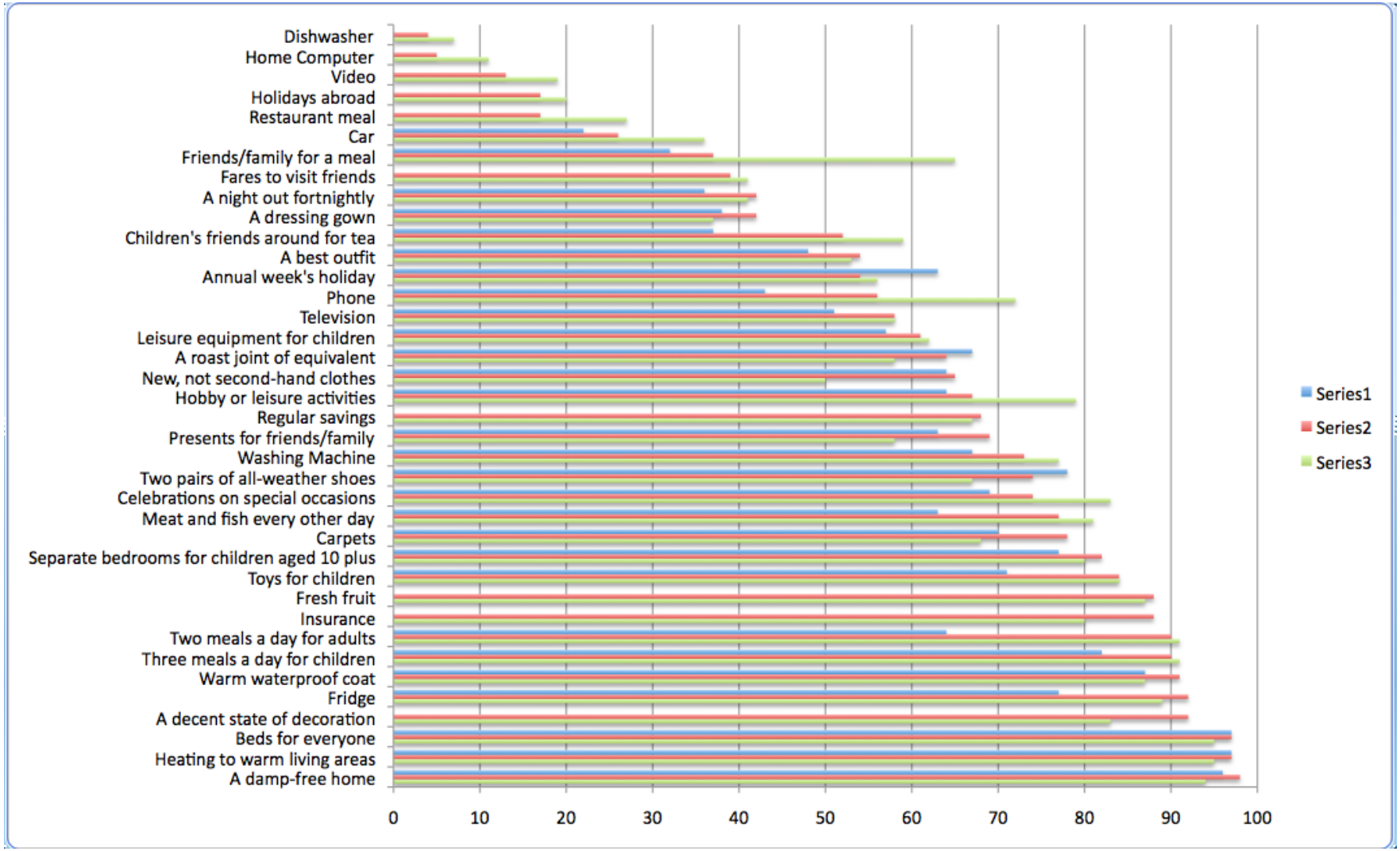
Japan, Taiwan, Mexico, Brazil, South Africa, Bangladesh, New Zealand, Australia, Germany, France, Ireland, Finland, Sweden, EU and others

The raw data

Can’t just put the raw data up on the website:

- Individuals potentially identifiable
- Incomprehensible
- Not weighted

Tables and charts



The challenge

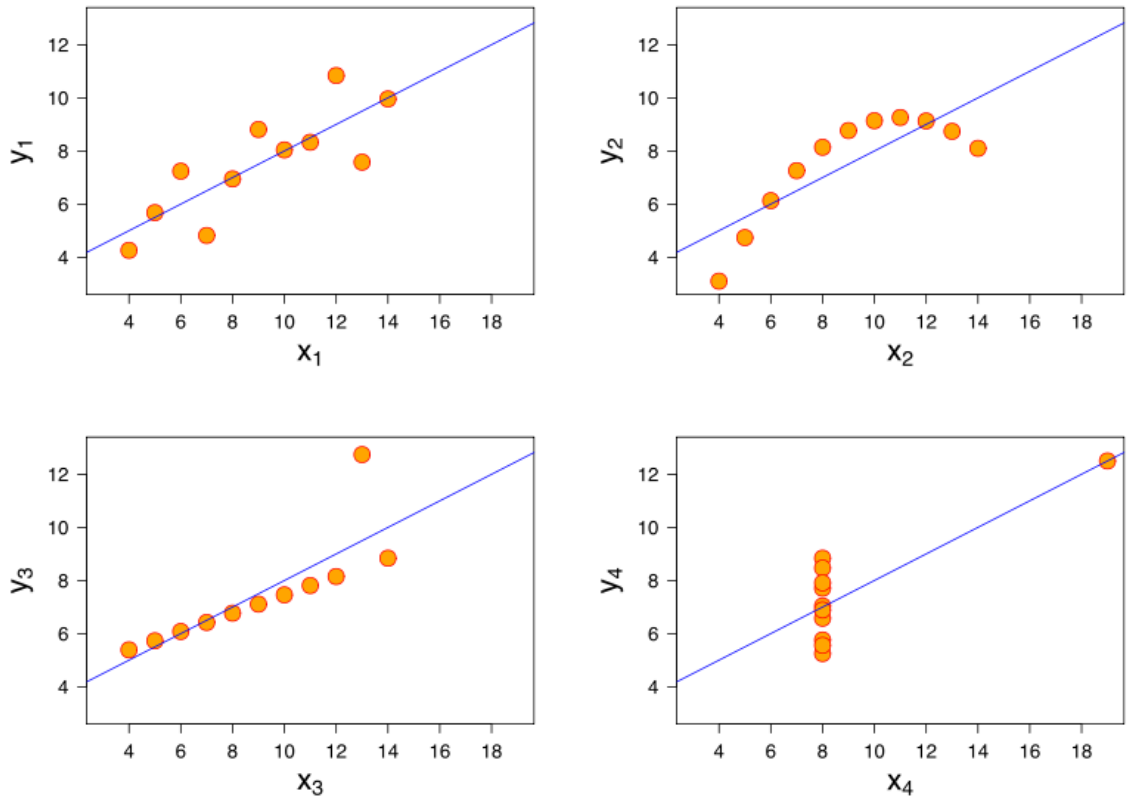
Make the data available on the website allowing

- Control over variables
- Comparisons across time
- Comparisons across place
- Aggregation with public data
- Individual identities to be kept private
- Convey statistical reliability

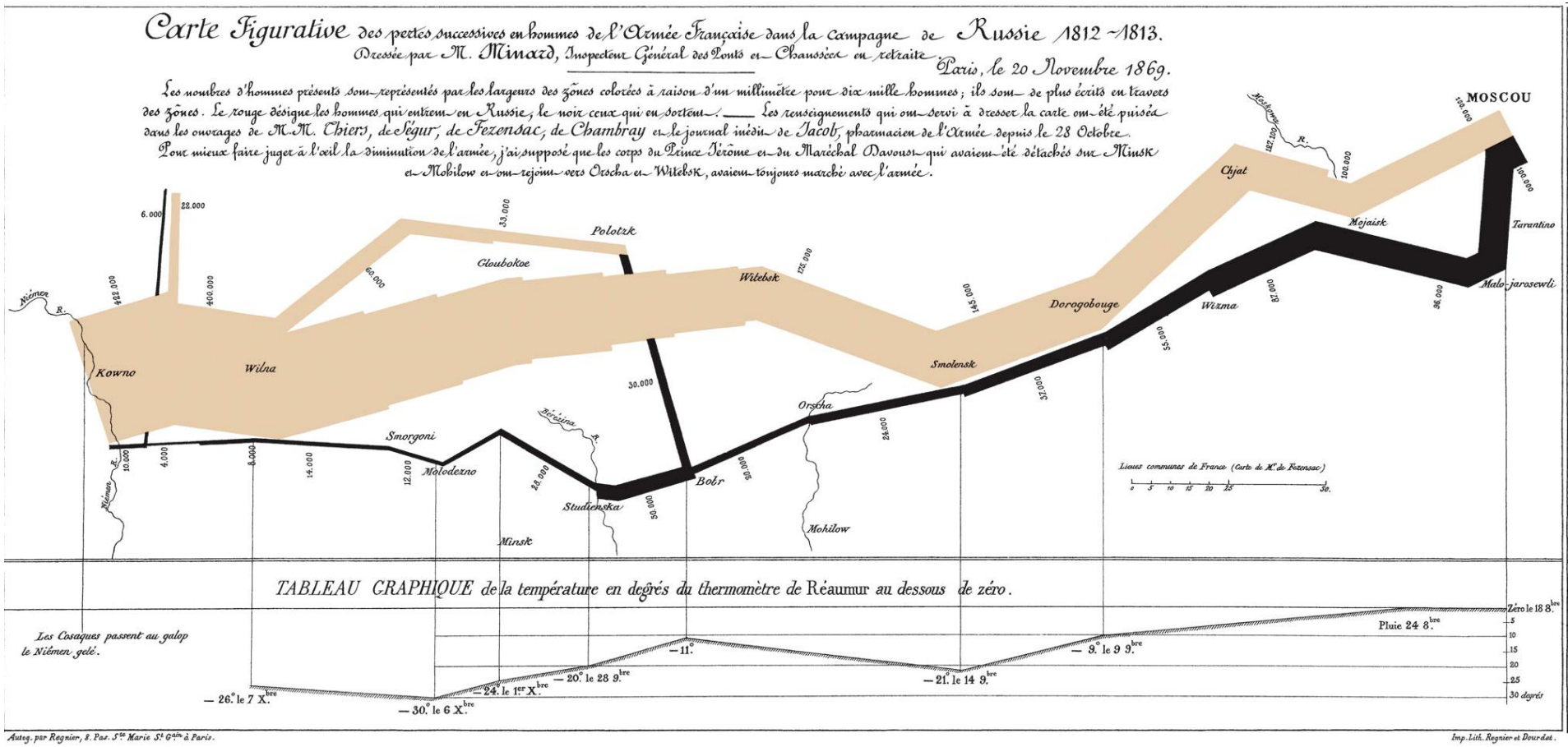
Why visualise data

Visualising data brings out patterns

Anscombe's quartet have identical simple statistical properties



From print…


Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.
Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite
Paris, le 20 Novembre 1869.
Les nombres d'hommes présents sont représentés par les largeurs des zônes colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zônes. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent. — Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M.M. Thiers, de Ségur, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.
Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davoust qui avaient été détachés sur Minsk et Mobilow et ont rejoint vers Orscha et Witebsk, avaient toujours marché avec l'armée.
Niemen R.
Kowno
Wilna
Smorgoni
Molodezno
Minsk
Studienska
Bobr
Berézina R.
Orscha
Mohilow
Polotzk
Gloubokoe
Witebsk
Smolensk
Dorogobouge
Wixma
Mojaisk
Chjat
Kolotzkoi R.
MOSCOU
Tarantino
Malo-jarosewli
Lieues communes de France (Carte de M. de Fezensac)
TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.
Les Cosaques passent au galop le Niémen gelé.
— 26.° le 7 X.bre
— 30.° le 6 X.bre
— 24.° le 1er X.bre
— 20.° le 28 9.bre
— 11.°
— 21. le 14 9.bre
— 9.° le 9 9.bre
Pluie 24 8.bre
Zéro le 18 8.bre
Autog. par Regnier, 8. Pas. Ste Marie St Gdre à Paris.
Imp. Lith. Regnier et Dourdet.

To movement

US jobs

http://tipstrategies.com/interactive/geo-jobs-2011-01/

To control

- Hans Rosling & Gapminder

http://www.gapminder.org/

- London profiler

http://www.londonprofiler.org/

- Guardian datablog

http://www.guardian.co.uk/news/datablog

Research & public data

- Linking Breadline Britain to the Census

http://www.sasi.group.shef.ac.uk/publications/pandpexamples.htm#poverty

Statistical education

Mis-understanding the median….

‘You get this constant juddering adjustment with poverty figures going up when, for instance, upper incomes rise.’ *Iain Duncan Smith*

‘Any candidate sitting GCSE maths should be able to explain that raising everybody above a set percentage of the median income is rather like asking a cat to chase its own tail. As families are raised above the target level of income, the median point itself rises. Not surprisingly, therefore no country in the free world has managed to achieve this objective.’

Frank Field

http://www.poverty.ac.uk/income_threshold_approach.php

Statistical tools

Now I know that as someone working in education, I'm probably supposed to uphold the "should learn it properly" principle… But needing to know statistics in order to benefit from the use of statistical tools seems to me to be a massive barrier to entry in the use of this technology. You just need to know how to use the technology appropriately, or at least, not use it "dangerously"

Tony Hirst, MCT, The Open University