

**UNITED NATIONS ECONOMIC COMMISSION  
FOR EUROPE (UNECE)  
CONFERENCE OF EUROPEAN STATISTICIANS**

**Work Session on the Communication of Statistics  
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**Communicating Statistics: Making an impact -the power of communications**

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**Appealing statistics**

National and international statistics organisations have increased substantially their awareness and focus on communicating statistics to the public. Throughout the past five years, the statistics organisations have benefited from the technology to present statistics using videos, interactive graphs, educational games, launch of competitions, TV appearances, e-publications and much more in order to reach out to the external user community. Rightly so, nothing can be more important than communicating factual statistics on the structure and dynamics of our society as part of providing high quality statistics fit for policy decision making. *Statistics is appealing and deserves to be told*. After all, *we are the source of knowledge*. How can we make our policy, professional and private users (i) understand, (ii) access, (iii) use, (iv) trust our wealth of statistics?

**Increasing demand for explaining international and national statistics**

We are experiencing an increasing demand for official national and international statistics that supports multilateral surveillance purposes and that allows policy makers and citizens to compare statistics reflecting the developments among countries and across economic areas across and continents. The increased focus on statistics reflects the need to better understand the underlying differences in our national (geographical or economic area) structures, its composition and dynamics. In an open market economy where financial intermediaries and corporates operate across various jurisdictions and geographical areas and where goods and services flows easily cross borders, the demand for comparing national and international statistics and structures is a forefront priority for analysts and policy makers. This trend will continue and is impacted by the globalisation and “data everywhere” and may have – at least in our case - been amplified by the financial crisis.

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<sup>1</sup> The opinions expressed in this paper are those of the author and not necessarily those of the European Central Bank (ECB) or the European System of Central Banks (ESCB).

## **Statisticians are continually challenged to explain complex financial and economic phenomena**

Understanding core external users' need for statistics is important as we, as statisticians, are continually challenged to explain complex financial and economic phenomena, as well as their relative importance in, and impact on, today's society.

This requires – apart from conceptual statistical knowledge – the ability of the statistician to understand users' needs, their barriers to access the data and their associated working processes, as part of generating suggestions for facilitating the understanding and accessibility of our statistics.

By implementing a pro-active user driven communication concept, statistics will be easily understood, accessed and used<sup>2</sup>, redistributed throughout the society and referred to in the academic and political debate as part of supporting the evidence based decision-making process, both at national and international level.

The proposals from the diverse user community relate mainly to the structure and to offer - new or existing - functionalities which would facilitate the understanding and increase the use of the national and international statistics.

The Statisticians need to focus on serving user needs but also to breakdown internal barriers and misperception of the function of communication of statistics.

How many times have you not heard the feed-back from statisticians that "...but it is all there" and we should expect that the "*users should spend some [more] time in trying it out before approaching us*" or "*it is all explained in the help function*", "*read the manual or FAQs*" or even worse users should understand "*the language of statisticians*" or "*now I have explained what it means to the policy makers so now they understand our statistics*" – but for how long. I am sure you know similar and better examples. The resistance to change exist also within the field of statistics.

We need to move towards a service oriented statistical function using the latest technological tools. We are statisticians and our communication should make statistics sense and be economic meaningful and follow a conceptual approach.

I could categorise the need for change into seven broad groups related to:

- i. Reorganising the statistics to make them easy to find, select, view and extract relevant data using standard tools;

*This is not an IT issue – this has to make business and conceptual sense – Who has a video explaining to the users what type of statistics can be found on my website? Or even just to provide to provide an overview. "Welcome to the statistics webpage of xxx. On our website you can find statistics related to yyyy. This statistics covers this type of statistics....*

- ii. Providing the ability to slice, dice and view selected statistics before downloading for use elsewhere;

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<sup>2</sup> Found and tracked in databases for regular use in articles, models and news.

- iii. Allowing an easy replication of graphs/charts used in our articles and publications and facilitate the simple operation of “copying/pasting” statistics, tables and charts within users own professional work;
- iv. Enhancing the visualisation and graphics tools for facilitating the understanding of statistics and to easily obtain an overview of the characteristics and changes to the statistics;

*This is again not an IT issue – this has to make business and conceptual sense – which statistics and which breakdowns make conceptual sense to present? in which way are they best understood?*

- v. The ability to combine statistics series in one view and give the user the ability to select his/her own series, creating own indicators, time dimensions and to combine statistics from other data sources/geographical areas;
- vi. Automatically downloading of large volumes of statistics assisted by an easy-to-use download centre facility; this is of paramount importance for large data users/vendors and their ability to re-distribute your statistics to core users throughout the economy.
- vii. A residual category including facilities to simplify the understanding, navigation/structuring of statistics with references to other organisations providing such facilities.

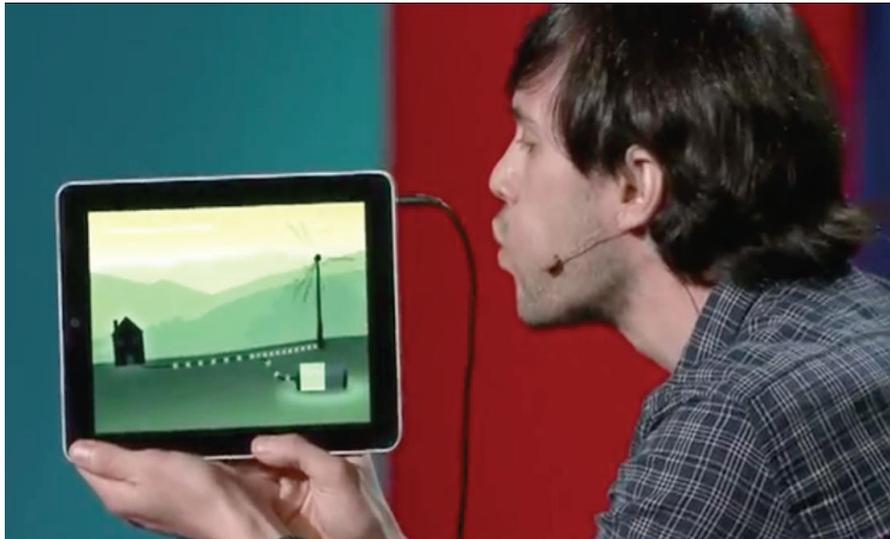
### **Future ideas for enhancing the statistics communication function based on “best practices”**

During the past two years, the central banking community have viewed and screened the market and experiences of other similar statistics organisations and private enterprises as we well acknowledge that we have far too go to match other national and international organisations engaged in statistics.

Let me give you 10 examples from the continuously expanding and replacing tool-box!

#### **1. How to present statistics as an electronic publication?**

While watching the demo presentation, think of the (i) amount of statistics which has been included within the publication and (ii) the initiative way of presenting the statistics and (iii) the easily switching between audio and visual, how easy it is to obtain additional insight (breakdowns); and how to move back and forward as pleases.



Click here: → [E-publication](#)

## 2. Reaching out beyond your native speakers?

It is (currently) free – use of free translation services. Translations are normally time consuming and resource intensive to maintain, in particular within multi-language environments – However free automatic translation services enable statistics to be translated into many languages without significant costs - Statistics is not Einstein! And it is a free service for users – is it not in most cases a one of investment since our statistics headings are relative static – and only our statistics gets updated?

Wikiprogress uses Google automatic translations to offer information in many languages

A screenshot of the Wikiprogress website. At the top, there is a Google Translator interface with 'Traducido al: holandés' and 'Mostrar texto original' buttons. The website header includes the 'wikiprogress' logo and a search bar. A navigation menu contains 'over', 'correspondenten', 'onderwerpen', 'statistiek', and 'evenementen'. A sidebar on the left lists 'OVER', 'WELKOM', 'NIEUWS', and 'STATISTIEK'. The main content area features a large image of people holding hands over a globe, with a news headline: 'Als de wereld was geweest 25% meer rustig in de wereldeconomie hebben gekregen US 2,25 bilj...'. Below this are sections for 'Nieuws' (with links to reports from 2012), 'Progress Media Beoordeling' (with a '2012 Global Peace Index' video), and 'BLADEREN VOORUITGANG DOOR' (with a link to 'het welzijn van kinderen'). A language selection menu on the right lists various languages including español, checo, euskera, húngaro, macedonio, and suéco.

<http://www.wikiprogress.org/index.php>

### 3. Let the user easily replicate your statistics for own use – the more it is used the better!

Statistics made available via an official publication to include data tables which enable the user to copy and paste and easily access relevant statistics without any search recourse to databases. The statistics can be simply used or downloaded from tables associated with the official publication.

#### Press Conference - 15 May 2013

-  [Read the Governor's Opening Remarks \(61KB\)](#)
-  [Read the Press Conference Transcript \(143KB\)](#)
-  [Watch Webcast](#)
-  [Listen to Podcast](#)

#### Inflation Report - May 2013

[Read overview](#)

[Animated fan charts](#)

#### Charts and tables in PowerPoint

All charts and tables in the Inflation Report are available in PowerPoint. Except where stated otherwise, all data are seasonally adjusted and the source of the data is the Bank of England or the Office for National Statistics.

-  [Overview \(319KB\)](#)
-  [Money and asset prices \(1.1MB\)](#)
-  [Demand \(877KB\)](#)
-  [Output and supply \(739KB\)](#)
-  [Costs and prices \(899KB\)](#)
-  [Prospects for inflation \(941KB\)](#)

#### Data for charts in Excel

Data for charts in 'Money and asset prices', 'Demand', 'Output and supply' and 'Costs and prices' are available in Excel. Please note that some Inflation Report charts contain statistics that have been provided to the Bank of England by third parties. The Bank of England has reproduced this third-party data only where it has been able to obtain permission to do so.

-  [Money and asset prices \(602KB\)](#)
-  [Demand \(135KB\)](#)
-  [Output and supply \(115KB\)](#)
-  [Costs and prices \(1.0MB\)](#)

<http://www.bankofengland.co.uk/publications/Pages/inflationreport/2013/ir1302.aspx>

#### 4. Let the user use statistics during business travel!

Banco de Portugal has made an adaptation of its web application to mobile devices. The advantage of this approach is that it is valid for all the devices, independently of the operating system of the mobile device.



#### 5. Use of twitter to communicate short news and releases!



## 6. Easy to navigate and to select statistics following logical statistics concepts

After selecting the database/table, the user can select the dimensions and values that will be shown in the table. It can also pivot the dimensions and order them in the table easily.

**STATcube — Statistical Database of Statistics Austria**

cube

Databases Tables Fields Search

TableVIEW ChartVIEW ColourVIEW

SAVE AS LANGUAGES LOGOUT

**Resident population annual average**

Values: Resident population annual average Layer:

Fields: Time section Filters:

Time section	
1982	7,574,140
1983	7,561,910
1984	7,561,434
1985	7,564,984
1986	7,569,794
2011	8,420,900

Q: STATISTICS AUSTRIA

Resident population annual average:

**Scope of statistics**  
Population figures according to population extrapolation by Statistics Austria

**Update**  
Extrapolation data are updated every spring.  
Last updating of cube [2012-05-14]

What next? See Tutorial ->

Percentage: Reset

<http://sdb.statistik.at/statistik.at/ext/superweb/login.do>

## 7. Easy to map and charts in the same view

Maps, tables and charts in the same view. You can select a region over the map and the table and the chart change to show the information of the selected region

State of the States

Politics Economy Wellbeing

State results for economic confidence, job creation, employer hiring and letting go, and underemployment based on Gallup data.

**Economic Index**

■ Above average ■ Average ■ Below average

2009 2010 2011

Save Map

Use the arrow to sort the state data from highest to lowest and vice versa. Click the map on the left to search by state.

State	Economic Index
West Virginia	-37
Maine	-47
Oregon	-43
Mississippi	-43
Montana	-43
Rhode Island	-43
Delaware	-43
Nevada	-42
Florida	-42
Ohio	-42
Wyoming	-41
Kentucky	-41
Louisiana	-41
Missouri	-41
Connecticut	-40

**Job Creation Index**

10 15 20 25 30 35 40

10 15 20 25 30 35 40

10 15 20 25 30 35 40

**% Letting go**

10 15 20 25 30 35 40

10 15 20 25 30 35 40

10 15 20 25 30 35 40

**% Underemployed**

10 15 20 25 30 35 40

10 15 20 25 30 35 40

10 15 20 25 30 35 40

Michigan	-39	15	33.0	18.0	21.0-24.9
Illinois	-38	12	30.4	18.9	18.0-20.9
Oklahoma	-38	21	34.8	14.1	12.0-14.9
New York	-38	8	29.3	21.3	18.0-20.9
New Jersey	-38	6	28.8	23.0	18.0-20.9
North Carolina	-38	8	29.9	21.7	18.0-20.9
California	-38	9	29.3	20.7	21.0-24.9
Washington	-38	10	30.1	20.3	18.0-20.9
Georgia	-38	17	34.9	18.1	18.0-20.9
Kansas	-35	14	30.7	16.3	12.0-14.9
Wisconsin	-35	15	31.9	16.7	15.0-17.9
Colorado	-34	13	30.8	17.7	15.0-17.9
Alaska	-34	18	35.1	15.4	15.0-17.9
South Carolina	-34	18	35.6	17.8	18.0-20.9
<b>Texas</b>	<b>-33</b>	<b>16</b>	<b>34.3</b>	<b>17.9</b>	<b>18.0-20.9</b>
Virginia	-32	17	35	17.0	15.0-17.9
Vermont	-32	15	29.1	13.8	12.0-14.9
Massachusetts	-31	14	31.5	17.1	15.0-17.9
Utah	-31	20	35.0	15.4	15.0-17.9
Hawaii	-30	13	28.8	15.5	12.0-14.9
South Dakota	-30	19	31.1	12.6	6.0-11.9
Iowa	-30	21	34.0	12.9	12.0-14.9
Maryland	-28	15	33.8	18.7	15.0-17.9
Nebraska	-27	20	32.4	12.8	12.0-14.9

Save Chart

<http://www.gallup.com/poll/125066/State-States.aspx?ref=interactive>

## 8. Easy to compare country statistics

Table, graphs and maps in the same view. You can easily select a country for country visualisation, comparison of indicators across countries.

**HICP - all items**  
 Index (2005 = 100) and percentage change  
**Index, 2005=100**  
 Harmonized Indices of Consumer Prices (HICPs) are designed for international comparisons ...

unit

geo	time	2012M08	2012M09	2012M10
Euro area (changing composition)		115.59	116.43	116.71
Euro area (17 countries)		115.65	116.49	116.77
European Union (changing compo		118.27	119.00	119.33
EU (27 countries)		118.42	119.15	119.48
Belgium		118.97	118.88	119.09
Bulgaria		145.57	146.07	145.98
Czech Republic		120.4	120.3	120.7
Denmark		116.8	117.1	117.0
Germany		113.9	113.9	114.0
Estonia		139.96	140.56	140.67
Ireland		100.5	100.1	100.0

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&tableSelection=1&labeling=labels&footnotes=yes&layout=time.geo.cat&language=en&pcode=teicp000&plugin=1>

## 9. What are the most commonly used statistics

It is important to have a set of tools that cover the most commonly needs statistics for the general public (simple tools that offered the most popular series). It shows the most popular series, using graphical visualization tools. It also has tools to easily get large volumes of statistics in Excel.

AT A GLANCE POPULAR SERIES LATEST RELEASES TOOLS NEED HELP?

rollover graph icon for an expanded view

<p><b>CPI</b> +1.5 % Chg. from Yr. Ago on 2013-03</p> <input type="text"/> ↓	<p><b>US/Euro FX Rate</b> 1.2955 U.S. \$ to 1 Euro on 2013-05-10</p> <input type="text"/> ↓
<p><b>Real GDP</b> +2.5 %, Comp. Annual Rate of Chg. on 2013:Q1</p> <input type="text"/> ↑	<p><b>Civ. Unemploy. Rate</b> 7.5 % on 2013-04</p> <input type="text"/> ↓
<p><b>IP</b> -0.5 % Chg. on 2013-04</p> <input type="text"/> ↓	<p><b>Payroll Employment</b> +165 Chg., Thous. of Persons on 2013-04</p> <input type="text"/> ↑
<p><b>10-Yr. Treas. Rate</b> 1.96 % on 2013-05-14</p> <input type="text"/> ↑	<p><b>Initial Jobless Claims, 4-Week Moving Average</b> 336750 on 2013-05-04</p> <input type="text"/> ↓

**Get FRED data directly in Excel®**

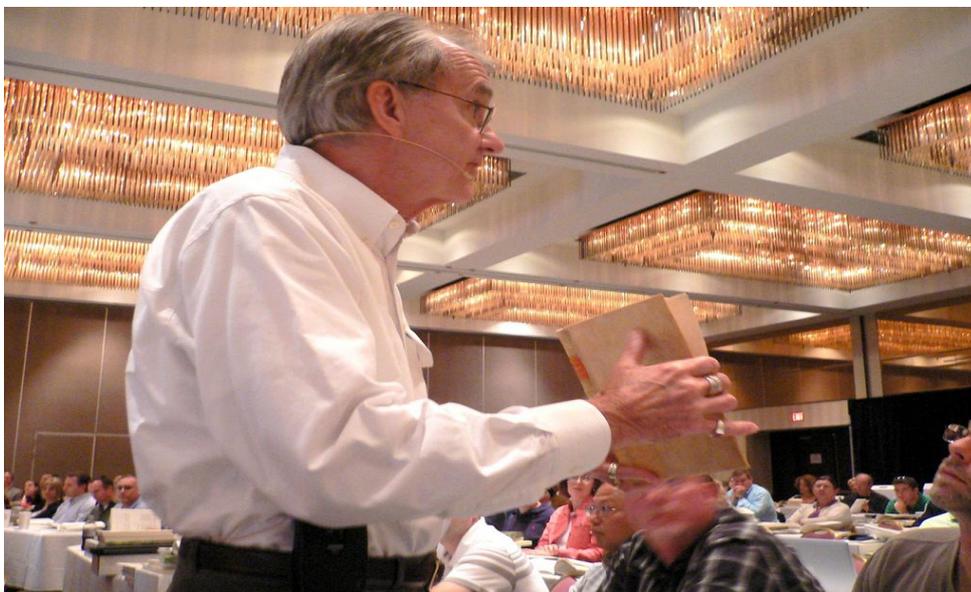
**One-click instant download** with the FRED Add-in for Microsoft® Excel®.



ECONOMIC DATA | ST. LOUIS FED

<http://research.stlouisfed.org/fred2/>

## 10. Communicate – visualise - communicate and visualise



“We shouldn't abbreviate the truth but rather get a new method of presentation” Edward Tufte

Research shows that approximately 65 per cent of the population are visual learners; the brain processes visual information 60,000 faster than text and 90 per cent of information that comes to the brain is visual. (Source: [www.visualteachingalliance.com](http://www.visualteachingalliance.com))

Other research say that on average that 29% have a visual preference; 34% are auditory and 37 % are kinaesthetic“(Source: Smith: In Truner, T& Frost, T. 2005, 146).

Further research indicates that researchers known that specific parts of the brain activate when people view particular images and new findings support the current models that memory is not located in specific brain modules but in the concerted action of distributed networks in the brain. (Source: ScienceDaily (Feb. 6, 2012)).

***Visualisation requires a strategy; easy to use and sharing tools. Try Arm charts or high charts!***

Today there exist only few barriers for visualisation – it is not expensive, it is easy to use and it does not require technical programming language to use. The challenge is to design and present the statistics, to write the story and to ensure that others can easily use and share the statistics.

Sharing and open source is key to our success. Take a look at the available free and easy to use tools....



[selection.datavisualization.ch](http://selection.datavisualization.ch)

### Looking backwards

Statistics need to be proactively communicated by engaging users in understanding, using, re-distributing and actively building stories as part of integrate statistics within the users' business processes.

Statisticians need to significantly prioritize the statistical communication function by working together with users and other statisticians and to benefit from the available tools and functionalities for supporting and explaining statistics to external users and to facilitate their use of statistics.

The statistician needs to embrace the opportunities for establishing a statistics communication strategy and to interact and share tools with other statistics organisations. This is important as we are all engaged - both national and international organisations - in the “same business” and have the same interest in making our statistics known and used. This is in particular needed considering current budget and resource constraints. Furthermore, we already have significant statistics knowledge, know-how and web-site functionality available within the community which could be adjusted and applied to other statistics organisations with minimal effort. We are even more privileged as we have existing structured production facilities and standard series keys. Why are we not exchanging and sharing tools and add-ons which can be plug-in into any other standard (non-propriety) dissemination system? Are we a prisoner of our own statistics system? Dissemination of statistics relates to store statistics in a database. The communication function starts hereafter by building stories, tools and add-ons to design and present the statistics available in these databases.

It is time to look forward and create our own exchangeable market for sharing functionalities and tools among statisticians.