**Promoting Civic Engagement via Exploration of Evidence:
Challenges for Statistics Education**

ProCivicStat © - Workshop at IASE Roundtable Berlin, July 19-22, 2016

Exploration of skills and knowledge needed for understanding statistics about society

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This Booklet was prepared as a product of ProCivicStat, a strategic partnership of the Universities of Durham, Haifa, Ludwigsburg, Paderborn, Porto and Szeged, funded by the ERASMUS+ program of the European Commission. The booklet contains a set of tasks using authentic texts and displays that involve statistics about society, sampled from diverse sources, e.g., publications of official statistics agencies, articles in TV, newspapers and web-based news channels, advocacy groups and NGOs, academia, etc. The tasks have been designed to provoke participants' reflections about the statistical knowledge and skills that [young] adults need for civic engagement, and about needed changes or new directions in statistics education.

For more information, visit the **ProCivicStat website**: **http://community.dur.ac.uk/procivic.stat**

List of tasks in this booklet

Task #	Civic area	Topic / details	Country	Source
Task 1	Well being	OECD Better Life Index	OECD	OECD
Task 2	Health, environment, population, education	Dynamic display: Pollution and weight	World	Gapminder Foundation
Task 3	Voting behavior	Dynamic display: Brexit	UK	House of Commons
Task 4	Health Risks	Dynamic display: Sexually Transmitted Diseases	UK	Health Protection Agency
Task 5	Environment	Dynamic GIF: Ice Volume	World	University USA
Task 6	Life expectancy	Dynamic display: Probability of age of death	USA	Social Security Administration
Task 7	Employment	Graph: women in economy	Norway	Eurostat
Task 8	Health	Mortality rates, probability	USA	Academic paper
Task 9	Poverty	Risk of poverty, income	Portugal	Statistics Portugal
Task 10	Migration	Migration trends	Europe	Eurostat
Task 11	Social diversity	Estimate of population size	USA	Newspaper
Task 12	Unemployment	Job statistics, data quality	Australia	ABS, ABC newspaper
Task 13	Economy, inequality	Country analysis	Israel	OECD
Task 14	Pollution	Health risks, policy impact	Germany	NGO, gov. report

Background - about ProCivicStat and this workshop:

Civic statistics involve concepts or ideas not commonly found in introductory statistics courses. For example: data are *multivariate*; relations are often *non-linear*; variables *interact*; data are often *aggregated*. We at ProCivicStat believe that, to equip young adults well to face the challenges of an increasingly data-rich world and engage statistics about society, current curricula would benefit from being revised by incorporating some new concepts. In the longer term, a 'from the ground up' rethink is needed about the statistics education that is needed.

To support such developments, we are creating a conceptual structure to map out the knowledge, skills and dispositions associated with statistics that are used to illuminate social phenomena, i.e., "civic statistics". The Cube Model below (still a working draft, open to commentary) will be valuable as a basis from which to plan learning resources and materials that can help to prepare students for informed civic engagement in a data-rich world.

What to do:
1. **Read the tasks assigned to your group** - see Green page
2. **Answer the Analysis questions for each task** - they change from task to task
3. **Fill the Task Reflection Form, after each task**
4. **Discuss your thoughts in your small group**

- **Note 1 - the tasks**: Tasks were sampled from an infinite collection, to illustrate a range of real-world demands on citizens, and to provoke your thinking. The booklet first shows tasks focused on graphical displays or dynamic data visualizations (access the URL inside a task, to see it in full), followed by text-based tasks, all taken from diverse sources.

- **Note 2 - the Reflection Form:** It asks you to think what knowledge & skills *you* used to understand the materials in the tasks, and to reflect critically about the conceptual Cube model (below). The thinking and reflection are a critical aspect of this workshop.

- **Note 3 - the Cube model:** Details of each dimension are not specified on the faces of the cube below, for lack of space. An upcoming PCS paper will explain them in more detail.

Please send us feedback or ideas–write to any of us: **Iddo Gal** <iddo@research.haifa.ac.il>, **Jim Ridgway** <jim.ridgway@durham.ac.uk>, **James Nicholson** <j.r.nicholson@durham.ac.uk>
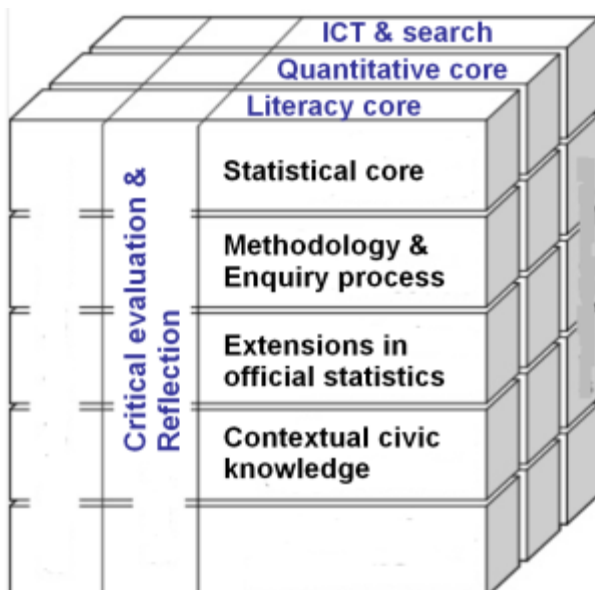
Task 1: OECD Better Life Index

Background: The OECD Better Life Index focuses on aspects of life that matter to people and that influence the quality of their lives. This chart shows different aspects of areas of well-being in Germany, based on a ranking of all OECD countries. Longer lines show areas of relative strength, shorter lines show areas of relative weakness.
Details: www.oecd.org/statistics/Better-Life-Initiative-2016- country-notes-data.xlsx.

Instructions:

1. Examine the display below. Then continue with the Instructions afterwards.

Current well-being in Germany

Instructions (cont.):

2. Analysis questions:

   Q1: What statistical knowledge do you need to make sense of this graphic?

   Q2: What statistical questions do you have about the validity of this approach?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).
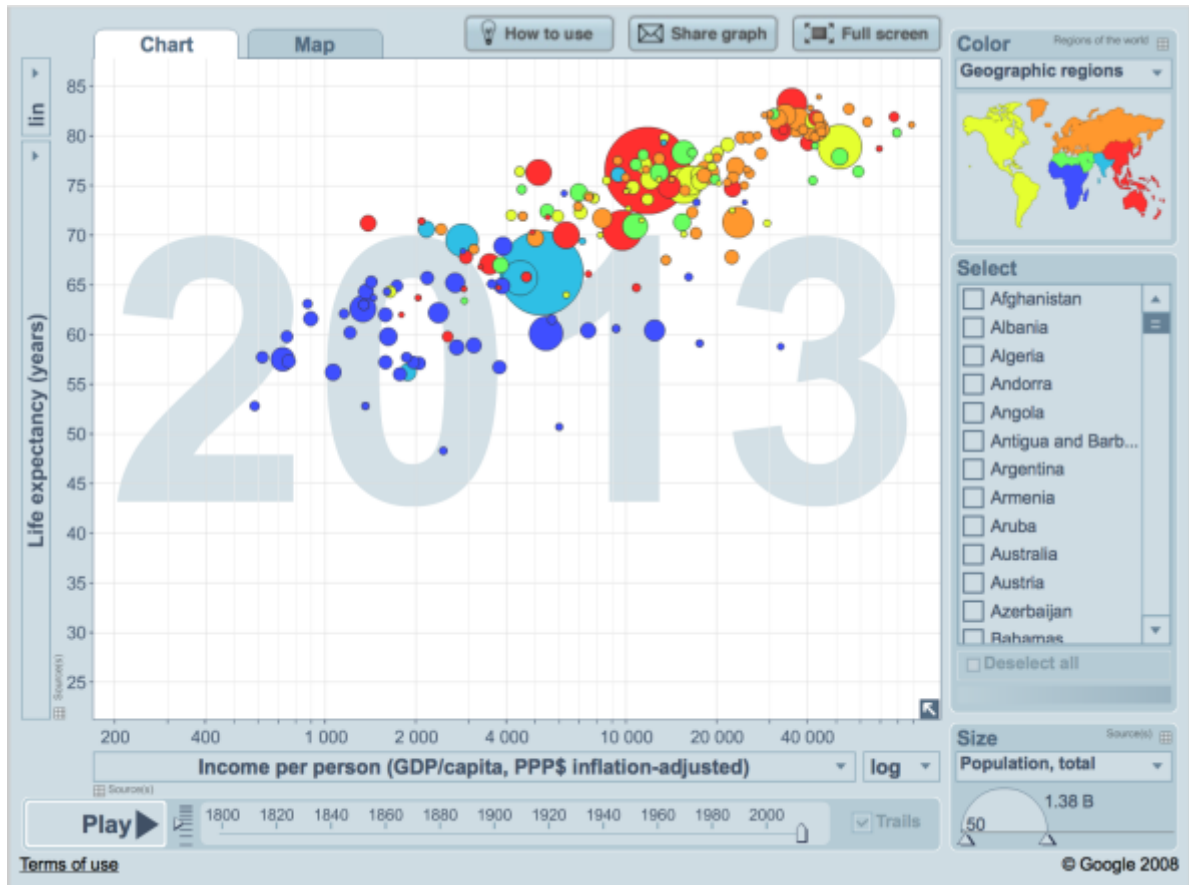
Task 2: Gapminder World

Background: Gapminder offers web-based interactive tools designed to develop public understanding of important facts about the state of the world.

Instructions:

1. Find Gapminder on the web: http://www.gapminder.org/world
   Start to explore it. Then continue with the Instructions below.

Instructions (cont.):

2. Analysis questions:

   Q1: What is the relationship between CO2 emissions and the body mass index for men in China, Germany and the USA?

   Q2: What can you conclude?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 3: Understanding Brexit Voting Patterns

Background: The Constituency Explorer was created by Durham University and the House of Commons Library to provide data on 150+ variables for every constituency in the UK, ahead of the 2015 general election. It now includes the 2015 election results, and users can view the successes and failures of political parties, dynamically.
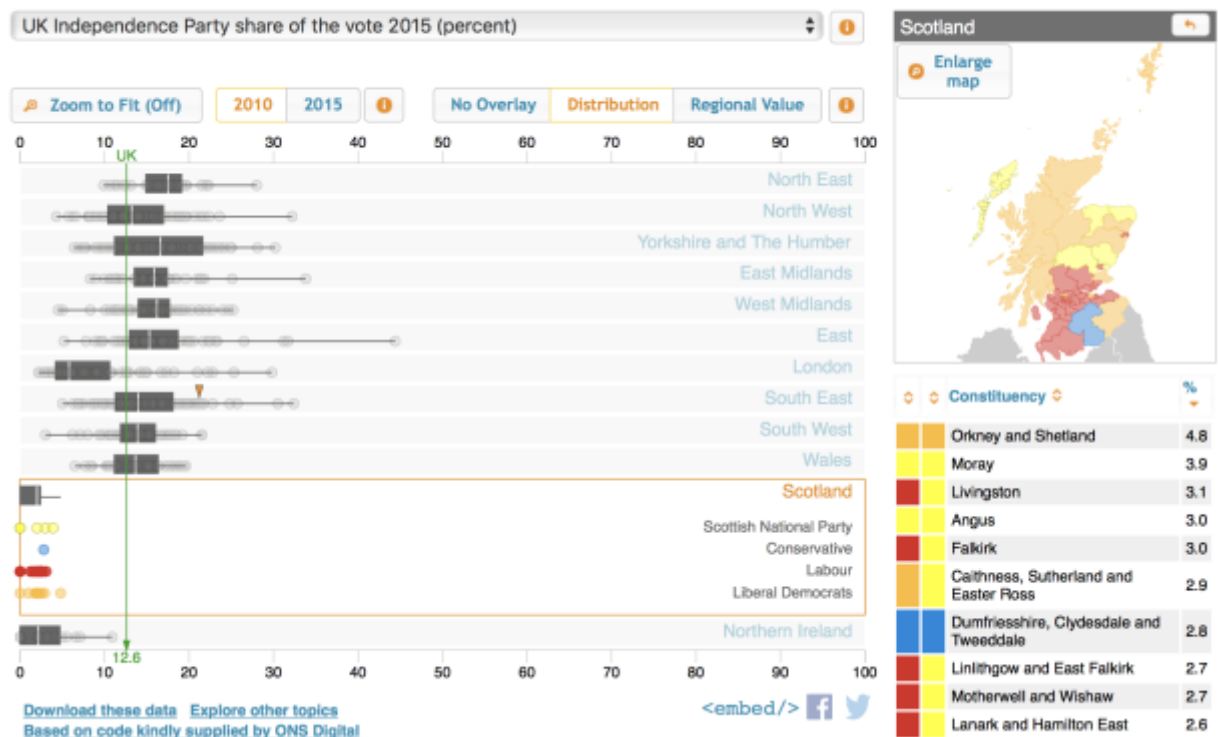
Instructions:

1. Find The Constituency Explorer on the web:
   http://www.constituencyexplorer.org.uk/explore/2015_election_results

   Start to explore it. Then continue with the Instructions below.

Constituency Explorer - 2015 Election Results

Instructions (cont.):

2. Analysis questions:

   Q1: What changes in winning party can be seen in Scotland between 2010 and 2015?

   Q2: The United Kingdom Independence Party (UKIP) strongly supported Brexit. Were there more UKIP supporters in Labour (red) or Conservative (blue) constituencies?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

# Task 4: Trends in Sexually Transmitted Diseases

Background: Data are available on new incidences of sexually transmitted diseases from every sexual health clinic in the UK. Here, we show data for the period 2000 to 2004.

Instructions:

1. Find The SMART visualization on the web:
   https://www.dur.ac.uk/resources/smart.centre/Freeware/STI_GUM_update1.swf

   Start to explore it. Then continue with the Instructions below.
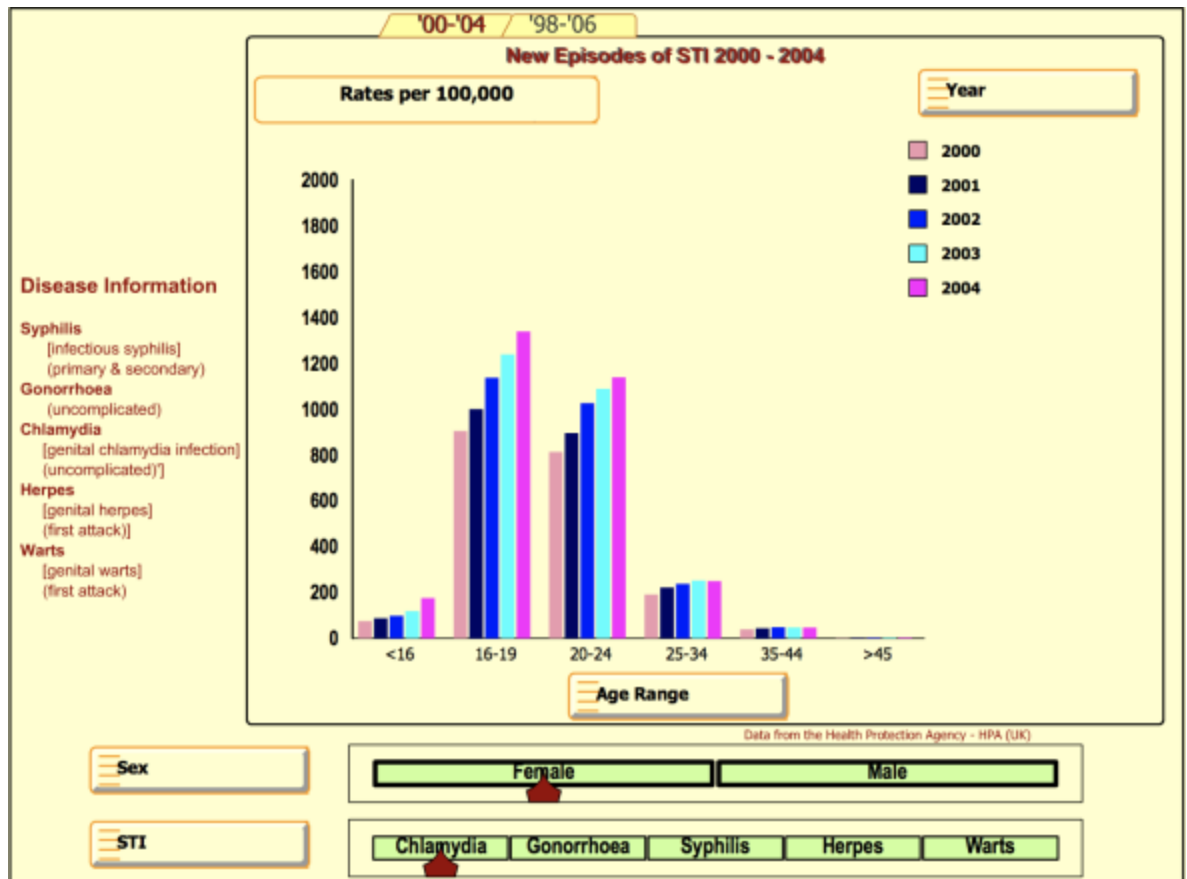
Instructions (cont.):

2. Analysis questions:

   Q1: What trends can you see in the incidence of Chlamydia over time?

   Q2: What trends can you see in the incidence of genital warts over time?

   Q3: Explain any differences you see.

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 5: Arctic Sea Ice Volume

Background: This graphic comes from the Polar Science Center at the University of Washington. There are no true measurements of total ice volume. The data shown are based on a model that is validated via submarine and satellite data; the observations are collected at the Unified Sea Ice Thickness Climate Data Record.

Instructions:

1. Search for "Arctic sea climate lab", or use this URL:
   http://www.climate-lab-book.ac.uk/files/2016/06/icevol.gif

   Under "climate spirals", run the visualization (i.e., click on photo as below) and start to explore it. Then continue with the Instructions below.
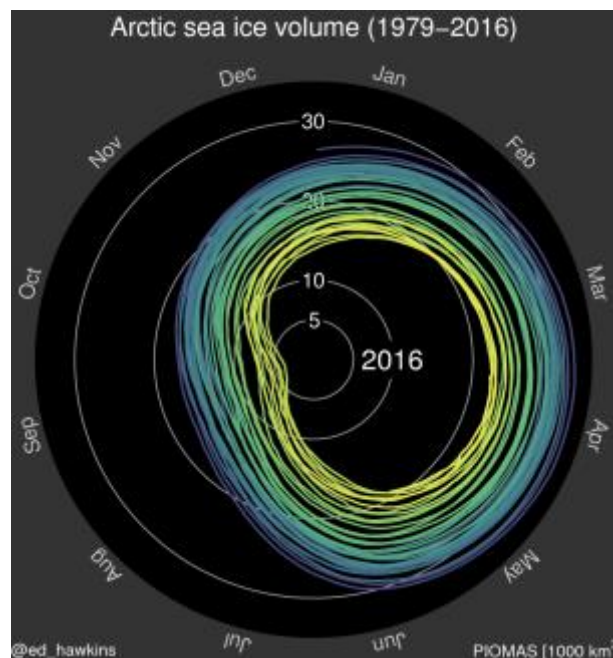
Instructions (cont.):

2. Analysis questions:

   Q1: What trends can you see (when you run the visualization)?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 6: When Will You Die ?

Background: This graphic comes from Nathan Yau's Flowingdata website. The original data is taken from the Actuarial Life Table of the Social Security Administration (USA).

Source: https://www.ssa.gov/oact/STATS/table4c6.html.

Instructions:
1. Find the Flowingdata visualization on the web:
   http://flowingdata.com/2015/09/23/years-you-have-left-to-live-probably

   Run it (scroll down, read some text). Then continue with the Instructions below.
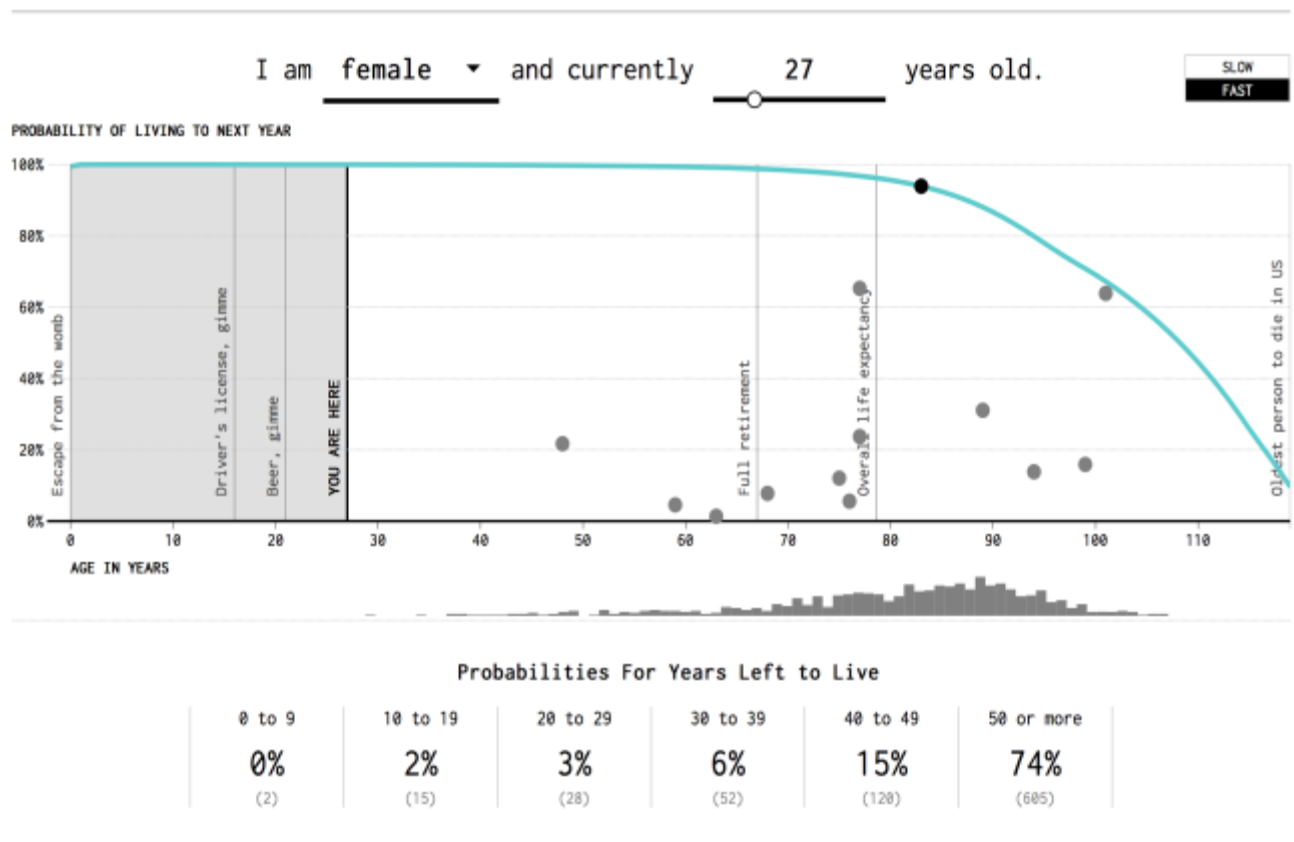
Instructions (cont.):

2. Analysis questions:

   Q1: When will *you* die?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 7: Eurostat Charts: Female employment

Background: The Eurostat widget is an application designed to be embedded in any website. It shows a selection of Eurostat data in a variety of ways. A number of different displays can be viewed. Here, we present a single sample chart.

Source: http://ec.europa.eu/eurostat/en/web/main/wtg
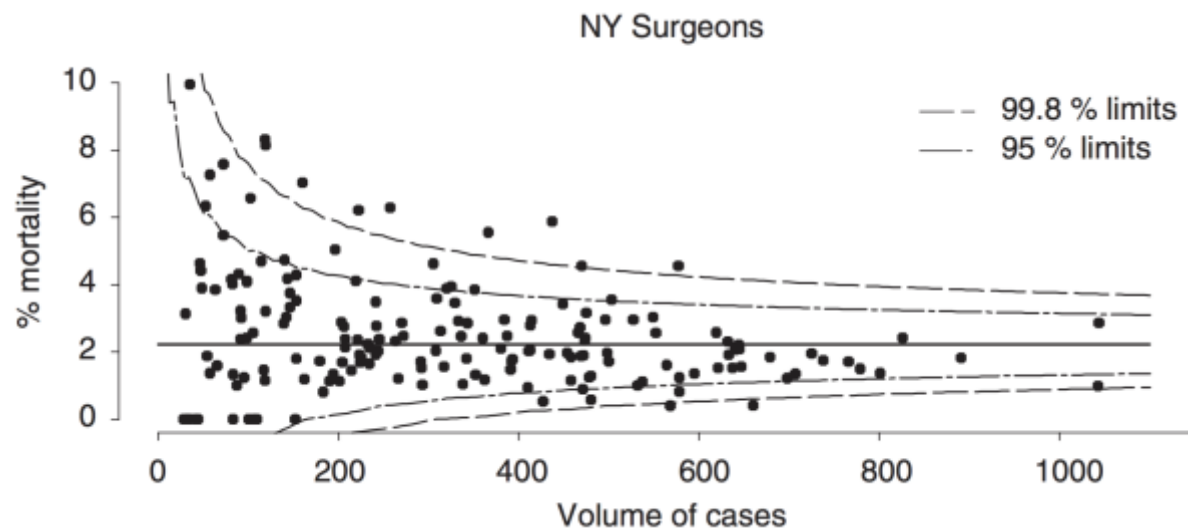

Instructions:

1. Examine the display above.

2. Analysis questions:

    Q1: What can you conclude from the graph?

    Q2: How clear is the chart? Would you change anything about it? Explain.

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 8: Mortality Rates - Funnel Plot, Risk-adjusted

Background: The Figure below shows risk-adjusted mortality rates following coronary artery bypass grafts in New York State 1997-99 for 175 surgeons who conducted at least 25 operations.

Source: Spiegelhalter, D. (2005). Statistics in Medicine 2005(14): 1185-1202. DOI: 110.1002/sim.1970

Instructions:

1. Examine the display above.

2. Analysis questions:

    Q1: How is the number of operations performed by a surgeon related to patient mortality?

    Q2: Can it be more sensible for someone to choose a surgeon with a higher mortality rate than one with a lower mortality rate for their bypass graft? Explain your answer.

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

Task 9: Poverty in Portugal

Background; This task illustrates a short press release from an official statistical agency: in this case, using texts from Statistics Portugal. *(Often, releases are longer, with tables & graphs)*.

Source: https://www.ine.pt/xportal/xmain?xpid=INE&xpgid=ine_destaques

Instructions:

1. Read the text under "Read this" below

2. Analysis questions:

   Q1: What can you conclude from the text about the chance of being poor in Portugal over 2014-2015 (i.e., the year discussed by the Press release)? Are things getting better or worse, regarding poverty in Portugal?

   Q2: What demographic characteristics do you think (from the press release) are the most important in relation to poverty in Portugal?.

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

- - - - - **Read this** -

INSTITUTO NACIONAL DE ESTATÍSTICA
STATISTICS PORTUGAL

At risk of poverty rate, in 2014-15

1. The 2015 EU Statistics on Income and Living Conditions survey provisional data on previous year incomes indicates that 19.5% of people were at risk of poverty in 2014, keeping the value of the previous year. The risk of poverty for the elderly population has increased for the second consecutive year.

2. The presence of children in a household is associated to a higher risk of poverty, reaching 22.2% for households with dependent children vis-à-vis 16.7% for households without dependent children.

3. The at-risk-of-poverty rate for the unemployed population was 40.2% in 2014, a rise of 1.9 p.p. when compared to the previous year, and the proportion of people less than 60 years of age living in very low work intensity households increased 2.0 p.p. to a value of 12.2% in 2012.

4. More than 50% of the population that had completed secondary education was included in the two highest income classes. In contrast, almost half of the population that at most had completed primary education, and more than 60 % of the unemployed, lived in 2014 with an equivalent income of less than about 610 euro per month.

5. There was also a *reduction* in the asymmetry of the income distribution in 2014, with a Gini Coefficient of 34.0 % (half p.p. less than the previous year) and a ratio S80/S20 of 6.0 (6.2 in 2013).

Task 10: Eurostat Migration Statistics

Background; This task contains selected text and data from Eurostat, about Migration and Migrants in Europe in 2014. Eurostat is the official statistical agency of the European Union. The website aims to not just present core data, but also annotate and explain the data to citizens. *Note*: The current task uses only a portion from the full text on the website, which also has many tables and graphs.

Source: http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics

Instructions:

1. Read the text under "Read this" below

2. Analysis questions:

   Q1: If such an Immigration pattern continued, can it contribute to Europe's ability to cope with an aging workforce and growing elderly population?

   Q2: Which 3-4 countries were most affected by Immigration in 2014?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

- - - - - **Read this** -

Migration flows

eurostat
Statistics Explained

1. A total of 3.8 million people *immigrated* to one of the EU-28 Member States during 2014, while at least 2.8 million *emigrants* were reported to have left an EU Member State. These total figures do not represent the migration flows to/from the EU as a whole, since they also include flows between different EU Member States.

2. Among these 3.8 million immigrants during 2014, as shown in Figure 1, there were an estimated 1.6 million citizens of non-member countries, 1.3 million people with citizenship of a different EU Member State from the one to which they immigrated, around 870 thousand people who migrated to an EU Member State of which they had the citizenship (for example, returning nationals or nationals born abroad), and some 12.4 thousand stateless people.

3. Immigrants into EU Member States in 2014 were, on average, much younger than the total population already resident in their country of destination. On 1 January 2015, the median age of the total population of the EU-28 was 42 years. By contrast, the median age of immigrants to EU-28 in 2014 was 28 years.

4. As shown in Figure 1 (next page), Germany reported the largest total number of immigrants (884.9 thousand) in 2014, followed by the United Kingdom (632.0 thousand), France (339.9 thousand), Spain (305.5 thousand) and Italy (277.6 thousand). Spain reported the highest number of emigrants in 2014 (400.4 thousand), followed by Germany (324.2 thousand), the United Kingdom (319.1 thousand), France (294.1 thousand) and Poland (268.3 thousand).

5. Relative to the size of the resident population, Luxembourg recorded the highest rates of immigration in 2014 (40 immigrants per 1 000 persons), followed by Malta (21 immigrants per 1 000 persons) and Ireland (15 immigrants per 1 000 persons) — see Figure 1. The highest rates of emigration in 2014 were reported for Cyprus (28 emigrants per 1 000 persons), Luxembourg (20 emigrants per 1 000 persons) and Ireland (18 immigrants per 1 000 persons).

Migrant population

6. There were 34.3 million people born outside of the EU-28 living in an EU Member State on 1 January 2015, while there were 18.5 million persons who had been born in a different EU Member State from the one where they were resident. Only in Hungary, Ireland, Luxembourg, Slovakia and Cyprus was the number of persons born in other EU Member States higher than the number born outside of the EU-28.

Figure 1: Immigration in Europe, by citizenship, 2014

| | Total immigrants | Nationals | | | Non-nationals | | | | | | | | |
| | | | | | Total | | Citizens of other EU Member States | | Citizens of non-member countries | | Stateless | | |
	(thousands)	(thousands)	(%)		(thousands)	(%)	(thousands)	(%)	(thousands)	(%)	(thousands)	(%)
Belgium	124.8	17.6	14.1		105.9	84.9	64.6	51.8	41.3	33.1	0.0	0.0
Bulgaria	26.6	9.5	35.7		17.0	64.0	1.4	5.4	15.3	57.4	0.3	1.2
Czech Republic	29.9	5.8	19.3		24.1	80.7	14.8	49.3	9.4	31.4	0.0	0.0
Denmark	68.4	19.3	28.3		49.0	71.7	23.8	34.9	24.5	35.8	0.7	1.0
Germany	884.9	88.4	10.0		790.2	89.3	415.9	47.0	372.4	42.1	1.9	0.2
Estonia	3.9	2.6	65.5		1.3	34.4	0.2	4.0	1.2	29.6	0.0	0.8
Ireland	67.4	12.4	18.4		55.0	81.6	26.2	38.8	28.7	42.6	0.1	0.1
Greece	59.0	29.5	50.0		29.5	50.0	16.0	27.1	13.5	22.9	0.0	0.0
Spain	305.5	41.0	13.4		264.5	86.6	100.0	32.7	164.4	53.8	0.1	0.0
France	339.9	126.2	37.1		213.7	62.9	83.5	24.6	130.2	38.3	0.0	0.0
Croatia	10.6	4.8	45.3		5.8	54.6	2.3	21.9	3.5	32.6	0.0	0.1
Italy	277.6	29.3	10.5		248.4	89.5	68.1	24.5	180.3	64.9	0.0	0.0
Cyprus	9.2	1.4	15.3		7.8	84.7	3.7	40.8	4.0	43.9	0.0	0.0
Latvia	10.4	5.9	56.6		4.4	42.9	0.9	8.9	3.5	33.9	0.0	0.1
Lithuania	24.3	19.5	80.4		4.8	19.6	0.7	2.7	4.1	16.8	0.0	0.1
Luxembourg	22.3	1.3	5.9		21.0	94.0	16.5	74.1	4.4	19.9	0.0	0.0
Hungary	54.6	28.6	52.4		26.0	47.6	10.5	19.3	15.5	28.3	0.0	0.0
Malta	8.9	1.8	20.5		7.1	79.5	4.4	49.6	2.7	29.9	0.0	0.0
Netherlands	145.3	37.4	25.8		107.8	74.2	58.4	40.2	47.8	32.9	1.6	1.1
Austria	116.3	9.2	7.9		106.9	92.0	67.0	57.6	39.4	33.9	0.5	0.4
Poland	222.3	127.8	57.5		94.3	42.4	27.2	12.3	67.0	30.1	0.1	0.0
Portugal	19.5	10.2	52.4		9.3	47.6	3.4	17.3	5.9	30.3	0.0	0.0
Romania	136.0	123.9	91.1		12.1	8.9	1.2	0.9	10.9	8.0	0.0	0.0
Slovenia	13.8	2.5	18.3		11.3	81.7	3.3	23.6	8.0	58.1	0.0	0.0
Slovakia	5.4	2.9	54.9		2.4	45.1	2.0	36.8	0.4	8.3	0.0	0.0
Finland	31.5	7.9	24.9		23.1	73.4	9.5	30.1	13.6	43.1	0.1	0.2
Sweden	127.0	20.9	16.4		105.6	83.2	28.1	22.1	70.7	55.7	6.8	5.3
United Kingdom	632.0	81.3	12.9		550.7	87.1	263.6	41.7	287.1	45.4	0.0	0.0
Iceland	5.4	1.9	35.8		3.4	64.2	2.9	53.2	0.6	10.3	0.0	0.8
Liechtenstein	0.6	0.2	26.7		0.5	73.3	0.2	39.8	0.2	33.5	0.0	0.0
Norway	66.9	6.9	10.3		60.0	89.6	35.1	52.5	24.3	36.3	0.6	0.8
Switzerland	156.3	26.2	16.7		130.1	83.2	94.4	60.4	35.7	22.9	0.0	0.0

(¹) The values for the different categories of citizenship may not sum to the total due to rounding and the exclusion of the category 'unknown citizenship' from the table.

Task 11: Population estimates - gay people

Background: This task contains portions from a Washington Post article about a national survey that estimated [among other things] the size of the gay population in the USA.

Source: https://www.washingtonpost.com/national/gay-rights-groups-dispute-federal-surveys-estimate-of-population/2014/07/31/6e614f62-1731-11e4-9349-84d4a85be981_story.html

Instructions:

1. Read the text under "Read this" below

2. Analysis questions:

   Q1: What are the main concerns about the NHIS survey that this article raises?

   Q2: Based on the information in the article, what would be your best guess of the proportion of the population (in the USA) who are actually gay, lesbian or bisexual?

3. Fill in the Task Reflection form.

4. Discuss your impressions and thoughts with your group (add notes if needed).

- - - - - **See this** -

Gay-rights groups dispute federal survey's estimate of population

The Washington Post

By Sandhya Somashekhar   August 1, 2014

1. Gay-rights activists are distressed over the results of the first large-scale federal survey measuring sexual orientation in the United States, which reported in July that less than 3 percent of the population identifies as gay, lesbian or bisexual.

2. They contend it is a gross undercount and are particularly upset because they worked for years to get sexual orientation added to the 57-year-old National Health Interview Survey (NHIS), the government's premier measure of Americans' health statuses and behaviors. Now, the activists worry that the results will reduce the urgency of their causes.

3. The NHIS was a top priority for gay-rights groups...because it is used to guide federal decisions on health care. Studies have shown that gays are more likely than straight people to smoke, and bisexuals experience particular disparities on a variety of measures.

4. The influential NHIS, which queried about 35,000 adults last year, found that 2.3 percent of the adult population identified as being gay, lesbian or bisexual. Of those surveyed 1.6 percent labeled themselves as gay or lesbian, 0.7 percent as bisexual. Another 1.1 percent responded that they were "something else," did not know their sexual orientation or declined to say, and 96.6 percent said they were straight.

5. A number of conservative groups immediately seized on the news. The survey "confirms what we already knew, that only 1 to 3 percent of the population identifies as gay, lesbian

or bisexual," Jeff Johnston, issues analyst with Focus on the Family, a Christian nonprofit that opposes gay rights, said in a statement. He added. "The average person thinks the percentage is much higher, probably because of the high profile that entertainment, news media and other influential sources have given homosexuality in recent years."

6. [Activists] believe that the survey, which is administered by the Centers for Disease Control and Prevention, is flawed. They point to other surveys, including some scholarly papers and less prominent government studies, that peg the number at closer to 4 percent.

7. Data collection has long been a priority of the gay-rights movement, which has struggled with a lack of detailed information about the community's contours ....The few scholarly surveys that have tried to size up the gay population typically found that the number of people who identified as gay, lesbian or bisexual is about 3.5 percent to 4 percent, with about half labeling themselves bisexual. The overall proportion rises when the question is adjusted to ask not about identity but about sexual behaviors, attractions or experiences.

8. There are broad misconceptions about the numbers, however. Many Americans believe the proportion of U.S. gays to be 1 in 10 — a false figure promoted in the 1960s, drawn from a book by sex researcher Alfred Kinsey. The polling organization Gallup has found that a majority of Americans actually believe the proportion is even higher, closer to 25 percent.

9. Some activists believe that the survey would have yielded more candid results had the questions been asked indirectly or more discreetly. The survey was conducted through a series of in-person interviews in people's homes. Interviewers took verbal responses and entered them into a laptop. On sexual orientation, they asked, "Which of the following best represents how you think of yourself?" Respondents were given the option, depending on their sex, to respond as gay or lesbian, straight, bisexual, "something else," or "I don't know the answer."

10. For example, the 2013 National Adult Tobacco Survey, a larger but less prominent CDC study, interviewed respondents exclusively over the phone. The results more resembled what gay-rights groups had expected. It found that 3.5 percent of Americans considered themselves gay, lesbian or bisexual, with 1.9 percent labeling themselves gay or lesbian and 1.6 percent identifying as bisexual.

11. But the CDC conducted rigorous tests to come up with the questions and interview method for the NHIS, researchers with the CDC's National Center on Health Statistics said. They conducted more than 100 in-depth interviews — far more than is typical — and did three field tests, including one in which they experimented with a more private interview method that allowed respondents to listen to questions using headphones and type their answers into a computer.

12. The researchers found no difference in the results using the two methods, said James Dahlhamer, a health statistician with the CDC. The agency is investigating why the NHIS results are so different from those of other surveys, he said. "There was a lot of testing that went into the front end in terms of the development of the question, but we are always striving to improve our questions," he said.....

Task 12: Unemployment data in Australia

Background: This task contains portions from two linked articles about unemployment levels in Australia. Article 1 (This page), from an e-newspaper, provided a link to another article (next page) about data released by ABS, the Australian Bureau of Statistics.

Source: http://www.abc.net.au/news/2016-02-18/jobs-unemployment-data-abs-january-2016/7180032

Instructions:

1. Read the text under "Read this" below.

2. Analysis questions:

   Q1: What seems to be the problem with the ABS data?

   Q2: Why should we care? what is the economic and social significance if unemployment statistics are flawed or inaccurate?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

- - - - - **Read this** -

Article 1: Unemployment rises unexpectedly to 6pc as nearly 8,000 jobs lost

NEWS

By ABC business reporter Michael Janda   February 18, 2016

Related Story: Analysis: Lies, damned lies, and jobs statistics   (See next page!)

1. The Australian Bureau of Statistics has announced today that unemployment rose from 5.8 to 6 per cent in January. The worst feature of today's figures was a 40,600 decrease in full-time employment, partly offset by an increase in part-time jobs of 32,700.

2. The result came as a surprise to most analysts, who had been expecting recent positive trends in jobs growth to continue. A Reuters survey of 19 economists showed that the typical forecast was for unemployment to stay steady at 5.8 per cent and 15,000 jobs to have been added last month.

3. The "Participation rate", which measures the proportion of the adult population in work or looking for it - remained steady at 65.2 per cent. The more stable trend unemployment rate, which smoothes out monthly volatility, actually fell slightly from 5.9 to 5.8 per cent last month. The Bureau of Statistics said the latest data show that unemployment fell from 6.2 to 5.8 per cent over the year in trend terms, while the employment to population ratio rose to 61.4 per cent.

4. "The trend shows that around 302,000 more people were employed in January 2016 than in January 2015 and full-time employment growth was a bit stronger than part-time growth over the year, increasing by 169,800 people," said Bruce Hockman, the head of the ABS' macroeconomic statistics division.

===== A linked "related story" on quality of ABS jobs data =====

http://www.abc.net.au/news/2016-02-17/jobs-data-unreliable-as-unemployment-likely-to-be-steady/7176814

Article 2: Analysis: Lies, damned lies, and jobs statistics

By business reporter Neal Woolrich   February 18, 2016

5. A wide range of economists - including the Reserve Bank governor and Treasury secretary - have cast doubt on the reliability of recent ABS estimates. Former ABS head Bill McLennan went as far as telling the Financial Review that the previous half-dozen employment surveys were "not worth the paper they're written on".

6. The governor of the Reserve Bank, Glenn Stevens, in his testimony.... has added his voice to a growing chorus of economists questioning the monthly Labour Force survey published by the Australian Bureau of Statistics....Paul Bloxham, chief economist at HSBC Australia (a private bank), said, "The labour force statistics for Australia have become increasingly problematic, with measurement issues that imply a significant amount of volatility in those numbers...."

7. The problems were first made public in October 2014, when the ABS announced a technical review into the way it seasonally adjusted the jobs numbers. Seasonal adjustment is a statistical technique to strip out the impact of seasonal factors on the raw data, such as public holidays.

8. The ABS numbers say that there have been about 477,000 jobs created over the past two years, our index suggests it is probably closer to 300,000–350,000 jobs. The ABS was forced to act after three months of wild swings in its seasonally adjusted employment figures, including an estimate that a near-record 121,000 jobs were created in August 2014.

9. The Australian Statistician, David Kalisch, is standing by the overall quality of the numbers, and promises an ongoing review of the methodology. "Australians can be confident about the quality and the integrity of our labour force estimates," Mr Kalisch told ABC TV's The Business.

10. "The ABS has been producing these numbers for the last 50 years and we've been testing and refining those systems and processes over that time." Mr Kalisch said the bureau's preferred measure of employment is its trend estimate, rather than the seasonally adjusted figures.

Task 13: OECD report about a member country

Background: This task involves statistical information about trends in a specific society, based on a typical situation: An analysis by an International agency (OECD) of one of its member countries (in this case: Israel).

Source: The text below combines text excerpts and graphics from the original OECD press release, and from a newspaper article that used it:

- *OECD press release*: http://www.oecd.org/economy/israels-economy-is-sound-but-it-urgently-needs-to-address-productivity-inequality-and-poverty.htm
- Article in Jerusalem Post: http://www.jpost.com/Business-and-Innovation/Poverty-inequality-mar-strong-Israeli-economy-OECD-report-finds-443386

Instructions:

1. Read the text and graphics under "Read this" below

2. Analysis questions:

   Q1: Are people (in Israel) happy about living and working in Israel?

   Q2: How good are the economy and employment situations in Israel, compared to other countries?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

- - - - - **Read this** -

OECD Economic Surveys: ISRAEL
JANUARY 2016 OVERVIEW

1. Israel's economy has enjoyed one of the highest growth rates among the world's developed economies, thanks to cautious fiscal and monetary policies, but it has failed to deliver the fruits of growth to much of its population, concluded the Organisation for Economic Cooperation and Development – the club comprising 34 most advanced economies – in a report released on the fifth anniversary of Israel's joining the OECD.

2. The OECD lauded Israel for posting 13 consecutive years of economic growth – an average of 4% annually over the period – and its ability to rebound quickly from global crises. According to OECD, Israelis tend to work longer hours than in other OECD countries, with an average of 40.9 hours per week, compared with an OECD average of 38.4 hours in 2014. Israel ranked third after Turkey and Mexico in the share of workers working over 50 hours per week.

3. According to the report, Israel has one of the lowest shares of satisfaction with the availability of "good, affordable housing." In 2014, just 36% of Israelis were satisfied with the availability of housing – the third lowest rate after Slovenia and Poland in the OECD and well below the OECD average of 52%.

4. The report found that in recent years there has been an "increasing perception amongst many Israelis, particularly amongst the young middle class, that living standards are stagnating or even falling." In 2014, 67% of Israelis reported they were satisfied with their living standards, 5 percentage points below the OECD average of 72%, placing Israel in the bottom third of OECD countries on this measure.

5. The OECD warned that low rates of employment for ultra-Orthodox men and Israeli Arab women were hurting the economy's performance. Israel is also characterised by high poverty and large gaps among many "material and non-material dimensions of well-being."

C. Employment rate

Per cent

6. In 2013, Israel had the second highest rate of poverty, second to Mexico. Israel ranked fifth after Chile, Mexico, Turkey and the US in income inequality as measured by the Gini coefficient –the most commonly used measure of statistical dispersion intended to represent the income distribution of a nation's residents.
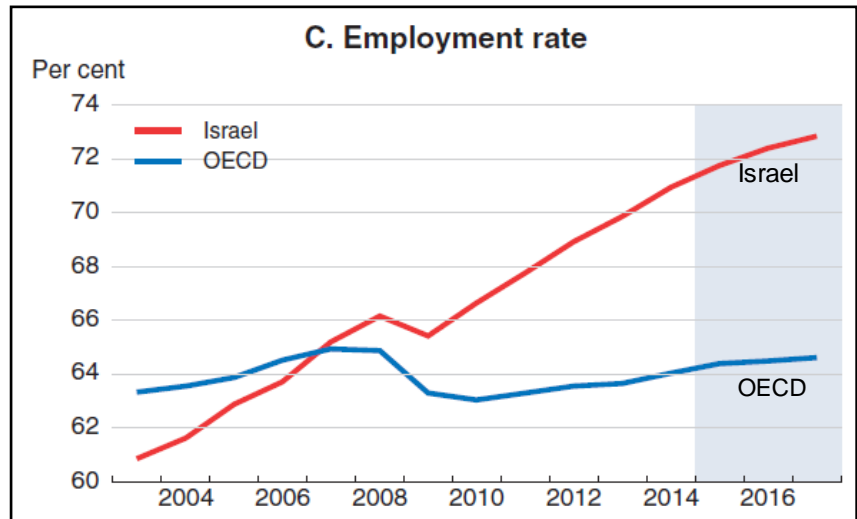
7. Despite these statistics, however, the report found that in contrast to most OECD countries, Israeli confidence in the government doubled from 22% in 2007 to 44% in 2014 – the third biggest increase among OECD countries after Germany and Iceland.

8. Israel ranks second among OECD countries – tied with Japan and after Canada – for the percentage of 25-64 year olds who have completed higher education – 46% compared to the OECD average of 32%. However, educational performance measured by the Program for International Student Assessment (PISA), which assess the cognitive skills of 15 year olds in math, reading and science, is significantly lower than the OECD average, with an overall score of 474 compared to 497 for OECD.

Task 14: Air pollution risks in Germany

Background: This task involves selected text from a larger article about air pollution in Germany. The text appeared in a unique website of a non-profit organization, EurActiv, which aims to promote public debate on pan-European issues across the EU.

Source: http://www.euractiv.com/section/sustainable-dev/news/german-cities-show-excessive-air-pollution-levels/

Instructions:

1. Read the text under "Read this" below

2. Analysis questions:

    Q1: Should residents of Germany be concerned about air pollution? Which city is most affected?

    Q2: If the EU policy (directive) on reduction of air pollution is successful, will it solve the pollution problem in the most affected city in Germany?

3. Fill in the Task Reflection form.

4. Discuss your thoughts with your group (if needed, add notes on Reflection form).

- - - - - **Read this** -

German cities show excessive air pollution

By Nicole Sagener | EurActive.de | Translated by Erika Körner   28 April 2015

1. Air pollutants are harmful to health and can be fatal in the long-term. To reduce these risks, Germany has set threshold values for certain substances. But these levels are being exceeded more and more frequently in many parts of the country.

2. According to a report published by the German Environment Ministry, Stuttgart often had an annual nitrogen dioxide level that was more than double the acceptable threshold value, and the highest in Germany. Cities with pollution levels just below Stuttgart's were Munich, Reutlingen, Düren, Limburg and Freiburg.

3. Fine dust particles pose another serious problem and are suspected to contribute to diseases like asthma, cancer and cardiovascular illness. Here, the maximum is 40 µg up to a particle size of ten micrometres per cubic metre of air. Stuttgart exceeded this limit on 91 days last year. After Stuttgart, Reutlingen follows in second place, then Markgröningen.

4. An estimated 90% of EU citizens are exposed to some of the most harmful atmospheric pollutants, at levels judged dangerous by the World Health Organisation (WHO).

5. The 2008 Air Quality Directive aims to reinforce European legislation on pollution and air standards, and obliges the member states to bring about a 20% reduction in their citizens' exposure to fine and medium-sized particles by 2020, compared to 2010 levels.