

How to use Time Series Data from E-STAT with Excel for a data analysis project “Beer Consumption Demographics”

The greatest consumers of domestic beer, as claimed by Dr. David Foot (1996), are sports-minded young men. During the eighties the 20 to 24 age cohort experienced the greatest growth.

Foot D., 1996, Boom Bust & Echo, Macfarlane Walter & Ross, ISBN 0-921912-97-8

Assignment:

Use E-STAT to investigate Dr. Foot’s hypothesis by creating time series plots for the 20 to 24 age male cohort and beer consumption in Canada between 1971 and 2001.

Procedure:

To Access Beer Consumption data

1. Startup E-STAT at <http://estat.statcan.ca>. Select your language of choice. Click ‘Accept and enter’ to enter E-STAT.
2. Click **Search CANSIM** on the left side bar.
3. Under Search by: select **Text search** and click **Continue**
4. In the 4-Search for: box enter **beer consumption** then click **Find tables**
5. Under Active tables, select **002-0011 – Apparent per capita food consumption in Canada, annual**
6. On the subset selection page, choose as follows:
 - Under Commodity select **Ale, beer, stout and porter, retail weight (Litres per year)**
 - Under From select **1971**
 - Under To select **2001 or the most recent year**
7. Click the **Retrieve as individual Time Series** button.
8. Click the **Add more series** button at the bottom of the page.

To Access 20 to 24 age cohort data

9. Under Search by: select **Subject** and click **Continue**
10. Click on the yellow folder for **Population and demography**
11. Click on **Population characteristics**
12. Under Active tables, select **051-0001 Estimates of population, by age group and sex, Canada, provinces and territories, annual**
13. On the subset selection page, choose as follows:
 - Under Geography select **Canada**
 - Under Sex select **Male**
 - Under Age group select the first series '**All ages**' and also scroll down and select '**20 to 24 years**' (***while holding down the Ctrl key on a Windows platform or the Command key on a Macintosh computer*)

23. Convert the Male 20 to 24 to a percent of the total male population and place results in column E (hint, use : +C6/B6*100)

24. Your spreadsheet should appear as follows:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Legend:											
2	v466669	Table 051-0001: Estimates of population, by age group and sex, Canada, provinces and territories; Canada; Males; All a										
3	v466759	Table 051-0001: Estimates of population, by age group and sex, Canada, provinces and territories; Canada; Males; 20-2										
4	v108410	Table 002-0011: Apparent per capita food consumption in Canada; Canada; Ale, beer, stout and porter, retail weight (Litr										
5	Annual	v466669	v466759	v108410								
6	1971	11026832	991815	77.07	8.994563							
7	1972	11146601	1002676	80.21	8.995352							
8	1973	11274570	1024813	83.48	9.089597							
9	1974	11422310	1063123	84.25	9.307426							
10	1975	11579741	1103410	85.31	9.528797							
11	1976	11723767	1134316	83.43	9.675354							
12	1977	11850560	1157904	84.46	9.77088							
13	1978	11957863	1178572	82.44	9.856042							
14	1979	12065426	1197729	85.16	9.926952							
15	1980	12210969	1223893	81.87	10.0229							
16	1981	12351600	1250056	84.07	10.1206							
17	1982	12493013	1261524	81.87	10.09784							
18	1983	12609813	1272172	81.91	10.08875							
19	1984	12721762	1280102	80.97	10.0623							
20	1985	12830988	1274580	79.98	9.933608							
21	1986	12951516	1249740	79.45	9.649372							
22	1987	13121628	1208776	80.45	9.212089							
23	1988	13231177	1158493	78.89	8.676498							

25. Excel Chart Creation is a time consuming, tedious process and for a productive workshop it is suggested that the following plot creation activity should be completed after the workshop.

Excel Analysis: Create Time Series Plot

26. From the horizontal menu bar select Insert / Chart, this starts the “Chart Wizard”

27. From “Standard Types” select “Line”

28. From “Chart Sub-Type” select the first chart type

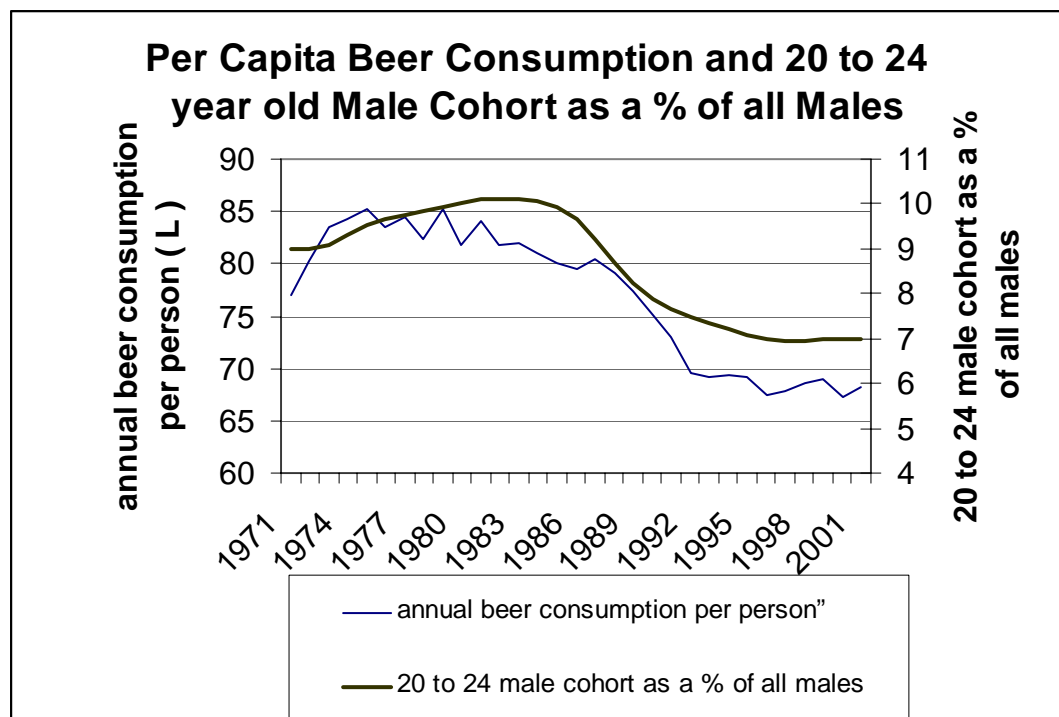
29. Click on “Next” and click on the “Series” tab

30. Within the “Series” box, **Remove** Series 1, Series 2, and Series 3

31. Series 4 should be highlighted; within the “Name:” box, type in “annual beer consumption per person”

32. Within the “Data Range” box click on the coloured range square and with your cursor select the beer consumption data within column D

33. Select series 5; within the “Name:” box, type in “20 to 24 male cohort as a % of all males”
34. Within the “Data Range” box click on the coloured range square and with your cursor select the 20 to 24 male cohort data within column E
35. Within the “Category (X) axis labels:” box click on the coloured range square and with your cursor select the years 1971 to 2001 within column A
36. Click “Next”, select “Titles” and enter titles as found in the chart at the end of these instructions, and then press “Finish”
37. Click on the Chart and enlarge the graphic
38. Right click on the bottom plot (20 to 24 data curve)
39. Select “Format Data Series”; select “Axis”, and click on “Secondary Axis” and select OK
40. Continue with chart modifications and the following may be the possible result (**for proper interpretation, care needs to be taken to select an appropriate scaling of the vertical axes**)



File: MDM4U/Lesson Plans/Lesson2b Beer Consumption demographics. Excel
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