

INTERNATIONAL TRADE AND THE WORLD ECONOMY

CHARLES VAN MARREWIJK

Answers to * exercises in chapter 1 of the Study Guide

STEPHAN SCHÜLLER AND DANIËL OTTENS

The * exercises in chapter 1 are: 1.4 and 1.6.

Question 1.4

The data in the 'question 1-4' Excel file lists the export value and GDP value, both in current US \$, for a large range of countries. The beginning of the file looks like the figure below.

	Export	GDP
	Mill. Current US\$	Mill. Current US\$
Albania	282	3058
Algeria	10828	47362
Angola	3666	6449
Antigua and Barbuda	444	617
Argentina	31121	298444

:

Relative export intensity is calculated by dividing the exports by GDP. This can be done, for example, as follows:

- Type `"=100*C5/D5"` in cell E5; after pressing enter the result below is depicted:

	Export	GDP	
	Mill. Current US\$	Mill. Current US\$	
Albania	282	3058	9.221714
Algeria	10828	47362	
Angola	3666	6449	
Antigua and Barbuda	444	617	

:

- Click on cell E5 and drag the square block in the right-hand lower corner all the way down to cell E161. You have now calculated the relative export intensity for all countries in the data set. You can verify the exact calculation in any cell by clicking on it and looking at the formula depicted after the "=" sign in the toolbar at the top of your screen. For example, if you click on cell E10 the formula `"=100*C10/D10"` is depicted. The figure below displays the results after this step.

Data on exports and GDP of several World Countries, 1998

	Export	GDP	
	Mill. Current US\$	Mill. Current US\$	
Albania	282	3058	9.221714
Algeria	10828	47362	22.86221
Angola	3666	6449	56.84602
Antigua and Barbuda	444	617	71.9611
Argentina	31121	298444	10.42775
Armenia	360	1894	19.00739
Australia	70110	372723	18.81022

:

It shows, for example, that Albania exports 9.22% of GDP while Australia exports 18.8% of GDP. Naturally, it is handy to sort the results based on relative export intensity. This can be done as follows:

- Click on cell B5 and drag the cursor all the way down to cell E161.
- In the toolbar at the top of the screen click on "data" and then "sort".
- In the box that appears select: sort by "column E", "ascending" and "no header row". Then press "OK" to get the following result:

Data on exports and GDP of several World Countries, 1998

	Export	GDP	
	Mill. Current US\$	Mill. Current US\$	
Bosnia and Herzegovina	126	4058	3.104978
French Polynesia	166	4053	4.095732
Rwanda	110	2024	5.434783
Brazil	57585	774967	7.430639
Burundi	71	878	8.08656
Albania	282	3058	9.221714

:

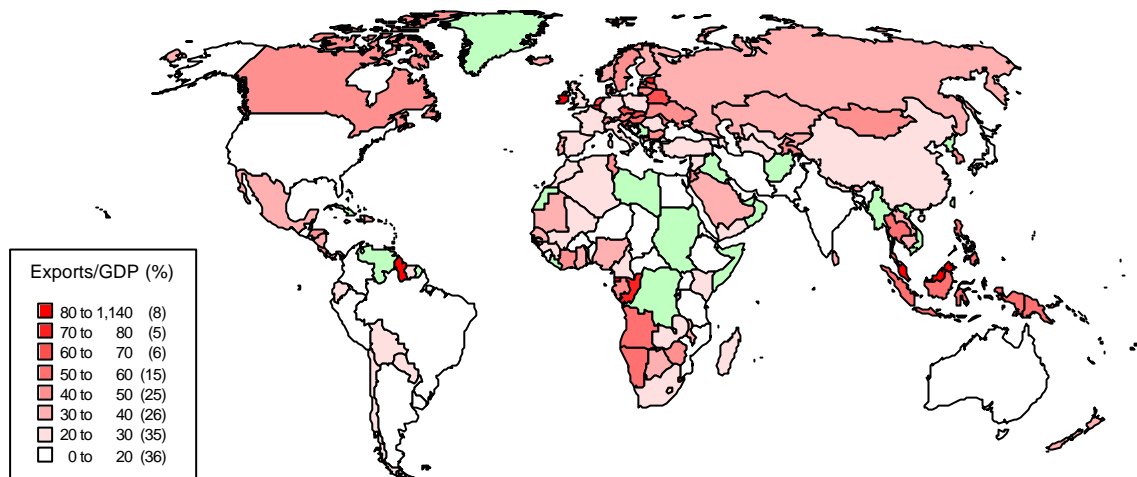
In the list that you have now sorted Bosnia and Herzegovina have the lowest export intensity, followed by French Polynesia, Rwanda, Brazil, etc. At the bottom of the list you will see the countries with the highest export intensity. These are:

:

Ireland	74878	86265	86.79998
Malta	3071	3471	88.47594
Guyana	689	718	95.961
Swaziland	1239	1221	101.4742
Equatorial Guinea	464	456	101.7544
Malaysia	83538	72488	115.2439
Hong Kong, China	210192	162938	129.0012

You can now inspect the list in more detail, or graphically depict the results. We have done the latter in the figure below as follows:

- Click on cell B5 and select the cell range all the way down to B161.
- Press and hold the "Ctrl" button and then select the cell range E5-E161.
- Press the "map" toolbar button and click anywhere on the worksheet.
- When asked to resolve unknown geographic data make the correct choice and press "change" or press "discard" when the country is not in the list.

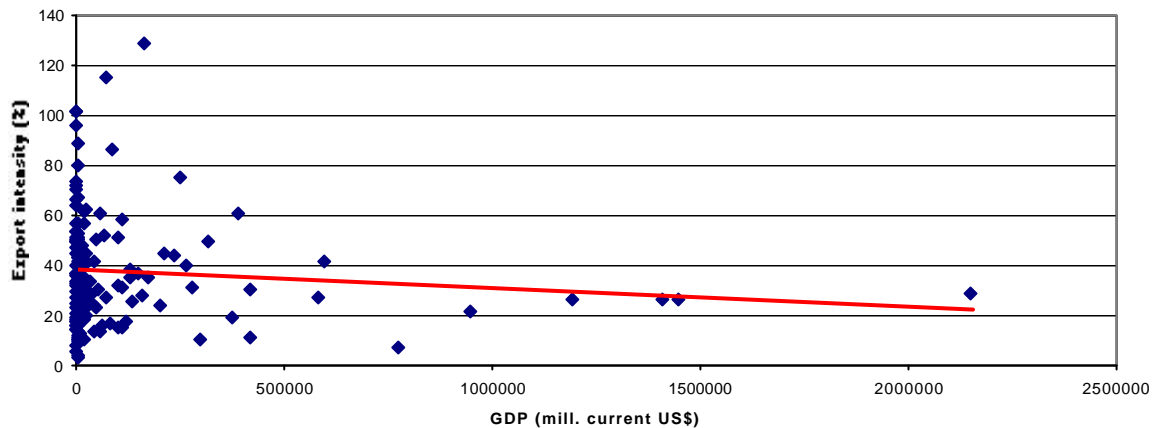


It can be seen that especially countries in Southeast Asia (Thailand, Malaysia, Indonesia and the Philippines), some of the small economies of Europe (Ireland, Belgium, the Netherlands, Estonia, Belarus, Czech Republic and Slovakia), and some countries in Southwest Africa (Namibia, Angola, Congo) have a relatively high export intensity.

It may come as a surprise that some of the large economic powers, such as the US, Japan, and the large European Economies, have relatively low export intensities. A closer look at the map above shows also that other large economies such as China and Brazil have a low export intensity. So it seems that exports are especially important for the smaller economies.

It is enlightening to have a somewhat closer look at the relationship between the size of an economy and its export intensity. The scatter diagram below shows the export intensity on the vertical axis and GDP on the horizontal axis. Japan and the United States are not included in the figure due to the large GDP of both countries.

Size of the economy and export intensity, 1998



You can make the scatter diagram as follows:

- Select cells D5-E161.
- Press the "chart wizard" on the toolbar.
- Select "XY (scatter)" and then "finish".
- You can limit the size of the horizontal axis (as we have done) by double-clicking on the horizontal axis, selecting "scale" in the box and adjusting the maximum.

The regression line drawn through the different data-points shows a negative relationship between export intensity and size of the economy (you can calculate this yourself if you have the "data analysis" add-in and choose "regression"). The relationship is rather weak (with an R^2 of 0.02), but almost statistically significant (with a t-value of -1.84). Two final observations are important:

- The small economies show a wide diversity in export intensities. The small economy of Hong Kong has for example an intensity of 129%, while another small economy such as Rwanda only has an export intensity of 5%.
- Most large economies have a relatively low export intensity. Except for one, all economies with a GDP larger than 400,000 million current US \$, have an export intensity below 40%.

Question 1.6

The graphs for question 1.6 depict the current account surplus or deficit as a percentage of GDP for a selection of countries.

- Both Kuwait and Norway are oil exporting countries. Oil exporting countries often show a current account surplus because the value of oil exports exceeds the value of imports.
- Investment opportunities looked very bright in the upcoming economies of Indonesia and Thailand until the Asian financial crisis of 1997. Foreign investments into these economies were very high causing a surplus on the capital account and consequently a deficit on the current account. After the financial crisis the current account deficit disappeared, at least temporarily.
- Belize and Antigua & Barbuda are known as tax havens. Large amounts of money therefore come to these economies leading to a surplus on the capital account and hence a shortage on the current account.
- The savings rate is very high in both Japan and the Netherlands. Therefore not only domestic but also foreign investments coming from these countries are high leading to a shortage on the capital account and hence a surplus on the current account.