

International Trade is an Accident (almost)¹

If we think of standard theory, the gains from exchange by trading with our immediate neighbours, is the stuff of introductory economics. What makes it *international* trade is merely the accident of a border. Of course once you draw the border, you have additional problems. Politicians on both side of the border are generally willing to rewrite the rules within their own country with little regard for the other countries around them – after all, foreigners don't vote in your democracy or, *your* autocrat is not *their* autocrat. Thus international trade is elevated from merely sketching an arbitrary line to more formal rules and regulations that require academic economists to sort it all out!

One of the most important observations by Nobel Laureate Milton Friedman² is that if you think of the gains from freer trade over the last two hundred or so years, a cause that has been championed by almost every economist (93% in an AEA poll³ on what issues economists agree or disagree about and this was by far the most agreed upon issue), the benefits would pay for the profession's salaries many, many times over. This is a source of both gratification and relief for all concerned.

That being said, the international trade imperative derives from one primary truth: we gain as consumers by having more goods and services available at lower prices.⁴ There are also gains to be had by moving factors of production: investment in capital, labour and raw or semi-finished materials across borders. Oil, gas and other energy products are prime examples.

Trade is Important

This is really the message of the first two chapters of your text and figure 1.1 attached below which indexes the growth in world trade (exports) over the past sixty years. For the most up to date figures on world trade, we can turn to the World Trade Organization: https://www.wto.org/english/res_e/statis_e/its2015_e/its15_highlights_e.pdf . If we went back even further - 150 years – the story would be the same. The income elasticity of international trade appears to be around 1.5. This means that if we think that world income is rising, trade will be growing faster.⁵ Further, since 1960 world trade has

¹ Although we talk only about trade in this section of the course, we will also deal with mobility of factors of production, the expansion of technology and the like.

² I have been unable to find this so the attribution is honorary at the moment

³ See Alston, R., J.R. Kearl, and M. Vaughan. 1992. Is There a Consensus among Economists in the 1990s? *American Economic Association: Papers and Proceedings* 82(2): 203-09

⁴ At this level of abstraction we must remember that producers are also consumers. There is only one 'person' in an economy. There is no separate producer or consumer. We can distinguish the functional distribution of income from the actual distribution of income where a person can be both a labourer and a capital owner.

⁵ Decadal from 1870

LOG(Exports)=a+b.LOG(Income)			
Variable	Coefficient	Std. Error	t-Statistic
C	-5.16966	0.754022	-6.85612

expanded even more quickly. The income elasticity using per capita exports and per capita world income is 2.2!⁶ There is of course another observation to be made about high income elasticities: when income falters, trade falters even more dramatically since a 1% drop in income leads to a 2.2% drop in trade.

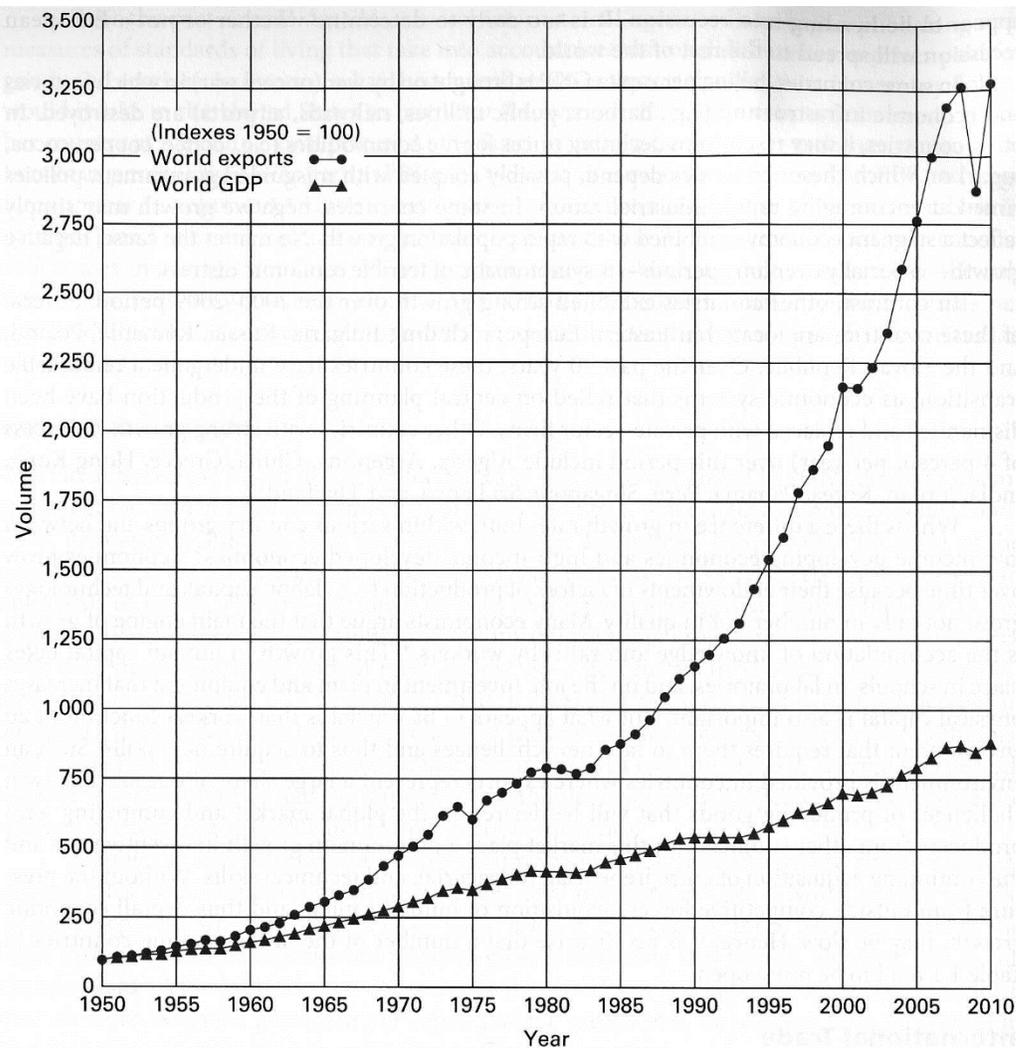


FIGURE 1.1 World Exports and Output in Real Terms: 1950–2010 Source: World Trade Organization, *International Trade Statistics 2011*, Table A1.

LOG(Y) 1.470501 0.044548 33.00939

⁶ $\text{LOG}(\text{EXPORTS}) = -11.9 + 2.2 \cdot \text{LOG}(\text{GDP})$.

The next table (1.3) illustrates the products being traded around the world and their value and the third table (1.5) describes the distribution of trade by country.

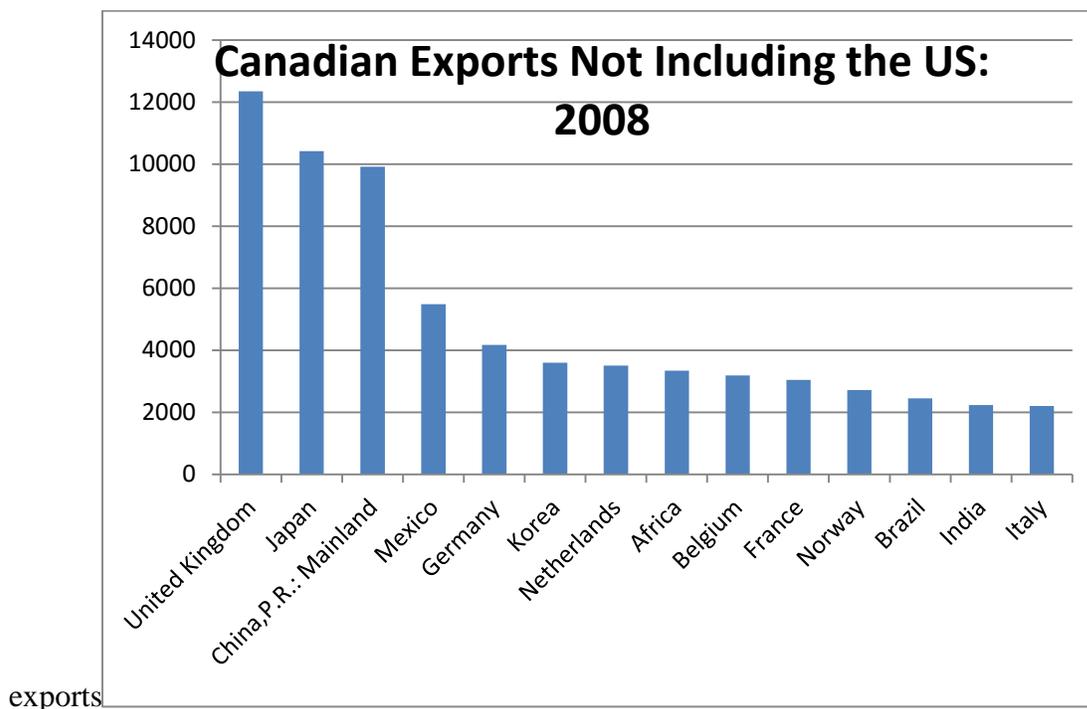
SITC code	Product	1999			2003			2006			2010		
		Rank	Value	Share	Rank	Value	Share	Rank	Value	Share	Rank	Value	Share
333	Crude petroleum	4	216.5	4.1	3	385.3	5.5	1	991.9	8.3	1	1,100.2	7.5
334	Petroleum products	14	106.3	2.0	11	183.2	2.6	5	426.1	3.6	2	674.4	4.5
751+752+759	Office machines, computers, parts	1	306.1	5.8	1	763.6	10.9	2	545.4	4.6	3	576.2	3.8
781	Passenger motor cars	2	294.2	5.6	2	393.3	5.6	3	533.3	4.5	4	559.0	3.7
776	Transistors, valves, etc.	3	224	4.3	4	292.9	4.2	4	490.4	4.1	5	543.5	3.9
54	Medicinal & pharmaceutical prods.	15	104.6	2.0	8	213.5	3.0	8	320.3	2.7	6	456.9	3.1
764	Telecom equipment and parts	6	169.3	3.2	7	227.6	3.2	6	407.0	3.4	7	446.1	3.1
67	Iron and steel	10	130.7	2.5	10	185.6	2.6	7	367.0	3.1	8	415.4	2.9
84	Clothing	5	185.3	3.5	5	235.0	3.4	9	311.6	2.6	9	370.1	2.7
51	Organic chemicals	12	116.0	2.2	13	175.5	2.5	10	298.7	2.5	10	334.4	2.6
784	Motor vehicle parts	9	132.1	2.5	12	178.8	2.5	11	253.8	2.1	11	301.2	2.3
34	Gas, natural and manufactured	26	51.2	1.0	17	103.4	1.5	12	229.5	1.9	12	268.2	1.9
65	Textiles	8	147.2	2.8	9	186.2	2.7	13	206.2	1.7	13	258.8	1.9
58+893	Artificial resins, plastics	7	164.0	3.1	6	233.5	3.3	15	179.5	1.5	14	223.2	1.8
63+64	Wood manufactures, paper	11	128.3	2.4	14	157.1	2.2	14	202.7	1.7	15	216.7	1.9
772	Electrical parts for circuits	16	77.5	1.5	16	103.5	1.5	16	165.2	1.4	16	204.6	1.8
287+288+682	Copper, copper ore, scrap	27	50.9	1.0	28	64.7	0.9	17	162.8	1.4	17	194.8	1.9
05	Fruit and vegetables	17	71.8	1.4	18	90.9	1.3	18	134.7	1.1	18	180.4	1.9
22+42+081	Oilseeds, veg. oils, oil cakes	25	51.3	1.0	25	70.8	1.0	25	98.9	0.8	19	178.5	1.9
793	Ships and boats	34	40.1	0.8	34	52.7	0.8	40	53.9	0.5	20	168.8	1.9
874	Measuring instruments	19	64.3	1.2	19	85.2	1.2	21	127.4	1.1	21	153.2	1.9
281+282	Iron ore and scrap	39	31.7	0.6	45	24.6	0.4	32	80.0	0.7	22	147.4	1.9
792	Aircraft	13	110.0	2.1	15	117.1	1.7	19	132.0	1.1	23	137.6	0.0
713	Piston engines	18	66.4	1.3	21	83.4	1.2	22	122.3	1.0	24	137.0	0.0
821	Furniture	22	57.2	1.1	23	78.6	1.1	23	116.9	1.0	25	129.1	0.0
287+684	Bauxite, alumina, aluminum	21	59.4	1.1	24	78.1	1.1	20	128.0	1.1	26	128.6	0.0
667	Pearls & precious stones	31	44.9	0.9	29	60.5	0.9	28	86.4	0.7	27	127.5	0.0
04	Cereal grains and preparations	23	55.2	1.1	27	67.9	1.0	30	84.0	0.7	28	127.1	0.0
62	Rubber articles	33	43.0	0.8	32	54.9	0.8	27	86.9	0.7	29	116.4	0.0
32	Coal	46	18.5	0.4	44	26.2	0.4	37	68.0	0.6	30	114.7	0.0
01	Meat and preparations	32	43.5	0.8	30	55.4	0.8	35	76.9	0.6	31	111.8	0.0
782	Lorries, special vehicles	24	54.0	1.0	26	69.9	1.0	24	107.5	0.9	32	103.9	0.0
03	Fish and preparations	28	47.0	0.9	20	84.3	1.2	29	85.3	0.7	33	101.9	0.0
851	Footwear	35	39.7	0.8	36	47.8	0.7	34	79.4	0.7	34	96.0	0.0

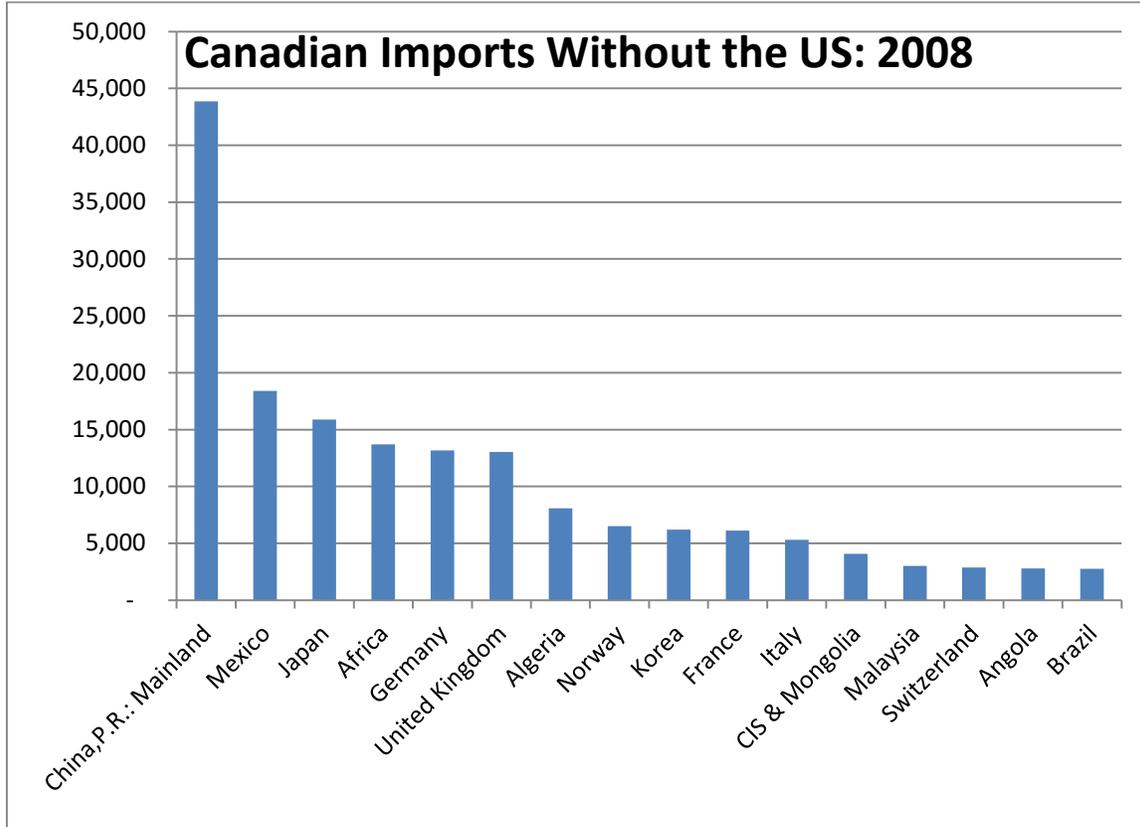
TABLE 1.5 Broad Categories of Imports of Selected Countries, 2010

SITC Code	Product	United States	Germany	Japan	China	United Kingdom	France	Canada	Mexico	Brazil	Singapore	Egypt
0	Food and live animals	3.79	5.68	7.62	1.55	7.63	7.08	5.86	4.84	3.91	2.19	14.91
01	Meat	0.27	0.71	1.60	0.16	1.40	0.98	0.58	1.12	0.12	0.25	1.92
04	Cereal grains	0.34	0.45	1.16	0.13	0.65	0.61	0.67	1.28	1.56	0.23	6.69
1	Beverages and tobacco	0.89	0.74	0.93	0.17	1.56	0.93	0.98	0.30	0.28	0.72	0.81
12	Tobacco products	0.07	0.19	0.57	0.06	0.26	0.37	0.04	0.06	0.04	0.17	0.69
2	Crude materials	1.54	3.81	7.93	15.18	2.63	2.51	2.72	2.91	2.49	0.70	7.36
24	Cork and wood	0.24	0.23	0.90	0.76	0.42	0.32	0.36	0.15	0.02	0.05	1.77
3	Mineral fuels	18.44	11.43	28.68	13.54	11.23	13.80	10.06	7.98	16.60	26.11	13.45
32	Coal and coke	0.11	0.59	3.52	1.30	0.52	0.52	0.32	0.37	1.98	0.00	0.56
33	Petroleum products	17.20	7.53	18.19	11.76	8.67	10.01	8.51	6.30	12.36	26.11	9.46
4	Fats and oils	0.23	0.37	0.21	0.65	0.33	0.36	0.23	0.44	0.41	0.22	1.93
5	Chemicals	9.00	12.60	8.78	10.70	12.08	14.12	10.60	11.30	17.91	6.67	11.90
6	Basic manufactures	10.33	12.60	8.48	9.40	12.22	12.85	12.28	13.60	12.67	6.11	20.52
65	Textiles	1.19	1.17	1.04	1.27	1.21	1.25	1.06	1.71	2.09	0.34	3.84
67	Iron and steel	1.57	2.74	1.26	1.79	1.45	2.66	2.73	2.76	3.26	1.51	6.34
68	Nonferrous metals	1.78	2.75	2.60	3.53	2.43	1.81	1.43	2.00	2.29	1.18	1.57
7	Machines and transport equip.	37.03	33.97	23.30	39.38	31.50	34.12	41.11	47.23	39.33	46.31	24.42
75	Office machines and computers	6.12	3.72	3.63	4.07	3.83	2.71	3.21	4.96	2.78	5.72	0.95
761	Televisions	1.57	0.68	0.87	0.01	0.86	0.81	0.76	0.56	0.13	0.27	0.15
763	Sound recorders, phonographs	0.62	0.38	0.64	0.33	0.69	0.36	0.49	0.36	0.19	0.43	0.06
78	Motor vehicles	9.27	7.02	2.08	3.53	9.38	9.13	14.57	8.14	9.11	1.41	7.03
792	Aircraft	0.97	2.43	0.62	0.89	0.00	4.08	1.38	0.11	1.27	1.77	0.01
8	Misc. manufactures	15.26	10.97	12.20	8.11	15.21	14.11	12.28	9.43	6.40	7.00	4.60
84	Clothing	4.17	3.06	3.88	0.18	4.13	3.64	2.12	0.76	0.75	0.63	1.15
851	Footwear	1.12	0.69	0.69	0.08	1.00	1.00	0.49	0.21	0.20	0.16	0.24
88	Photographic equip.	0.60	0.53	0.91	1.03	0.66	0.78	0.46	0.48	0.43	1.05	0.25
9	Other goods	3.49	7.83	1.88	1.32	5.59	0.12	3.87	1.98	0.00	3.95	0.10

Source: United Nations, 2011 *International Trade Statistics Yearbook*, United Nations Comtrade Web site, <http://comtrade.un.org/pb/>

Canadians do a great deal of trade with the United States. We import about half of all our goods from the US and export about 78%. If we take the US out of the mix, then the remainder of Canada's \$416 billion of are distributed as below. Similarly we can plot Canadian imports without the US. All data are from the DOT.





So naturally we need to set about understanding what gives rise to the volume and value of trade. To do this, we need more than knowledge simple of the brute numbers of trade. We need to understand the theory of international trade. To do that, we need to review the economic theory that helps us understand trade in general and then more specifically international trade. That will be the task of the rest of the course.

Contemporary Data

The World Trade Organization (WTO) home page is: <https://www.wto.org/index.htm> . It is a portal into an extensive data base on trade related issues. For example, there are current world trade statistics:

https://www.wto.org/english/res_e/statis_e/its2015_e/its15_toc_e.htm

There are country by country statistics:

https://www.wto.org/english/res_e/publications_e/trade_profiles15_e.htm

As part of the report is an extensive Appendix that has data broken down in a variety of ways and even historical data as far back as 1950.

https://www.wto.org/english/res_e/statis_e/its2015_e/its15_appendix_e.htm

The WTO also gives web locations (URL's) for other organizations' trade statistics:
<http://unstats.un.org/unsd/tradeserv/TFSITS/matrix.htm>

The WTO data are also relevant when we look at impediments to trade such as tariffs:

https://www.wto.org/english/tratop_e/tariffs_e/tariff_data_e.htm

and, non-tariff barriers to trade:

<https://i-tip.wto.org/goods/default.aspx?language=en>

There is a wealth of information on the web site and students may find the data useful in a variety of contexts.

There are also data about international agreements and dispute settlement.

There are of course many other interesting trade related data sets at various international organization such as the World Bank and the International Monetary Fund. The IMF's Directions of Trade (DOT) for example catalogues each country's trade with every other country! This is a rich source for many interesting questions.