

Chapter 17 Applied Trade Policy Modeling

Question 17.4

Different institutions and researchers have developed (often large) general equilibrium models to estimate the effects of different policies. Hardly any researcher afterwards checks whether the predictions of his model keep up to reality. An exception is Timothy Kehoe. In his paper ‘An evaluation of the performance of applied general equilibrium models of the impact of NAFTA’ (Research Department Staff Report 320 of the Federal Reserve Bank of Minneapolis) he evaluates whether three multisectoral static applied general equilibrium models predicted the impact of NAFTA correctly. Search this paper on the internet and answer the questions below.

- 17.4A Is it sensible of Kehoe to evaluate afterwards the predictions of the trade policy models? Is it not true that those models are calibrated with empirical data?
- 17.4B What conclusion does Kehoe reach?
- 17.4C What is the main driver of his conclusion? What does Kehoe recommend trade policy modellers to do?
- 17.4D Taking everything together, is Kehoe positive or negative about trade policy modelling?

Question 17.5

We want to analyze whether the Linder hypothesis holds for trade between the Euro area and different regions. The table below shows the Grubel-Lloyd index for some industries.

Table: Grubel-Lloyd index for trade between the Euro Area and other regions; %, 2005

	Africa	ASEAN + China	Central and Eastern Europe	Japan	Latin America	NAFTA	Russian Federation
Food and live animals	80	53	83	10	15	99	27
Beverages and tobacco	76	42	42	1	53	26	6
Crude materials	42	77	68	47	10	50	29
Mineral fuels	15	34	83	57	26	79	1
Animal and vegetable oils	70	5	48	14	46	18	49
Chemicals	35	89	34	79	44	76	57
Basic manufactures	83	74	76	97	88	49	77
Machinery and transport equipment	39	71	51	48	47	81	7

Source: Eurostat

- 17.5A What does the Linder hypothesis predict about trade between two developed regions?
- 17.5B What does the Linder hypothesis predict about trade between a developed and a less developed region?
- 17.5C Does the table above support the Linder hypothesis?

Question 17.6

Inspired by the international trade theories in the text book, the leader of Egypt decides that he wants to abolish all export tariffs. As the leader does not want to curb government spending, he wants to compensate the shortfall in revenue by increasing either the VAT or the direct income tax. He is not sure however which tax to increase and what the effects of the tax changes will be. He therefore calls in the help of an experienced international trade economist, being you.

The **simulation file of question 17.6** contains a model of the Egyptian economy. This model was built by Professor Francois of Erasmus University¹ based on a model by Devarajan et al.² To solve this model you will need the Excel Solver. Make some changes in the taxes, push the “solver” button in the “tools”-menu, push the “solve” button on the window that pops up and the new equilibrium values for the Egyptian economy will appear.

- 17.6A What effect does the abolishment of the export tariff have on the Egyptian economy. Did you expect these effects based on your knowledge of the textbook?
- 17.6B Should the leader increase the VAT or the direct income tax if he wants to keep private consumption as high as possible?
- 17.6C By how much should the leader increase the tax you have chosen in 17.6B in order to compensate for the shortfall in revenue due to the abolishment of the export tariff?
- 17.6D What are the effects of the tax neutral policy package (including the abolishment of the export tariff) that you have recommended?

¹ <http://www.intereconomics.com/francois>

² S. Devarajan, S. Go, J.D. Lewis, S. Robinson and P. Sinko, “Simple general equilibrium modeling”, in “Applied methods for trade policy analysis” edited by J.F. Francois and K.A. Reinert, Cambridge University Press, 1997.