Terms of Trade

4.6 The Terms of Trade

4.6A. Definition and Measurement of the Terms of Trade

- Definition: The terms of trade of a nation are defined as the ratio of the price of its export commodity to the price of its import commodity.

  i.e., The TOT of Nation 1 = Px/Py
  The TOT of Nation 2 = Py/Px

- If Px/Py increases, the TOT of Nation 1 improve and the TOT of Nation 2 deteriorate.
- In a world of many trade commodities, the terms of trade of a nation are given by the ratio of the price index of its exports of the price index of its imports.

4.6 The Terms of Trade

4.6B. Illustration of the Terms of Trade

Case Study 4-3 The Terms of Trade of the G-7 Countries

	1972	1974	1980	1986	1990	1996	1998	2000	2001	% Change 1972-2001
United States	123	104	87	104	98	100	104	97	99	-20
Canada	115	131	111	95	100	101	96	103	103	-10
Japan	95	70	52	77	73	92	97	96	97	2
Germany	109	97	89	100	102	100	99	93	95	-13
France	95	84	85	94	94	99	99	95	95	0
United Kingdom	107	82	91	94	101	101	103	103	104	-3
Italy	110	83	93	97	98	104	107	100	102	-7

Source: Elaborated from data IMF, *International Financial Statistics* (Washington, D.C., 2002)

4.6 The Terms of Trade

4.6B. Illustration of the Terms of Trade

Case Study 4-4 The Terms of Trade of Industrial and Developing Countries (1995=100)

	1972	1973	1974	1978	1979	1980
Industrial countries	105	104	93	95	93	85
Developing countries	60	63	85	86	95	105
Asia	98	99	98	99	101	98
Middle East	137	134	109	143	138	131
Western Hemisphere	37	41	103	91	139	181
	1985	**1986**	**1990**	**1998**	**2000**	**2001**
Industrial countries	84	93	95	99	97	98
Developing countries	99	90	101	101	108	-
Asia	95	94	100	98	94	-
Middle East	117	120	159	107	156	139
Western Hemisphere	177	99	121	113	113	106

Source: Elaborated from data IMF, *International Financial Statistics* (Washington, D.C., 2002)

11.3 The TOT and Economic Development

11.3A The Various Terms of Trade

1. Commodity, or net barter, TOT

$$N = (PX / PM)\,100$$

Px=price index of the nation's exports

Pm=price index of the nation's imports

- For example, if we take 2000 as the base year (N = 100),
- by the end of 2010 the nation's PX fell by 5 percent (to 95), while its PM rose by 10 percent (to 110), then this nation's commodity terms of trade

$N = (95/100)100 = 86.36$

- This means that between 2000 and 2010 the nation's export prices fell by 14 percent in relation to its import prices.

2. Income terms of trade (I)

I measures the nation's export-based capacity to import

$I = (PX /PM) QX$

QX =index of the *volume* of exports

- Returning to our example, if *QX* rose from 100 in 2000 to 120 in 2010, then the nation's income terms of trade rose to

$I = (95/100)120 = (0.8636)(120) = 103.63$

- This means that from 2000 to 2010 the nation's capacity to import (based on its export earnings) increased by 3.63 percent (even though *PX* /*PM* declined).
- The change in the income terms of trade is very important for developing nations, since they rely to a large extent on imported capital goods for their development.

Single factoral terms of trade (*S*)

measures the amount of imports the nation gets per unit of domestic factors of production embodied in its exports.

$S = (PX / PM)\, ZX$

ZX = a *productivity* index in the nation's export sector

- For example, if productivity in the nation's export sector rose from 100 in 2000 to 130 in 2010,

$S = (95/110)130 = (0.8636)(130) = 112.27$

- This means that in 2010 the nation received 12.27 percent more imports per unit of domestic factors embodied in its exports than it did in 2000.

- Even though the nation shares part of its productivity increase in its export sector with other nations, the nation is better off in 2010 than it was in 2000 (by more than indicated by the increase in *I* and even though *N* declined).

Summary of TOT Measures

- Of the four terms of trade defined, *N*, *I* , and *S* are the most important
- The most significant terms of trade for developing nations are *I* and *S* .
- The most favorable situation is when *N*, *I* , and *S* all increase.
- The worst possible situation from the point of view of a developing nation occurs when all three terms of trade deteriorate.