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Real Income Measurement

The Canadian Experience

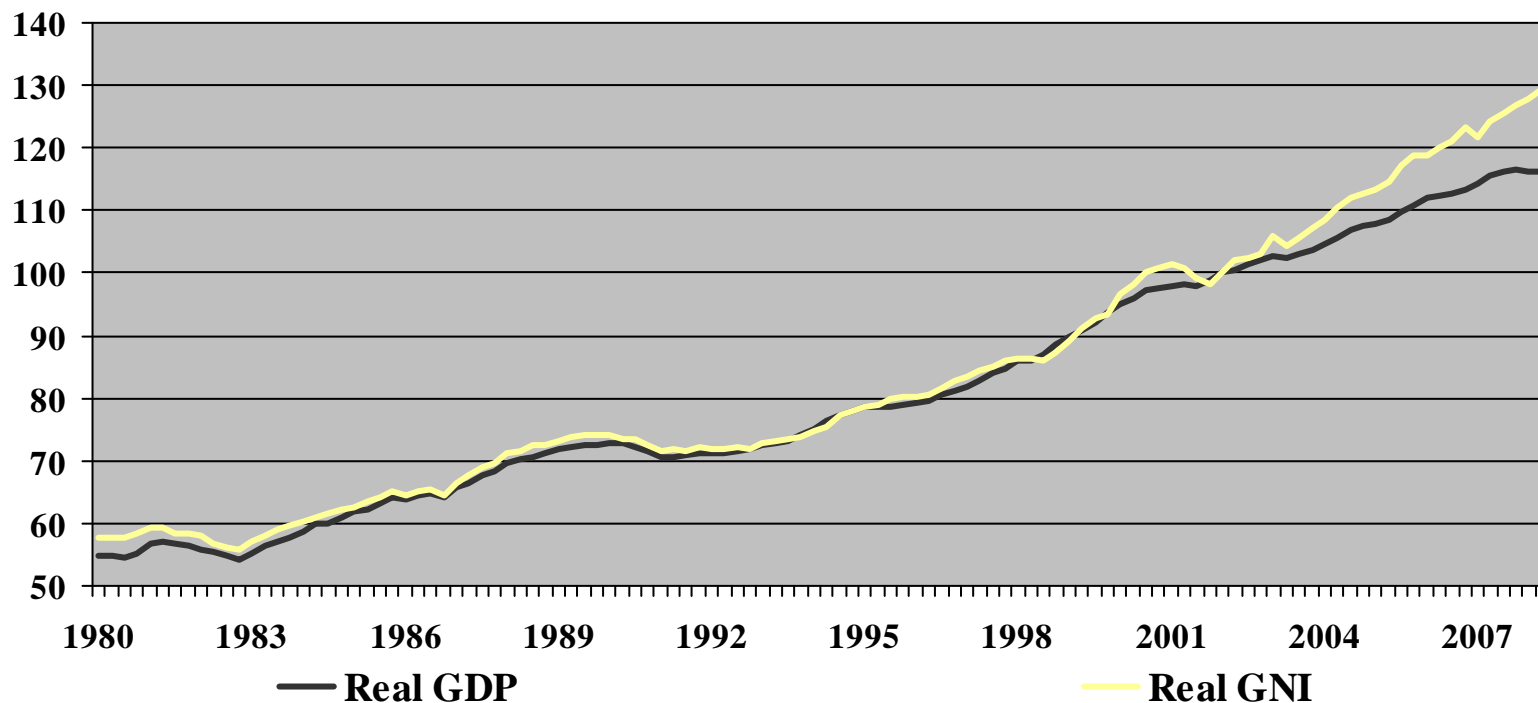
07 November 2008

Real Income Measures

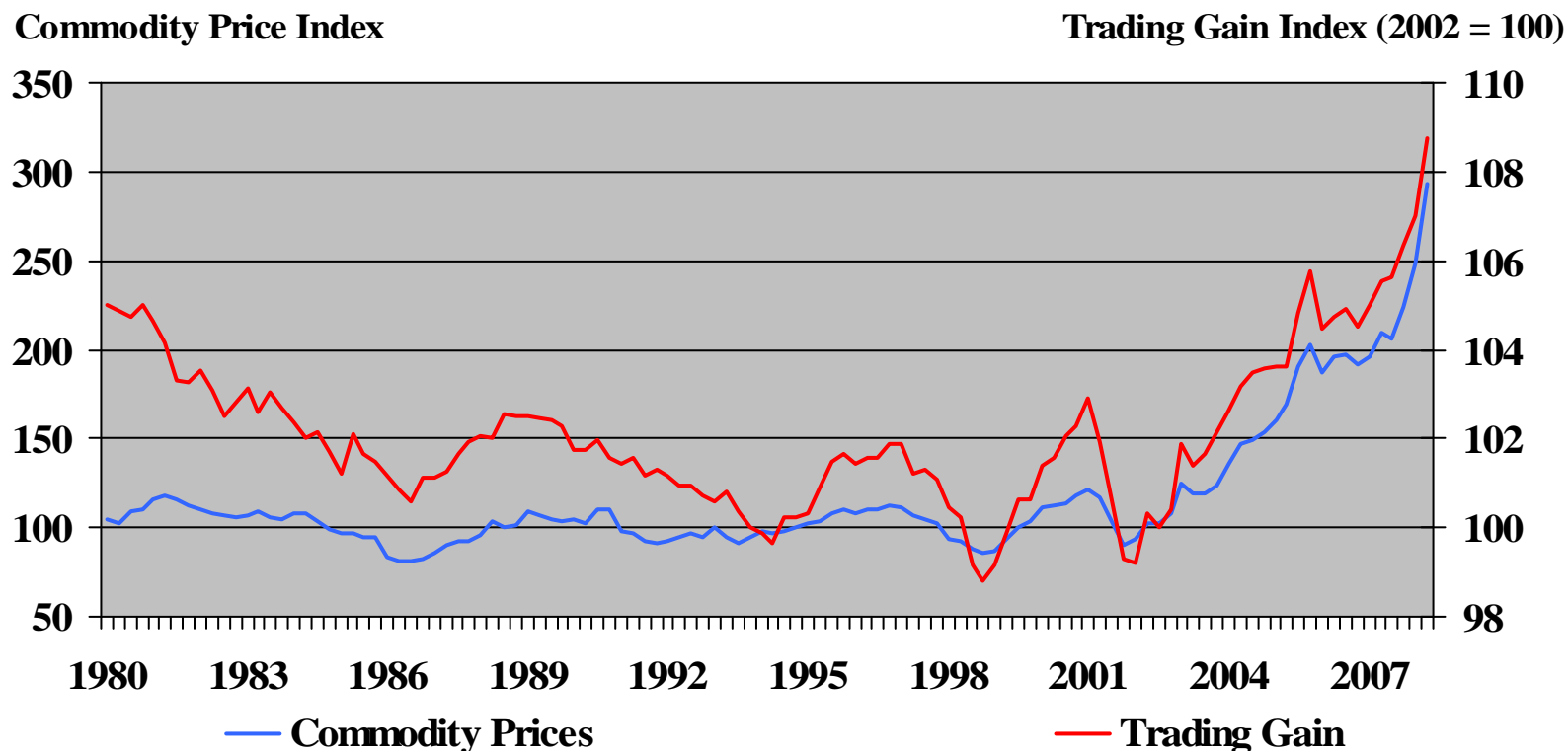
- Real Gross Domestic Product (GDP)
 - A measure of real income associated with production. Real GDP measures the volume of income in terms of the goods and services produced by the economy.
- Real Gross Domestic Income (GDI)
 - A measure of real income associated with domestic absorption. Real GDI measures the volume of that income comes from domestic sources in terms of the goods and services available for activities like consumption or investment.
- Real Gross National Income (GNI)
 - A measure of real income associated with domestic absorption. Real GNI measures the volume income *that accrues to domestic agents* in terms of the goods and services available for activities like consumption or investment.

Real GNI vs. Real GDP

Index (2002Q1 = 100)

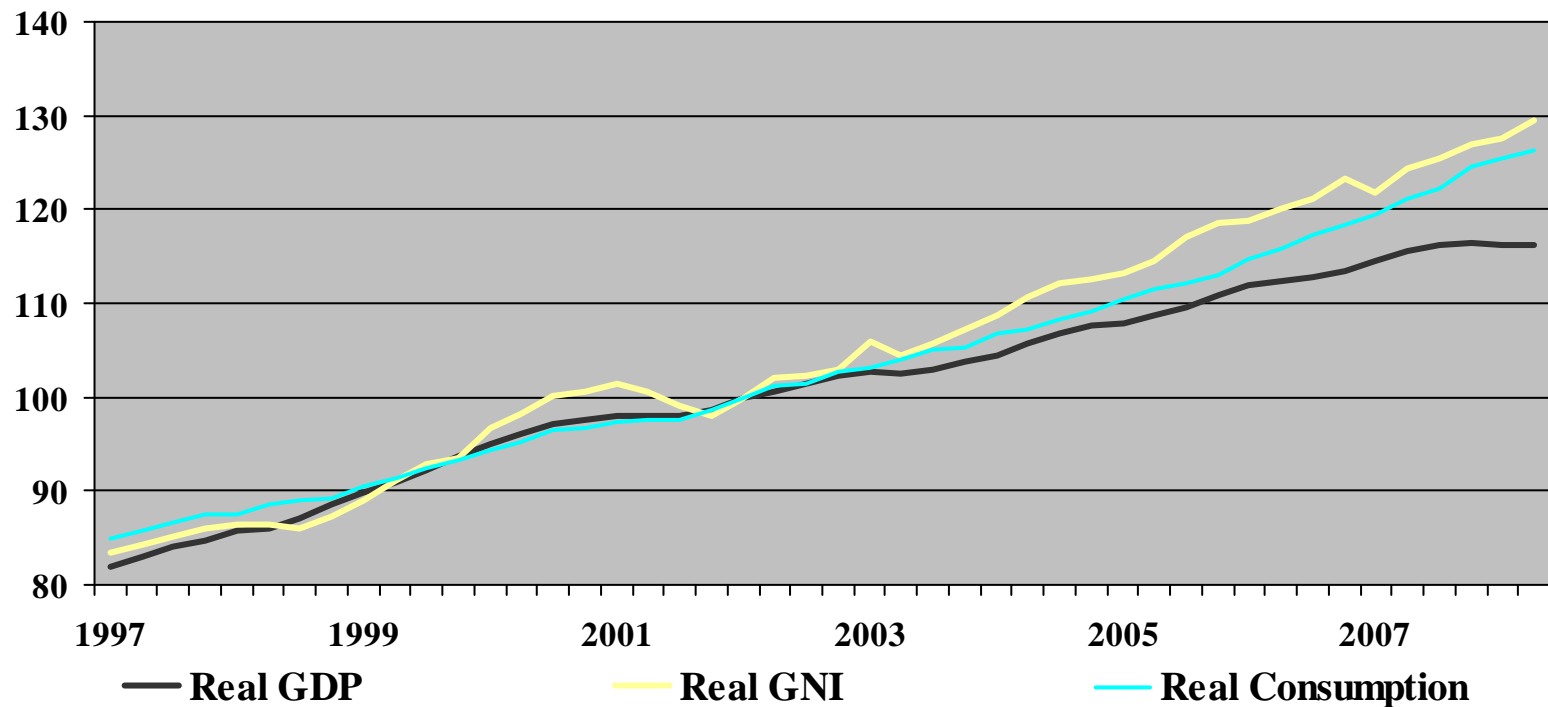


Canada's Trading Gain and Commodity Prices, 1980Q1 - 2008Q2

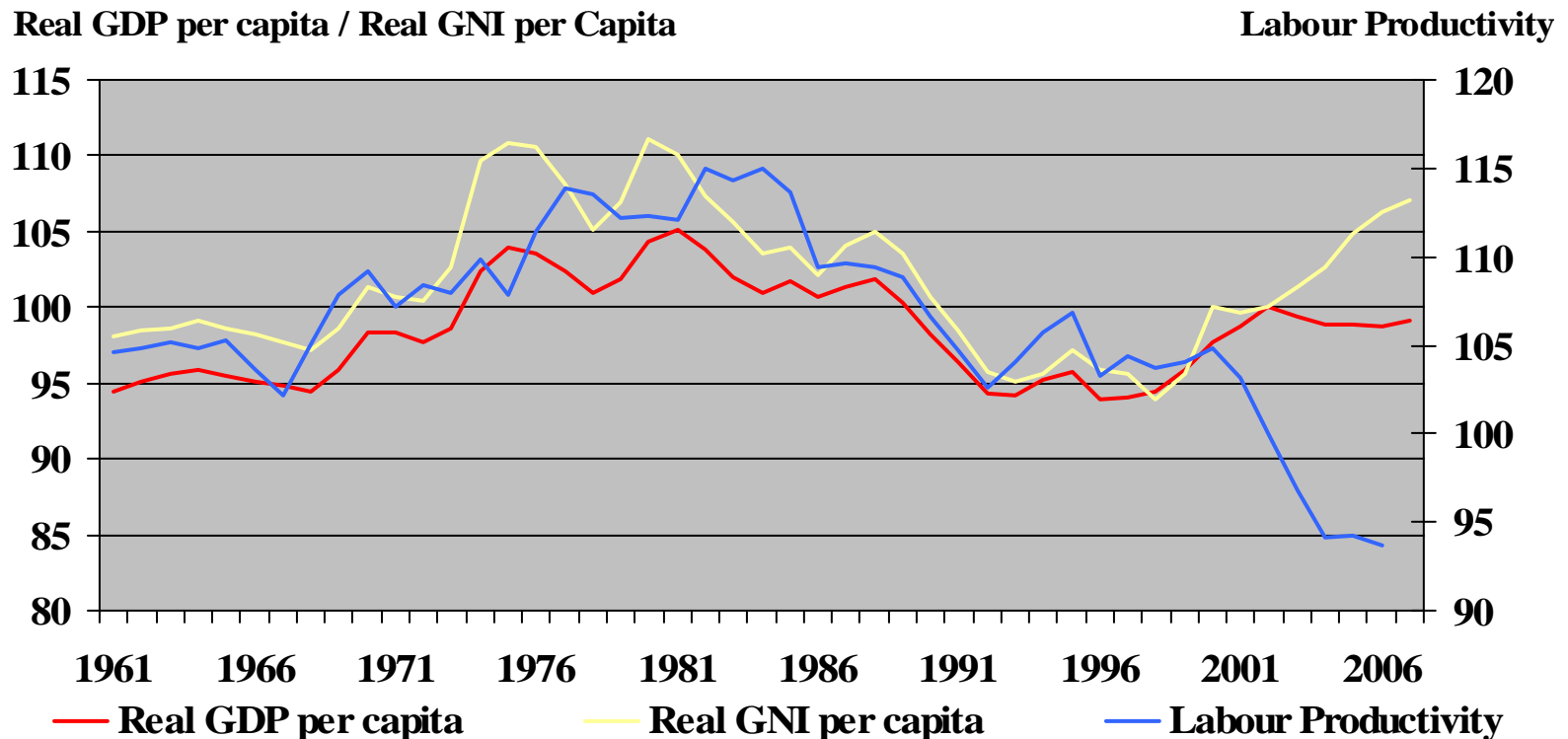


Real GNI, Real GDP and Real Consumption 1997Q1-2008Q2

Index (2002Q1 = 100)



Canada and the United States

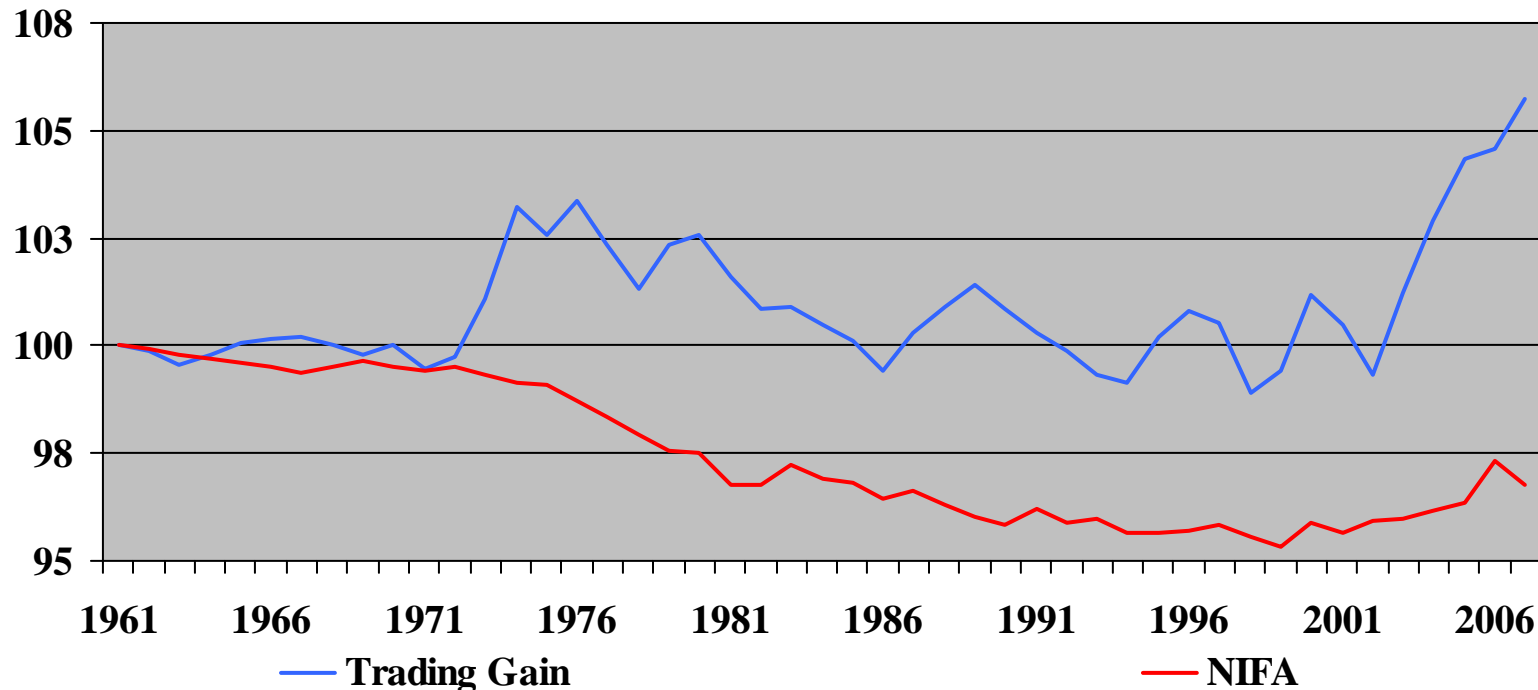


Real GNI Tornqvist Decomposition

$$\begin{aligned}
 & \overbrace{\left[\underbrace{gdp_t}_{\text{Ctg from changes in income produced (K, L, Productivity)}} + \underbrace{\left(\bar{v}_x - \bar{v}_m \right) \left(\frac{\dot{p}_T}{\dot{p}_{FDD}} \right)}_{\text{Real Exchange Rate Effect}} + \underbrace{\left(\frac{\bar{v}_x + \bar{v}_m}{2} \right) \left(\frac{\dot{p}_x}{\dot{p}_m} \right)}_{\text{Terms of Trade Effect}} \right]}^{\text{Real GDI}} \\
 & + \underbrace{\bar{v}_{nifa} nifa_t}_{\text{Ctg from NIFA}}
 \end{aligned}$$

Trading Gain vs. Net Income From Abroad Cumulative Contributions to Real GNI Growth

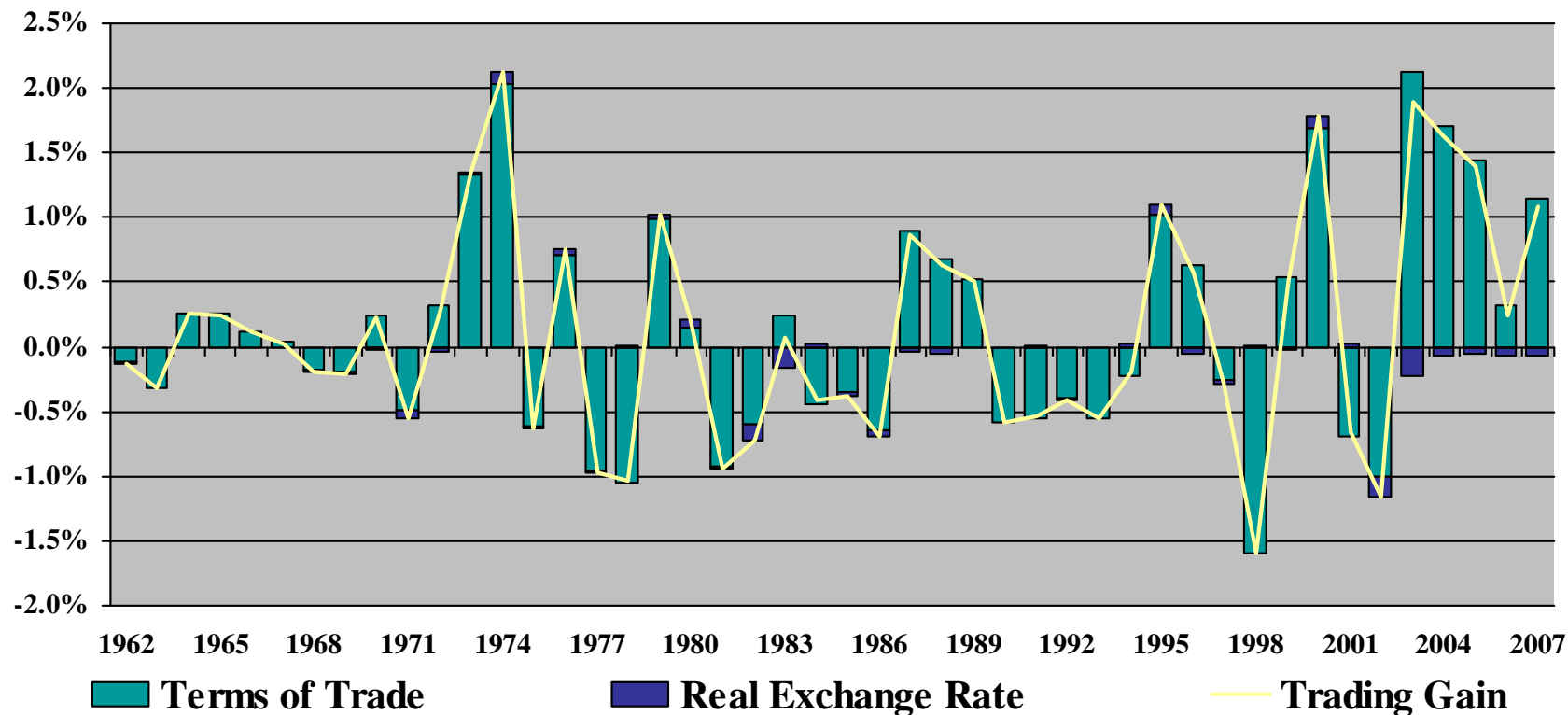
Cumulative Trading Gain Ctg vs Cumulative NIFA Ctg



Terms of Trade Dominate Trading Gains for Canada

Canada

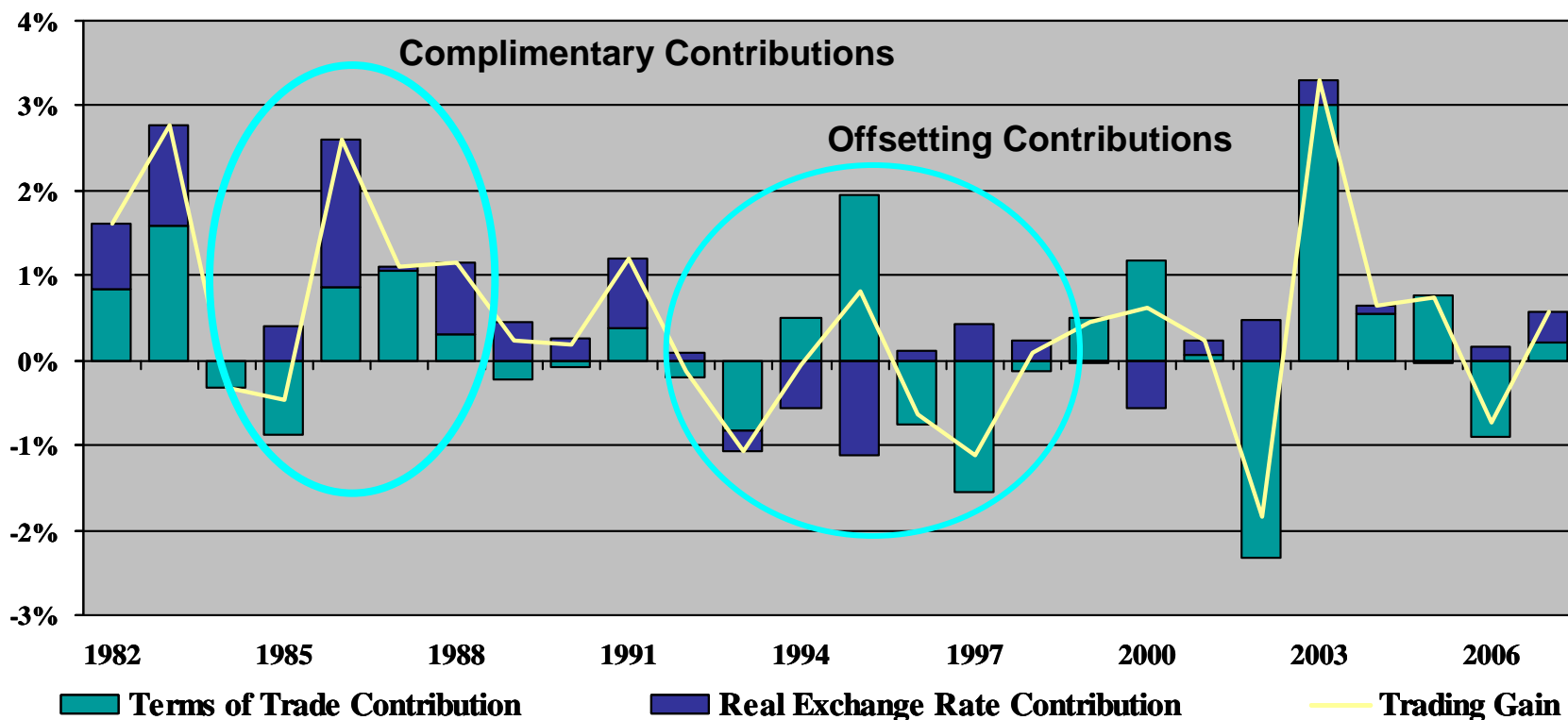
Contribution to Real Income Growth



But for Provincial Trading Gains the Real Exchange Rate can be Important

Nova Scotia

Contribution to Real Income Growth



Sources of Real Income Growth

	2002	2003	2004	2005	2006	2007
Real GDP Index	100	101.88	105.06	108.08	111.44	114.47
% Change	2.93	1.88	3.12	2.88	3.11	2.71
Contribution to Real GDI Growth						
Real GDP	2.93	1.88	3.12	2.88	3.11	2.71
Real Exchange Rate	-0.15	-0.22	-0.07	-0.04	-0.08	-0.06
Terms of Trade	-1.00	2.18	1.65	1.33	0.22	1.05
Real GDI Index	100	103.84	108.73	113.25	116.93	121.26
%Change	1.79	3.84	4.71	4.16	3.25	3.70
Contribution to Real GNI Growth						
Real GDI	1.83	3.94	4.81	4.24	3.29	3.75
Receipts of Non Residents	-0.37	-0.31	-0.02	0.47	0.51	0.25
Payments to Residents	-0.08	-0.25	0.22	0.66	1.43	-0.33
Real GNI	100	104.00	109.25	114.08	118.90	122.66
%Change	2.13	4.00	5.05	4.43	4.22	3.17
GNI	1124037	1184585	1264600	1348088	1437918	1514478
Real GNI	1124037	1168990	1227995	1282331	1336426	1378767
Personal Disposable Income	694010	720855	760462	793778	849590	898388
%Change	3.71	3.87	5.49	4.38	7.03	5.74
Real Personal Disposable Income	694010	709503	736882	755979	797737	830303
%Change	1.74	2.23	3.86	2.59	5.52	4.08
Terms of Trade Index	100	105.65	110.39	114.40	115.09	118.67
Real Exchange Rate Index	100	94.80	93.23	92.24	89.97	87.48
Domestic Final Expenditure Price	100	101.33	102.98	105.13	107.59	109.84



- Questions / Comments?