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Volume 25, numéro 2, spring 1996

URI : https://id.erudit.org/iderudit/acad25_2art04

[Aller au sommaire du numéro](#)

Éditeur(s)

The Department of History of the University of New Brunswick

ISSN

0044-5851 (imprimé)

1712-7432 (numérique)

[Découvrir la revue](#)

Citer cet article

Gerriets, M. & Gwyn, J. (1996). Tariffs, Trade and Reciprocity:: Nova Scotia, 1830-1866. *Acadiensis*, 25(2), 62–81.

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Tariffs, Trade and Reciprocity: Nova Scotia, 1830-1866¹

ALTHOUGH THE POLITICAL PROCESS LEADING TO the adoption of reciprocity has received considerable attention, the economic impact of the trade policy of British North America in the two decades before Confederation has been neglected.² More than 25 years ago Officer and Smith, in an important paper, argued that there was little evidence of benefits to Canada from the Reciprocity Treaty of 1854.³ A few years later, in a reconsideration of the topic, Ankli gave more credence to the possibility that the treaty did have a positive impact, but also concluded that, for the most part, improvements in the economy could be explained by other factors.⁴ These scholars were not concerned with Nova Scotia, yet their work provided the first detailed economic analysis of the treaty since the 1930s when Saunders argued that the Maritime Provinces benefitted from Reciprocity less than Canada, and that neither the prosperity of the Maritimes in the 1850s and 1860s nor the economic difficulties following the abrogation of the treaty by the United States were related to the treaty.⁵ Masters, whose research focussed on the political history of the treaty, is credited with promoting the view that Reciprocity caused prosperity,

- 1 The authors would like to thank the participants in the economic history workshop at Queen's University for their helpful contributions. Discussions with Frank Lewis and Marvin McInnis were particularly useful. Del Muise read a draft and provided helpful comments and encouragement. Comments from Wade Locke, Peter Sephton and James Feehan at the Atlantic Canada Economics Association meetings in October 1995 were also valuable. They gratefully acknowledge the contribution of a grant from the Centre for Regional Studies of St. Francis Xavier University.
- 2 See John Bartlet Brebner, *North Atlantic Triangle: the Interplay of Canada, the United States and Great Britain* ([1945] Toronto, 1966), pp. 150-68. See also R.H. McDonald, "Nova Scotia Views the United States, 1784-1854", Ph.D. thesis, Queen's University, 1974, and his article "Nova Scotia and the Reciprocity Negotiation, 1845-1854: A Re-interpretation", *Nova Scotia Historical Quarterly* (1977), pp. 205-34. The attempts to negotiate new treaties after 1865 were studied by Allan B. Spetter, "Harrison and Blain: No Reciprocity for Canada", *The Canadian Review of American Studies*, 12 (1981), pp. 143-56.
- 3 L. Officer and L. Smith, "The Canadian American Reciprocity Treaty of 1855 to 1868", *Journal of Economic History*, 28 (1968), pp. 598-623.
- 4 R.E. Ankli, "The Reciprocity Treaty of 1854", *Canadian Journal of Economics*, 4 (1971), pp. 1-20; Ankli "Canadian-American Reciprocity: A Comment", *Journal of Economic History*, 28 (June 1970), pp. 274-81; Officer and Smith, "Reply", *ibid*, pp. 432-4.
- 5 S.A. Saunders, "The Maritime Provinces and the Reciprocity Treaty", *Dalhousie Review*, 14 (October, 1934) and Saunders, "The Reciprocity Treaty of 1854: A Regional Study", *Canadian Journal of Economics and Political Science*, 2 (February, 1936). See also his book, *The Economic History of the Maritime Provinces*, ([1939] Fredericton, 1984). Officer and Smith cite Saunders as one of the authors who held the view that Reciprocity caused prosperity in Canada, although the main thrust of his work is that Reciprocity was less beneficial to the Maritimes than had been assumed. Saunders does not examine the benefits of the Treaty to Canada.

Marilyn Gerriets and Julian Gwyn, "Tariffs, Trade and Reciprocity: Nova Scotia, 1830-1866", *Acadiensis*, XXV, 2 (Spring 1996), pp. 62-82.

although he certainly recognized that the treaty was not the sole cause of increased economic well-being.⁶ Since the 1970s nothing has been published on the economic impact of the treaty.⁷

A major theme in Maritime economic history has been the impact of Confederation and the National Policy tariffs on the region's subsequent economic development.⁸ Recently, increased attention has been directed towards the nature of the Maritime economy before Confederation, in part so that the changes caused by the new political situation can be better understood.⁹ A more comprehensive analysis of the impact of the Reciprocity Treaty and its place in the history of trade policy in Nova Scotia is essential if the pre-Confederation economy and the later impact of National Policy tariffs are to be understood. The Reciprocity Treaty of 1854 resulted in modest direct gains of an order of magnitude typical of trade agreements.¹⁰ Moreover, the structure of the economy was altered, because markets for some commodities were very strongly affected, while markets for other goods were untouched. Finally, an overview of Nova Scotia's tariff structure from the

- 6 D.C. Masters, *The Reciprocity Treaty of 1854* (Toronto, 1936) and Masters, *Reciprocity 1846-1911* (Ottawa, 1961).
- 7 Economic issues were examined in several masters theses. Ian Leonard MacDougall, "Commercial Relations between Nova Scotia and the United States of America, 1830-1854", M.A. thesis, Dalhousie University, 1961; Malcolm James Mercer, "Relations between Nova Scotia and New England, 1815-1867, with Special Reference to Trade and the Fisheries", M.A. thesis, Dalhousie University, 1938; W.E. Corbett, "Nova Scotia under the Reciprocity Treaty of 1854", M.A. thesis, Acadia University, 1941. Michael Hinton also discussed the economic impact of the treaty in "Economic Welfare and the Reciprocity Treaty of 1854", unpublished paper presented to the Economic History Workshop, University of Toronto, 1981.
- 8 T.W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880-1910", *Acadiensis*, I, 1 (Autumn 1971), pp. 3-28; Acheson, "The Maritimes and Empire Canada", in David Bercuson, ed. *Canada and the Burden of Unity* (Toronto, 1977); David Alexander, *Atlantic Canada and Confederation: Essays in Canadian Political Economy* (Toronto, 1983); James D. Frost, "The 'Nationalization' of the Bank of Nova Scotia, 1880-1910", *Acadiensis*, XV, 1 (Autumn 1985), pp. 3-38.
- 9 See P.A. Buckner and J.G. Reid, eds., *The Atlantic Region to Confederation: A History* (Fredericton, 1994) for an overview of the period and the literature. Stephen J. Hornsby, *An Historical Geography of Cape Breton in the Nineteenth Century* (Montreal and Kingston, 1992); Julian Gwyn, and Fazley Siddiq, "Wealth Distribution in Nova Scotia During the Confederation Era, 1851 and 1871", *Canadian Historical Review*, 73 (1992); Gwyn, "Golden Age or Bronze Moment? Wealth and Poverty in Nova Scotia: The 1850s and 1860s", *Canadian Papers in Rural History*, 8 (1992), pp. 195-230; Gwyn, "Imports and the Changing Standard of Living in Nova Scotia, 1832-1875", *Nova Scotia Historical Review*, 11 (1991), pp. 43-64; Kris Inwood and James Irwin, "Canadian Regional Commodity Income Differentials at Confederation", in Kris Inwood, ed., *Farm, Factory and Fortune: New Studies in the Economic History of the Maritime Provinces* (Fredericton, 1993), pp. 93-120; Alan J. MacNeil, "Rural Society in Nova Scotia, 1761-1861: A Study of five Townships in Transitions", Ph.D. thesis, Queen's University, 1991; Graeme Wynn, "Exciting a Spirit of Emulation Among the 'Podholes': Agricultural Reform in Pre-Confederation Nova Scotia", *Acadiensis*, XX, 1 (Autumn 1990).
- 10 Although he is critical of this literature, P. Romer, "New Goods, Old Theory, and the Welfare Costs of Trade Restrictions", *Journal of Development Economics*, 43 (1994), pp. 5-38 provides a discussion of conventional trade theory which implies modest increases in income as a result of reductions in trade barriers.

1830s to Confederation demonstrates the extent to which Nova Scotians adopted a strategy of free trade during the pre-Confederation era.

No quarrel is raised in this paper with the view that factors other than reciprocity determined the level of prosperity between 1854 and 1866. At any point in time the vagaries of the business cycle or the stimulus of war are likely to have far more impact on an economy's performance than changes in tariff regimes; yet just as each flood tide ebbs away, economic booms are always transitory. Changes in tariff regimes, like a slowly rising water level, may have a far more permanent, although much less dramatic, impact than the ebb and flow of the business cycle.

When Britain decisively rejected mercantilism in 1847 the colonies of British North America were permitted to set their own tariffs. Nova Scotia spurned a system of protective tariffs and instead adopted low duties on imports of natural products and manufactures alike. The Reciprocity Treaty of 1854 established free trade in natural products between the British North American provinces and the United States, relieving Nova Scotians of the burden of protective American duties on their exports as well as eliminating the remaining duties on imports of natural products from the United States.¹¹ Economic analyses of reciprocity have isolated the impact of tariff changes in 1854 from those of the 1840s, yet it has long been understood that the introduction of reciprocity derived from a clearly articulated political process which flowed from the British adoption of free trade.¹² An examination of the pattern of trade and the tariff structure indicates that closer integration of the Nova Scotian and American markets pre-dated reciprocity.

The changes in tariff policy of the 1840s and 1850s occurred in the context of significant swings in the business cycle. (See Table One.) The boom of the late 1830s peaked in 1841 and was followed by a sharp contraction in prices and the volume of trade during the severe depression of the 1840s. Steady recovery did not begin until the early 1850s. During these decades, the proportion of Nova Scotia's trade with the United States increased markedly. Trade with the United States did not contract so sharply as total trade, and recovery of exports was underway by 1844 and of imports by 1847, although Nova Scotia continued to run a deficit on its merchandise trade with the United States, as with the rest of the world,

11 While the provinces could set their own tariffs, Britain retained control over international treaties so that the British government negotiated the Treaty. In order to induce the Americans to sign the Treaty, Britain gave them free access to the inshore fishery. Nova Scotians were angered that this privilege was offered without securing the right to register ships in the United States or to enter the coastal trade and resisted agreeing to the Treaty until they had lost the battle to exclude Americans from the inshore fishery. See Brebner, *North Atlantic Triangle*, p. 159-61. Analysis of the costs of American entry into the inshore fishery is complex and is not undertaken in this paper. While it is possible, although not certain, that American entry to the fishery reduced the incomes of Nova Scotians, exclusion of Americans from the inshore fishery may not have been feasible since it imposed substantial military and diplomatic costs on Britain. The difficulties of enforcing exclusion are seen in the negotiation of the Washington Treaty of 1871 only four years after abrogation of Reciprocity. That treaty also allowed Americans access to the inshore fishery in return for free entry of fish to the American market and a significant cash settlement.

12 For instance, the political and economic connection between the two events is explicit in W.T. Easterbrook and Hugh Aitken, *Canadian Economic History* (Toronto, 1956), pp. 202-5.

Table One
Nova Scotian Trade
(Thousands of current dollars)

	IMPORTS			EXPORTS			TOTAL
	U.S.	World	U.S. Share ¹	U.S.	World	U.S. Share ²	U.S. Share ³
1832	\$ 744	\$5,715	13.0%	\$ 345	\$3,973	8.7%	11.2%
1833	902	4,896	18.4%	469	4,063	11.5%	15.3%
1834	570	4,135	13.8%	341	3,519	9.7%	11.9%
1835	552	3,974	13.9%	471	4,552	10.3%	12.0%
1836	511	5,468	9.4%	530	4,328	12.2%	10.6%
1837	535	4,995	10.7%	512	4,206	12.2%	11.4%
1838	616	5,915	10.4%	523	5,511	9.5%	10.0%
1839	1,395	8,019	17.4%	837	7,581	11.0%	14.3%
1840	1,972	8,559	23.0%	699	6,198	11.3%	18.1%
1841	2,260	8,882	25.4%	925	6,734	13.7%	20.4%
1842	1,990	6,057	32.8%	442	4,585	9.6%	22.9%
1843	1,079	4,827	22.4%	450	3,744	12.0%	17.8%
1844	1,178	5,378	21.9%	536	3,753	14.3%	18.8%
1845	1,134	4,845	23.4%	634	3,359	18.9%	21.6%
1846	1,097	5,017	21.9%	665	3,618	18.4%	20.4%
1847	1,517	6,163	24.6%	1,386	4,172	33.2%	28.1%
1848	1,614	4,706	34.3%	819	2,776	29.5%	32.5%
1849	1,786	4,835	36.9%	899	2,787	32.3%	35.2%
1850	1,461	5,311	27.5%	1,027	3,435	29.9%	28.4%
1851	1,649	5,967	27.6%	965	2,884	33.5%	29.5%
1852	1,756	5,894	29.8%	1,296	4,916	26.4%	28.2%
1853	2,080	7,085	29.3%	1,390	5,394	25.8%	27.8%
1854	2,876	8,955	32.1%	1,593	6,238	25.5%	29.4%
1855	3,692	9,414	39.2%	2,407	7,361	32.7%	36.4%
1856	3,393	9,349	36.3%	2,069	6,865	30.1%	33.7%
1858	2,918	8,076	36.1%	2,043	6,321	32.3%	34.5%
1859	2,885	8,101	35.6%	2,284	6,889	33.2%	34.5%
1860	3,259	8,512	38.3%	2,232	6,620	33.7%	36.3%
1861	3,059	7,613	40.2%	1,524	5,774	26.4%	34.2%
1862	3,027	8,445	35.8%	1,811	5,647	32.1%	34.3%
1863	3,858	10,201	37.8%	1,870	6,546	28.6%	34.2%
1864	4,303	12,605	34.1%	2,447	7,173	34.1%	34.1%
1865	4,326	14,382	30.1%	3,620	8,831	41.0%	34.2%
1866	4,042	14,381	28.1%	3,229	7,987	40.4%	32.5%

¹ U.S. imports divided by world imports.

² U.S. exports divided by world exports.

³ Total trade with U.S. divided by total trade with the world.

Sources: Colonial Customs 6/1-21 Great Britain, Public Record Office [PRO] for imports except from British North American colonies, Colonial Customs 12/1-21 for exports except to British North American colonies. Colonial Office 221/46-76 for imports from and exports to British North America, 1832-66. In 1857 trade was not broken down by place of origin and that year is omitted from this table.

throughout the period. As a result, trade with the United States increased from less than 15 per cent of Nova Scotia's entire trade before 1840 to more than 30 per cent of total trade by 1848. The American share of Nova Scotia's trade further increased in the mid 1860s and remained between 30 and 40 per cent of Nova Scotia's total trade.

The British adoption of free trade occurred during the difficult 1840s. In 1842 the Westminster parliament reduced the Imperial duties substantially, and in 1847 they were removed altogether.¹³ (See Table Two.) While Canada replaced Imperial tariffs with its own colonial duties, Nova Scotia allowed duties to fall on most foodstuffs and on manufactured goods.¹⁴

The significance of the pattern of tariff reductions becomes clearer when considered in conjunction with an examination of the commodities imported from the United States. Wheat flour dominated imports to Nova Scotia from the United States. (See Table Three.) At prices prevailing in 1848 and 1849, the duty of five shillings was roughly 15 per cent of the value of a barrel of flour, while a one shilling duty was only three per cent of the value of the flour.¹⁵ Even at that low rate, the duty on flour was an important source of revenue for the province. Most manufactured goods were unenumerated and therefore paid a duty of 6.5 per cent which increased to 10 per cent in 1857. The exceptions were inputs to shipbuilding and milling machinery which were subject to reduced duties. Animal products, that is beef, pork, butter and cheese, retained significant levels of protection. Although the duty on American salt meats was halved between 1842 and 1847, that duty remained substantial and represented a large increase over the rates applied against Canadian supplies of salt meats in 1834.¹⁶ The duties on butter and cheese were roughly 15 to 20 per cent of their value, given prices in 1848 and 1849.¹⁷

In contrast, all Nova Scotia's exports to the United States were subject to a severe tariff regime. American duties were high, and although they fell somewhat in

13 The one shilling duty on flour imposed in 1850 was a colonial duty applied regardless of point of origin and was an important source of revenue.

14 By 1853 Canada had imposed duties of 20 per cent on flour, oats, barley, salt meat including mess pork, butter and cheese, while imports of potatoes, squared timber and sawn boards paid duties of 12.5 per cent. Most Canadian imports of manufactures paid duties of 12.5 per cent. See "Trade and Navigation of the Province of Canada for the year 1853", *Journals of the Legislative Assembly of Canada* (1854-55), App. A. The Nova Scotian duty on most manufactures, as well as on all goods 'not otherwise provided for' increased from 6.5 per cent to 10 per cent in 1857. Again the contrast with Canada is clear. While in Nova Scotia the general duty on manufactures was increased across the board, in Canada the duties were reduced on raw materials or partially processed goods and increased on finished products so that the degree of effective protection increased. D.F. Barnett, "The Galt Tariff: Incidental or Effective Protection?" *Canadian Journal of Economics*, 9 (1976), pp. 389-407.

15 "Prices Current", *British Colonist*, various issues between 25 July 1848 and 5 July 1849.

16 Trade returns of 1851 indicate that the duty was 17 per cent of the value of pork imported and 24 per cent of the value of beef imported in that year. The Nova Scotia, House of Assembly, "Trade Returns", *Journals and Proceedings of the House of Assembly of Nova Scotia* (Halifax, 1852).

17 Nova Scotian cheese sold for a fraction of the price of imported English cheese, doubtless reflecting differences in quality. The duty was only about four per cent of the value of English cheese. "Prices Current", *British Colonist*, various issues between 25 July 1848 and 5 July 1849.

Table Two
Tariffs Applied in Nova Scotia from 1833 to 1866

ORIGIN:	FOREIGN ¹		BRITISH ¹	FOREIGN	ALL	ALL	ALL
	UNIT	1834	1834	1842	1847	1852	1866
Flour ²	Bbl	5s	FREE	2s (1840)	FREE	1s (1850)	\$0.25
Oats		10%	FREE	10%	FREE	FREE	FREE
Barley, Hulled		22.5%	7.5%	17.5%	5%	6.5%	FREE
Grain		FREE	FREE	FREE	FREE	FREE	FREE
Hides		2.5%	2.5%	FREE (1836)	FREE	FREE	FREE
Salt Beef ²	Cwt ³	12s	9d	12s	6s	6s	\$1.00
Salt Pork ²	Cwt ³	12s	1s3d	12s	6s	6s	\$1.00
Bacon & Ham	Cwt ³	12s	6s	12s	9s	9s	\$2.00
Potatoes		15%	FREE	FREE	FREE	FREE	FREE
Tobacco ⁴ unmf	Lb	15%	2.5%	4%	FREE	FREE	\$0.05
Butter	Cwt ³	20%	5%	8s	8s	8s	\$1.75
Cheese	Cwt ³	20%	5%	5%	5s	5s	\$1.00
Not Otherwise Provided for ⁵		20%	5%	9%	5%	6.5%	10%

¹ Colonial duties applied to goods regardless of origin while imperial duties applied only to non-British goods. The column labelled "Foreign" sums the colonial and Imperial duties applied to non-British goods. The column labelled "British" gives the colonial duties applied by Nova Scotia against goods regardless of origin.

² Flour, salt beef and salt pork could be imported free of duty if they were destined to feed fisherman and their families. Salt meat imported to supply the army or the navy was also exempt from duty. From 1834 flour, salt beef and pork of American origin could be imported freely via Canada.

³ In 1866, 100 pounds replaced the British hundred weight of 112 pounds.

⁴ Colonial legislation offset the imperial duties on unmanufactured tobacco in 1833 by providing a drawback of 12.5 per cent of the value of tobacco processed within the province. The drawback was replaced by a bounty on manufactured tobacco products in 1834.

⁵ Most manufactured goods paid this duty.

Sources: "An Act for Granting Colonial Duties of Impost...", *Statutes of the Province of Nova Scotia* (1834), ch. 1; "An Act for Granting Colonial Duties of Impost...", *Statutes* (1843) ch. 12; "An Act for Granting Colonial Duties of Impost for the Support of Her Majesty's Government...", *Statutes* (1854), ch. 3. "Of Customs Duties", *Revised Statutes* (1851), ch. 12; "An Act to Regulate the Trade of the British Possessions Abroad", *Statutes of the British Parliament* (1833), ch. 59; followed by "An Act to Amend the Laws for the Regulation of the Trade of the British Possessions Abroad" (1842), ch. 49; and "An Act to Regulate Customs Duties", (1866), ch. 2.

Table Three
Imports to Nova Scotia from the U.S.A.

	1832- 1836	1837- 1841	1842- 1846	1847- 1851	1852- 1856	1858- 1862	1862- 1866	Share of all U.S. Imports ¹
Flour, Wheaten	\$266	\$489	\$482	\$605	\$1,106	\$1,278	\$1,639	39.9%
Flour, Misc & Meal	97	146	178	335	264	160	175	9.4%
Beef & Pork	67	222	132	35	65	86	150	5.3%
Grain	49	111	129	94	99	68	52	4.2%
Tobacco	42	67	42	64	96	122	164	4.1%
Hardware	1	12	15	32	127	149	238	3.9%
Textiles	3	14	10	69	192	152	101	3.7%
Tea	0	0	40	63	133	147	100	3.3%
Leather	3	20	45	28	95	132	132	3.1%
Woodenware & Cab.	5	8	9	14	62	64	98	1.7%
Bread & Biscuit	18	25	32	39	46	20	25	1.4%
Paper & Books	2	9	10	20	44	57	69	1.4%
Drugs & Dyestuff	0	13	12	17	33	37	42	1.0%
Cordage & Canvas	0	3	2	14	20	59	35	0.9%
Oil & Burning Fluid	0	0	0	0	17	33	77	0.8%
Molasses	1	7	20	11	14	22	6	0.6%
Other	102	210	136	164	347	444	808	15.1%
Total U.S.	656	1,355	1,295	1,605	2,759	3,030	3,911	100.0%
Total World	4,838	7,274	5,225	5,397	8,139	8,149	12,003	
U.S. Share of World Imports	13.6%	18.6%	24.8%	29.7%	33.9%	37.2%	32.6%	

¹ The U.S. share is calculated by summing imports for each commodity from 1832 to 1866 and dividing by the sum of total imports from 1832 to 1866.

Sources: Colonial Customs 6/1-21, Great Britain, PRO, for imports except from British North American colonies; Colonial Office 221/46-76 for imports from and exports to British North America, 1832-66. In 1857 trade was not broken down by place of origin and that year is omitted from these tables.

the late 1840s, Nova Scotia's most important exports still faced substantial duties at the time when the Reciprocity Treaty was introduced. (See Table Four.) Nova Scotia's two most important exports to the United States were coal and mackerel. (See Table Five.) In 1854 these commodities were charged duties of 30 per cent and 20 per cent respectively to gain entrance to the United States. In the absence of reciprocity, Nova Scotia would have benefited from the reduction in the American tariff schedule implemented in 1857, but these duties remained substantial, and even those modest reductions were short-lived. Implementation of tariff increases began in 1860 and was further encouraged by the need for revenue created by the Civil War. By 1864, the tariff schedule Nova Scotia would have faced in the absence of reciprocity was similar to that of the 1840s.

The Reciprocity Treaty, implemented between the fall of 1854 and the spring of 1855, provided for removal of duties on the following goods: breadstuffs, butter, cheese, coal, dye stuffs, eggs, firewood, fish, fish products and all other seafood and seafood products, flax, flour, fruits (fresh and dried), furs and pelts, grains, grindstones, gypsum (unground), hemp, hides and skins, lard, livestock, lumber of all kinds, manures, marble, metal ores, pitch, plants, poultry, rags, rice, shrubs, slate, stone, tallow, tar, timber of all kinds, unmanufactured tobacco, tow, trees, turpentine, and wool. As a result, all the provinces of British North America were exempted from American duties on their major exports in return for free entry of American natural products to their markets.

Only a few of the commodities listed in the treaty were important in Nova Scotia's trade with the United States. Nova Scotia shipped a high percentage of its exports of coal, firewood, herring, mackerel, shad, salmon, potatoes and other vegetables to the American market, but the quantities were small relative to the size of that market.¹⁸ Therefore, any increase in exports the colony was capable of producing could be absorbed into the American market with no perceptible impact on price. In consequence, the Nova Scotian price for these commodities would have tended to be the American price less the cost of entering that market. Removal of tariffs should, therefore, have increased the price received in Nova Scotia, up to the amount of the duty, while at the same time causing an increase in output as producers responded to the higher price.¹⁹

Other commodities enumerated in the Reciprocity Treaty and important to Nova Scotia's total trade were not marketed primarily in the United States. Cod and lumber together comprised a quarter of Nova Scotia's total exports between 1852 and 1856, but less than 10 per cent of exports of each of these commodities were

18 Although gypsum was enumerated in the treaty, and the United States was the sole export market for it, the treaty was of no significance to this product. Unground gypsum had been free of duties before 1854, and ground gypsum was counted as manufactured and continued to pay duties after 1854.

19 If British North American supplies were a very small part of total supplies to the American market, and if there was no impact on freight rates due to shifts in the volume of trade, then the price increase to British North American suppliers is expected to equal the reduction in the tariff. If freight rates increased or if B.N.A. supplies were a significant part of total American production, the increase in price is expected to be less than the change in the tariff.

Table Four
American Tariff Rates
On Nova Scotia's Main Exports and Selected Other Commodities

		1824	1834	1842	1846	1857	1864
	UNIT						
Fish, Herring Pick.	BBL	\$1.00	\$1.00	\$1.50	20%	15%	\$1.00
Fish, Mack. Pick.	BBL	\$1.50	\$1.50	\$1.50	20%	15%	\$2.00
Fish, Other Pick.	BBL	\$1.00	\$1.00	\$1.00	20%	15%	\$1.50
Fish, Salmon Pick.	BBL	\$2.00	\$2.00	\$2.00	20%	15%	\$3.00
Fish, Salted, Dried	CWT	\$1.00	\$1.00	\$1.00	20%	15%	\$0.50
Fish Oil Spermaceti	GAL	25¢	25¢	25¢	20%	15%	20%
Fish Oil Other	GAL	15¢	15¢	15¢	20%	15%	20%
Fish Products		12.5%	12.5%	12.5%	20%	15%	20%
Gypsum Unground		FREE	FREE	FREE	FREE	FREE	FREE
Gypsum Ground		FREE	FREE	FREE	20%	15%	10%
Hides, Not Tanned		FREE	FREE	5%	5%	4%	10%
Flour	CWT	50¢	50¢	70¢	20%	15%	10%
Barley, Unground		12.5%	15%	20%	20%	15%	15%
Barley, Hulled	LB.	12.5%	12.5%	20¢	20%	15%	10¢
Oatmeal		12.5%	15%	12.5%	20%	15%	10%
Oats, Unground	BU.	10¢	10¢	10¢	20%	15%	10¢
Potatoes	BU.	10¢	10¢	10¢	30%	24%	10¢
Butter	LB.	5¢	5¢	5¢	20%	15%	4¢
Cheese	LB.	9¢	12.5%	9¢	30%	24%	4¢
Pork & Beef	LB.	2¢	2¢	2¢	20%	15%	1¢
Bacon & Ham	LB.	3¢	3¢	3¢	20%	15%	2¢
Coal	TON	\$1.68	\$1.68	\$1.75	30%	24%	\$1.25
Wood, Fire		FREE	FREE	20%	30%	24%	20%
Wood, Unmanuf.		FREE	FREE	20%	20%	15%	30%
Not Otherwise Provided For:		12.5%	15%	20%	20%	15%	10%

Sources: "An Act to Amend the Several Acts Imposing Duties on Imports", *Eighteenth Congress*, Session 1 (1824), ch. 136; "An Act to Alter and amend the Several Acts Imposing Duties on Imports" *Twenty-second Congress*, Session 1 (1832), ch. 227; "An Act to Provide Revenue from Imports..." *Twenty-seventh Congress*, Session 2 (1842), ch. 270; "An Act Reducing the Duty on Imports, and for Other Purposes", *Twenty-ninth Congress*, Session 1, ch. 74.

Table Five
Exports to U.S.A. from Nova Scotia

	1832- 1836	1837- 1841	1842- 1846	1847- 1851	1852- 1856	1858- 1862	1862- 1866	Share of U.S. Exports ¹
Coal	153	263	184	248	256	400	766	25.0%
Mackerel	0	47	125	373	547	390	632	23.7%
Herring	1	11	2	25	133	295	171	7.0%
Vegetables	19	5	0	0	153	265	141	6.3%
Gypsum	98	68	63	36	73	59	40	5.0%
Wood, Fire	0	0	0	64	148	109	95	4.6%
Cod	22	5	9	52	85	104	107	4.3%
Salmon	6	29	34	42	64	62	41	3.1%
Wood Products	1	1	42	13	68	27	74	2.6%
Fish Oil	1	2	3	15	46	63	70	2.1%
Hides & Skins	15	43	8	7	11	25	29	1.6%
Fish, Misc.	0	1	2	5	18	34	32	1.0%
Hardware	2	4	1	2	16	11	13	0.6%
Textiles	0	2	0	0	4	5	32	0.5%
Sugar, Raw	4	92	14	9	20	8	103	2.9%
Molasses	10	4	0	2	4	4	71	1.1%
Spirits & Wine	22	12	6	2	3	3	24	0.8%
Other	76	111	51	125	101	116	156	8.1%
Total to U.S.	431	699	545	1,019	1,751	1,979	2,595	100%
Total	4,087	6,046	3,812	3,211	5,930	6,250	7,237	
U.S. Share of Total Exports	10.6%	11.6%	14.3%	31.7%	29.5%	31.7%	35.9%	

¹ The share of U.S. exports is calculated by summing exports for each commodity from 1832 to 1866 and dividing by the sum of total exports from 1832 to 1866.

Sources: Colonial Customs 12/1-21, PRO for exports except to B.N.A.; Colonial Office 221/46-76 for imports from and exports to British North America, 1832-66. In 1857 trade was not broken down by place of origin and that year is omitted from these tables.

sent to the United States.²⁰ Unless the change in the American tariff altered the demand or supply for these commodities in the alternative markets, changes in tariffs would have been irrelevant to market conditions. Multiple regression analysis, carried out to test the impact of tariff reductions, indicates that prices of coal and mackerel rose when tariffs fell and the price of flour tended to decline as British and colonial duties were reduced, but the price of cod was unaffected by changes in the American tariff. (See the Appendix for the results of the regression analysis.)

Changes in Nova Scotia's pattern of trade imply that reciprocity had a significant impact on the structure of the province's economy. Imports of goods subject to Nova Scotian duties in 1853 which became free with reciprocity increased more than imports of any other goods.²¹ (See Table Six.) Similarly, exports of those goods included in the Reciprocity Treaty for which the American market was important grew more rapidly than exports of goods produced in Nova Scotia for which the American market was unimportant.²² (See Tables Five and Seven.)

Changes in prices of commodities which resulted from changes in tariffs could be expected to have stimulated changes in the types of goods produced, resulting in the shifting of land, labour and capital to goods whose relative prices had increased. A comparison of the censuses of 1851 and 1861 provides evidence of shifts in production, but this suggestive evidence must be interpreted with caution. The vagaries of the weather, changes in market conditions, changes in technology and changes in the relative availability of capital and labour would also have influenced production.²³

Keeping these caveats in mind, it is, nonetheless, clear that changes in the composition of output between 1851 and 1861 were, with some exceptions, consistent with the changes hoped for by the advocates of reciprocity. (See Table Eight.) In that decade, population increased 20 per cent and the number of improved acres increased 22 per cent, so that increases in production greater than 20 and 22 per cent represent an increase in output per capita and per improved acre, respectively. Overall, production of those commodities which Nova Scotia exported to the United States grew substantially more rapidly than production of those

20 Nova Scotia, House of Assembly, "Trade Returns", *Journals and Proceedings of the House of Assembly of Nova Scotia*, (Halifax, 1852 to 1856).

21 Total trade with the United States also increased much more than trade with the rest of the world up to 1863. From 1863 to 1866 imports from the rest of the world increased much more rapidly than total imports from the United States. At the same time, imports of goods from the tropics shipped via the American market declined sharply, while exports to the United States of goods originating in the tropics increased quite substantially. Apparently disturbances in the American market were redirecting this trade in re-exports.

22 Coal, mackerel, herring, potatoes, firewood, shad and salmon, fish oil, hides and skins are included as those goods affected by reciprocity. Cod fish and wood products are excluded because too small a proportion of their exports were shipped to the American market. Gypsum was excluded because reciprocity had no influence on the tariffs applied to it.

23 Since production would have continued to adjust to free trade from 1861 to 1866 and would have responded to abrogation only from 1866 to 1871, changes in production between the 1861 and 1871 censuses are a poor guide to the response to the end of free trade.

Table Six
Pattern of Nova Scotian Imports

	(THOUSANDS OF DOLLARS)				(RATIO TO IMPORTS IN 1853)					
	1 REC	2 NONR	3 MFG	4 TROP	5 ROW	6 US	7 REC	8 NONR	9 MFG	10 TROP
1832	513	174	21	0	0.99	0.36	0.60	0.48	0.05	0.00
1833	592	193	19	0	0.80	0.43	0.69	0.53	0.04	0.00
1834	299	174	11	0	0.71	0.27	0.35	0.48	0.03	0.00
1835	207	174	10	0	0.68	0.27	0.24	0.48	0.02	0.00
1836	144	222	10	6	0.99	0.25	0.17	0.61	0.02	0.06
1837	215	173	33	1	0.89	0.26	0.25	0.48	0.08	0.01
1838	198	229	43	0	1.06	0.30	0.23	0.63	0.10	0.00
1839	790	364	43	9	1.32	0.67	0.92	1.00	0.10	0.09
1840	1,128	493	91	21	1.32	0.95	1.32	1.35	0.21	0.20
1841	1,415	357	119	5	1.32	1.09	1.65	0.98	0.28	0.05
1842	1,328	350	76	26	0.81	0.96	1.55	0.96	0.18	0.26
1843	522	293	82	60	0.75	0.52	0.61	0.80	0.19	0.58
1844	541	389	106	32	0.84	0.57	0.63	1.07	0.25	0.31
1845	457	373	95	86	0.74	0.55	0.53	1.02	0.22	0.83
1846	445	342	97	100	0.78	0.53	0.52	0.94	0.23	0.97
1847	667	542	77	105	0.93	0.73	0.78	1.49	0.18	1.02
1848	792	531	101	62	0.62	0.78	0.92	1.46	0.24	0.60
1849	859	541	146	55	0.61	0.86	1.00	1.48	0.34	0.54
1850	540	481	226	12	0.77	0.70	0.63	1.32	0.53	0.11
1851	622	371	336	139	0.86	0.79	0.73	1.02	0.78	1.35
1852	770	258	392	113	0.83	0.84	0.90	0.71	0.91	1.10
1853	857	365	429	103	1.00	1.00	1.00	1.00	1.00	1.00
1854	1,202	507	645	177	1.21	1.38	1.40	1.39	1.51	1.73
1855	1,798	651	662	107	1.14	1.78	2.10	1.79	1.55	1.04
1856	1,621	512	657	235	1.19	1.63	1.89	1.40	1.53	2.29
1858	1,471	386	584	148	1.03	1.40	1.72	1.06	1.36	1.44
1859	1,338	349	610	84	1.04	1.39	1.56	0.96	1.42	0.82
1860	1,508	322	701	261	1.05	1.57	1.76	0.88	1.64	2.54
1861	1,266	342	727	236	0.91	1.47	1.48	0.94	1.70	2.29
1862	1,526	351	605	112	1.08	1.46	1.78	0.96	1.41	1.09
1863	1,901	472	705	206	1.27	1.86	2.22	1.29	1.65	2.01
1864	1,947	412	906	89	1.66	2.07	2.27	1.13	2.11	0.87
1865	1,745	255	822	76	2.01	2.08	2.04	0.70	1.92	0.74
1866	2,163	463	714	47	2.07	1.94	2.52	1.27	1.66	0.46

Col. 1: Value of natural produce from the U.S. paying duties in 1853.

Col. 2: Value of natural produce from the U.S. not paying duties in 1853.

Col. 3: Value of selected manufactured goods imported from the U.S.

Col. 4: Value of tea and molasses imported from the U.S.

Col. 5: Ratio of imports from the rest of the world to imports in 1853.

Col. 6: Ratio of imports from the U.S. to those imports in 1853.

Col. 7-10: Ratio of imports to imports in 1853 for values in col. 1-4

Sources: Cust 6/1-21, Cust 12/1-21, CO 221/46-76, PRO. In 1857 trade was not broken down by place of origin and that year is omitted from this table.

Table Seven
Pattern of Nova Scotian Exports

	(THOUSANDS OF DOLLARS)				(RATIO TO EXPORTS IN 1853)					
	1 REC	2 NONR	3 MFG	4 TROP	5 ROW	6 US	7 REC	8 NONR	9 MFG	10 TROP
1832	170	69	2	29	0.91	0.25	0.16	0.30	0.05	1.13
1833	176	177	1	76	0.90	0.34	0.17	0.78	0.03	2.98
1834	137	119	2	20	0.79	0.25	0.13	0.52	0.06	0.80
1835	201	130	3	22	1.02	0.34	0.19	0.57	0.07	0.85
1836	294	109	2	37	0.95	0.38	0.28	0.48	0.04	1.46
1837	307	44	1	20	0.92	0.37	0.29	0.19	0.03	0.77
1838	350	78	9	36	1.25	0.38	0.33	0.34	0.21	1.42
1839	469	100	4	146	1.68	0.60	0.45	0.44	0.10	5.74
1840	353	97	2	126	1.37	0.50	0.34	0.42	0.05	4.97
1841	521	51	13	215	1.45	0.67	0.50	0.22	0.30	8.47
1842	278	128	2	5	1.03	0.32	0.27	0.56	0.04	0.18
1843	309	62	2	0	0.82	0.32	0.29	0.27	0.04	0.00
1844	335	108	2	37	0.80	0.39	0.32	0.47	0.04	1.46
1845	426	108	0	30	0.68	0.46	0.41	0.48	0.00	1.19
1846	439	167	2	31	0.74	0.48	0.42	0.74	0.04	1.24
1847	1,103	110	3	55	0.70	1.00	1.05	0.49	0.08	2.15
1848	631	100	0	6	0.49	0.59	0.60	0.44	0.01	0.23
1849	634	80	4	0	0.47	0.65	0.60	0.35	0.08	0.00
1850	817	113	2	1	0.60	0.74	0.78	0.50	0.04	0.03
1851	709	104	2	0	0.48	0.69	0.68	0.46	0.06	0.00
1852	894	182	2	9	0.90	0.93	0.85	0.80	0.05	0.35
1853	1,049	227	43	25	1.00	1.00	1.00	1.00	1.00	1.00
1854	1,280	222	33	12	1.16	1.15	1.22	0.98	0.76	0.47
1855	1,978	277	12	44	0.96	1.73	1.89	1.22	0.29	1.72
1856	1,687	221	8	45	1.20	1.49	1.61	0.97	0.20	1.77
1858	1,781	167	5	10	1.07	1.47	1.70	0.74	0.12	0.39
1859	1,867	285	26	3	1.15	1.64	1.78	1.25	0.61	0.12
1860	1,839	263	8	36	1.10	1.61	1.75	1.16	0.19	1.43
1861	1,254	130	27	12	1.06	1.10	1.20	0.57	0.63	0.46
1862	1,472	107	12	11	0.96	1.30	1.40	0.47	0.28	0.44
1863	1,334	169	56	167	1.17	1.35	1.27	0.74	1.32	6.56
1864	1,992	167	31	109	1.18	1.76	1.90	0.74	0.73	4.29
1865	2,646	293	73	479	1.30	2.60	2.52	1.29	1.70	18.84
1866	2,437	364	50	224	1.19	2.32	2.32	1.60	1.17	8.82

Col. 1: Value of natural products for which reciprocity was important.

Col. 2: Value of natural products for which reciprocity was not important.

Col. 3: Value of selected manufactured goods exported to the U.S.

Col. 4: Value of molasses, sugar, spirits and wine exported to the U.S.

Col. 5: Ratio of exports to the rest of the world to those exports in 1853.

Col. 6: Ratio of exports to the U.S. to those exports in 1853.

Col. 7-10: Ratio of exports to exports in 1853 for values in col. 1-4

Sources: Cust 6/1-21, Cust 12/1-21, CO 221/46-76, PRO.

Table Eight
Changes in Production and Patterns of Trade

FIELD CROPS (thousands bushels)	CAPACITY AND PRODUCTION			AVERAGE NET EXPORTS 1852-1856 ²			SHARE OF TRADE ¹			
	1851 ³	1861 ⁴	CHANGE	TOTAL	BNA	USA	EXP.	IMP.	EXP.	IMP.
potatoes	1,987	3,825	93%	38	3	35	19%	94%	78%	5%
other roots	32	88	171%	With potatoes						
turnips	467	554	19%	With potatoes						
oats	1,384	1,978	43%	-8	-9	1	68%	98%	19%	1%
barley	196	270	37%	With oats						
hay (tons)	288	334	16%	na						
buckwheat	170	195	15%	na						
wheat	297	312	5%	-40	-3	-36	nil	9%	nil	91%
wheat flour	na			-719	-125	-594	97%	20%	0%	80%
peas	22	21	-1%	na						
rye	61	60	-3%	na						
rye flour	na			-16	-0	-16	nil	2%	nil	98%
corn	37	16	-59%	-40	-3	-36	nil	9%	nil	91%
corn and oatmeal	na			-38	-1	-38	96%	9%	0%	91%
ANIMALS AND ANIMAL PRODUCTS (thousands of animals or pounds of product)										
horses	29	42	47%	3	3	0	96%	nil	4%	nil
cheese	652	901	38%	2	2	-1	95%	1%	1%	86%
butter	3,614	4,533	25%	24	17	0	70%	63%	4%	36%
milk cows	87	111	27%	na						
sheep	282	333	18%	6	6	0	96%	nil	0%	nil
swine	52	53	3%	0	0	0	96%	nil	0%	nil
pork and hams	na			-4	5	-10	82%	17%	1%	82%
neat cattle	157	152	-3%	25	23	0	92%	nil	0%	nil
beef	na			-5	2	-7	88%	15%	1%	86%
FISH (thousands of units)										
shad (bbls)	4	8	116%	9	-8	13	1%	99%	79%	0%
salmon (bbls)	2	2	49%	with shad						
dried fish (qtls)	196	396	102%	140	-24	17	17%	100%	8%	0%
gaspereaux (bbls)	6	13	98%	na						
herring (bbls)	53	94	77%	47	-7	26	29%	100%	34%	0%
herring smk. (bxes)	15	36	131%	4	2	0	36%	nil	6%	nil
fish oil (gals)	189	231	22%	11	-5	7	24%	96%	31%	3%
mackerel (bbls)	100	66	-34%	153	4	109	4%	99%	71%	0%
MINERALS (thousands of tons)										
coal ⁵	148	326	121%	71	19	51	27%	nil	72%	nil
gypsum	80	126	58%	15	0	14	3%	nil	97%	nil
MANUFACTURING (number of mills or workers)										
saw mills	1,153	1,401	22%							
workers	1,786	2,979	67%							
lumber	na			104	5	6	7%	85%	6%	15%
grist mills	398	414	4%							
workers	573	582	2%							
population	277	331	20%							
improved acres	839	1,028	22%							

¹ The sums of exports and imports of British North America and the United States from 1852 to 1856 are each divided by the sum of total exports and total imports of the commodity over those years in order to calculate the per cent shares given here. Data is taken from "Trade Returns", *Journals and Proceedings of the House of Assembly, Nova Scotia* (1852 to 1856).

² Total net exports are calculated by subtracting the sum of imports between 1852 and 1856 from the sum of exports over these years for each commodity. The same calculation is made for the exports and imports of the commodity to British North America and the United States. Data is taken from "Trade Returns" (1852 to 1856).

³ "Census of 1851, Nova Scotia", *Censuses of Canada 1665 to 1871, Statistics of Canada*, vol 4 (Ottawa, 1876), pp. 232-9.

⁴ "Census of 1861, Nova Scotia", *ibid.*, pp. 344-56.

⁵ M. Gerriets, "The Rise and Fall of a Free-Standing Company in Nova Scotia: The General Mining Association", *Business History*, 34 (1992), pp. 46-7.

commodities which Nova Scotia imported from the United States. Thus potato, oat and barley production expanded dramatically while rye and corn production declined and wheat production grew very little.²⁴ These changes in agriculture had significance for manufacturing; the minimal growth in the number of grist mills and grist mill workers, particularly when compared to growth in saw milling, likely resulted from the slow growth in wheat production.²⁵

Shifts in production of animal products are interesting, particularly since meat, butter and cheese were among the few products which still enjoyed protection in 1854. As shown in Table Eight, in general, Nova Scotia imported animal products from the United States and exported those products to British North America, but overall Nova Scotia was a net importer of beef and pork and a net exporter of dairy products. Indeed, the province had small net exports of butter to the United States. Production of meat was not recorded in the census, but farming families' stocks of neat cattle declined, while holdings of swine grew very slowly.²⁶ In contrast, production of cheese and butter and stocks of milk cows increased much more rapidly than swine and neat cattle stocks, although not so quickly as potatoes or coal production.

The information in the census on the fisheries provides less evidence of a shift towards greater production of the goods most likely to be affected by the change in tariffs. In particular, production of mackerel declined sharply, even though that commodity's strong reliance on the American market implies that mackerel production should have been stimulated by free trade. But trade statistics indicate that the low level of production reported in the census of 1861 was likely the result of particular circumstances during the census year. Mackerel exports to the United States averaged \$595,104 from 1854 to 1860, and \$877,654 from 1864 to 1866, but they amounted to only \$173,238 in 1861 when markets were disrupted by the Civil War. It seems unlikely that production in 1861 accurately represents the response of the fishery to changes in tariffs. Significant quantities of pickled herring, shad and salmon were exported to the United States, and their production expanded substantially, as would be expected.

Very substantial expansion in coal production occurred between 1851 and 1861, and coal production continued to grow dramatically during the 1860s. Institutional change accompanied the change in trade regime. The British-owned General Mining Association (GMA) had secured a 60 year lease of virtually all ungranted minerals

24 Nova Scotia exported oats and barley to the United States but imported these grains from Canada and overall was a net importer. Canada, however, was a net exporter of these grains to the United States. Officer and Smith, "The Canadian American Reciprocity Treaty", pp. 615-17. Therefore, removal of duties is expected to have increased the net price of oats and barley in B.N.A., stimulating Nova Scotian production.

25 The 1851 census provides no information about the production of lumber or flour. The change in the number of workers is the best available proxy for the change in output.

26 The census divided cattle stocks into milk cows and neat cattle. The latter included animals kept for beef production.

in 1826 and was the sole producer of coal up to 1858.²⁷ In that year, the province of Nova Scotia negotiated an agreement with the GMA which broke their lease and allowed a number of competing firms to open coal mines. However, the General Mining Association expanded its output by 107 per cent between 1851 and 1861, and production by other mines was only six per cent of total output in the latter year, so the large increase in output during that decade cannot be attributed primarily to the opening of new mines. Coal production continued to expand during the 1860s, and much of that growth came from new mines.²⁸ The breaking of the GMA's lease played a major role in the growth of this industry, but removal of American duties on coal also provided favourable market conditions to support the industry's expansion.

It seems reasonable to assume that the changes in trade outlined above resulted in higher incomes than would have been enjoyed in the absence of reciprocity. Domestic prices of at least some exports rose relative to external prices, and, since the production of exported goods exceeded their domestic consumption, the increase in income to the producer outweighed the loss to the consumer. Consumption of imported goods exceeded production, so that any decline in the domestic prices of imports relative to external prices would have provided a net benefit to consumers which exceeded the loss to producers. However, the changes in tariffs on imports were not large, and much of that gain took the form of reduced tax revenue and was merely a transfer from the government to the public. Reduced protection of the domestic economy also has the negative effect of discouraging production, which in the short-run can cause unemployment and in the long-run may decrease population and result in a smaller economy.²⁹ For these reasons, the impact on income of changes in duties on imports is ignored in the discussion that follows.

A comparison of trade for the 11 years preceding reciprocity with the 11 years during which the treaty was in effect indicates that the potential for a dramatic direct impact of free trade on income was limited. (See Table Nine.) The increase in the average value of those exports most likely to be affected by the Reciprocity Treaty was only \$2.60 per person, and all exports to the United States grew by \$3.06 per person. Of course, only part of that growth was likely to have resulted from tariff changes. During reciprocity, American tariffs on Nova Scotia's exports ranged from approximately 10 per cent to 30 per cent of their value. (See Table Four.) Nova Scotia's average annual per capita export of products enumerated in the treaty whose main market was in the United States was \$5.30 between 1855 and 1865; if 15 per cent to 25 per cent of that value resulted from price increases due to reduced tariffs, then Nova Scotians would have gained about \$.80 to \$1.33 per person per year. While this amount seems quite small, daily wages for an unskilled labourer approximated the lower figure, while those for skilled labourers

27 M. Gerriets, "The Impact of the General Mining Association on the Nova Scotia Coal Industry, 1826-1850", *Acadiensis*, XXI, 1 (Autumn 1991), pp. 54-84.

28 M. Gerriets "The Rise and Fall", pp. 16-48.

29 John Dales, "The Cost of Protectionism with High International Mobility of Factors", *Canadian Journal of Economics and Political Science*, 30 (1964), pp. 512-25.

did not frequently exceed the latter.³⁰ Since the average household was composed of six individuals, reciprocity may have provided a direct benefit roughly equivalent to the value of one week's work by an adult male per household.³¹

Table Nine
Average Value of Trade Per Capita

	1845-54 ¹	1855-65 ²	DIFFERENCE	CHANGE
IMPORTS FROM U.S.	5.96	10.49	4.53	76.1%
ALL IMPORTS	21.07	29.23	8.16	38.7%
EXPORTS TO U.S.	3.68	6.74	3.06	83.1%
ALL EXPORTS	14.23	20.22	5.99	42.1%
TOTAL WITH U.S.	9.64	17.24	7.60	78.8%
TOTAL TRADE	35.30	49.45	14.15	40.1%
REC. EXPORTS ³	2.71	5.30	2.60	95.9%

Values are dollars per capita.

¹ Average trade from 1845 to 1854 is divided by 1851 population ("Census of 1851, Nova Scotia").

² Average trade from 1855 to 1865 is divided by 1861 population ("Census of 1861, Nova Scotia").

³ Exports to the United States of coal, mackerel, herring, potatoes, firewood, shad and salmon, fish oil, hides and skins are included as those goods affected by reciprocity.

Sources: Cust 6/1-21; Cust 12/1-21. CO 221/46-76, PRO.

This very crude estimation ignores the possibility that, in the absence of reciprocity, rather than produce goods such as mackerel or firewood whose prices were depressed by substantial American tariffs, Nova Scotians might have employed their resources producing other goods, such as wheat or lumber or cod and suffered a smaller loss in income than the estimate given above. On the other hand, it also ignores the possibility that there were secondary effects of the treaty that increased the income earned from shipping lumber to Britain or oats to Newfoundland. In addition, given the great mobility of capital and labour in the mid-19th century, improved prices for Nova Scotia's exports would have tended to reduce emigration and even to encourage immigration of both capital and labour, resulting in a larger economy. In mid-19th century Nova Scotia an increase in population and capital stock may have been, in itself, beneficial by providing

30 Gwyn, "Golden Age or Bronze Moment", pp. 195-230.

31 "Census of 1851, Nova Scotia" and "Census of 1861, Nova Scotia" both imply households averaging six persons.

larger markets for local manufacturers and a larger economic base to support basic infrastructure, even if income per capita was unchanged. For example, the extension of the Nova Scotia railway to Pictou would not likely have occurred in the absence of a substantial local coal industry.

Clearly, then, the Reciprocity Treaty complemented the earlier movement towards freer trade. When Britain unilaterally reduced protection of colonial markets, Nova Scotians, in contrast to Canadians, rejected the opportunity to impose their own protective tariffs. Thus the difficult process of adjusting to increased imports had been initiated well before 1854. Nova Scotia's exports of commodities sold primarily to the United States were stimulated by reciprocity. At the same time, Nova Scotia's economy responded to the changing circumstances as production shifted away from goods, such as wheat and pork, where the province lacked a comparative advantage, towards products such as potatoes, coal and dairy products where the province did possess a comparative advantage.³²

While the overall gains from reciprocity were not dramatic, the impact on some commodities was significant. The prosperity of the coal mines had long been dependent on the American market, and the depression of the early 1840s, combined with the high American tariff introduced in 1842, had created considerable hardship. Removal of the substantial duty, along with the return of prosperity, created conditions which allowed output and employment to increase, and provided the opportunity for the development of new mines once the GMA's monopoly control was broken.³³ Similarly, the mackerel fishery received a very substantial stimulus from the removal of a 20 per cent duty.

Moreover, we must not be too quick to denigrate modest accomplishments. Many studies of economic events once thought to have had a major influence on economic development have demonstrated that their contribution was, in fact, modest. Railroads have been shown to have had a relatively minor impact on American economic growth.³⁴ The importance once attributed without hesitation to the wheat boom as an engine of economic transformation in Canada has become a subject of debate.³⁵ Even the role of the steam engine as an essential part of

32 Positive net exports indicate that a region possessed a comparative advantage in the production of a commodity.

33 Improved market conditions for coal production may have contributed to the breaking of the monopoly. The GMA actively resisted pressures to open new mines. As markets improved, the loss of income to the province due to a refusal to expand mining activity increased, providing additional incentives for the province to negotiate an end to the firm's exclusive control of coal resources.

34 Robert W. Fogel, *Railroads and American Growth: Essays in Econometric History* (Baltimore, 1964). Fogel makes the point that any single innovation was likely to be responsible for only a very small portion of total economic growth. See pp. 234-7.

35 E.J. Chambers and D.F. Gordon, "Primary Products and Economic Growth: an Empirical Measurement", *Journal of Political Economy*, 74 (1966), pp. 315-32. Morris Altman, "A Revision of Canadian Economic Growth: 1870-1910 (A Challenge to the Gradualist Interpretation)", *Canadian Journal of Economics*, 20 (1987), pp. 86-113. The potential transformative power of the wheat boom stemmed, at least in part, from the extensive natural resources which could be drawn into production.

industrialization has been challenged.³⁶ Perhaps the increase in our ability to provide for the material wants of human beings over the last few centuries has resulted from the steady accretion of many modest accomplishments which reduced barriers to trade or increased the efficiency of production, rather than from a few changes which had dramatic results.

APPENDIX

Regressions were run for four commodities — two exports to the United States, coal and mackerel, an import from the United States, wheat flour, and cod, whose primary market was in the West Indies. The Halifax price of the relevant good was the dependent variable, and the New York price, the Nova Scotian or American tariff as appropriate, a freight rate index and a variable for the value in gold of American currency as independent variables.³⁷ (See Table Ten.) The period studied is from 1830 to 1860, the last year before the Civil War seriously disrupted trade.

The regressions of coal and mackerel indicate that as the American tariff fell, the price of Nova Scotia's exports rose. The results for cod show no relationship of significance between Nova Scotian prices and the American tariff, as expected since the primary market for cod was in the West Indies. The results for flour indicate that shifts in tariffs had the predicted impact on this import market as well, although the level of significance is lower than for the other commodities.

- 36 D.B. Sicilia, "Steam Power and the Progress of Industrialization in the late 19th Century", *Theory and Society*, 15 (1986), pp. 287-99. Robert B. Gordon, "Cost and Use of Water Power during Industrialization in New England and Great Britain", *Economic History Review*, 36 (1983), pp. 240-59.
- 37 The coefficient of the freight rate is not significant, and in two cases the sign is wrong. The best index available is based on freights for American trade with Britain, and is dominated by cotton freights. Knick Harley's indices are based entirely on shipping from Britain and give still poorer results. His work does indicate freights charged for different commodities could diverge sharply since the peculiarities of excess capacity on specific routes played a very large role. See his "Ocean Freight Rates and Productivity, 1740-1913: The Primacy of Mechanical Invention Reaffirmed", *The Journal of Economic History*, 48 (1988) and "Coal Exports and British Shipping, 1850-1913", *Explorations in Economic History*, 26 (1989), pp. 311-38.

Table Ten
Regression Results

	C	NY PRICE	TARIFF	CURRENCY	FRT	TESTS
COAL	399.7 (2.47)*	0.28 (4.79)*	-0.13 (-3.13)*	-3.33 (-2.02)*	0.12 (1.83)	R ² :0.51 F:8.91 DW:1.59
MACKEREL	-271.1 (0.65)	1.04 (8.89)*	-0.29 (-3.48)*	3.20 (0.76)	-0.17 (-0.76)	R ² :0.88 F:54.4 DW:2.14
FLOUR	433.7 (2.26)	0.73 (9.20)*	0.06 (1.95)	-4.16 (-2.14)	0.05 (0.60)	R ² :0.82 F:34.2 DW:2.16 RHO:0.59 TRH:3.70
COD	-235.4 (-0.88)	0.44 (2.38)*	-0.04 (-0.41)	2.70 (0.97)	0.12 (0.87)	R ² :0.42 F:6.13 DW:1.51

* Significant at the 5 per cent level

Dependent variable: Halifax price of each commodity.

Variables are normalized so that 1844 = 100 for comparability of coefficients.

C: Constant.

NY PRICE: Price in New York of each commodity.

TARIFF: American tariff on each commodity.

CURRENCY: Value in gold of the American currency.

FRT: freight rate index

Sources: American tariffs: "An Act to Alter..." *Twenty-second Congress* (1832); "An Act to Provide Revenue...", *Twenty-seventh Congress* (1842), "Ac Act Reducing the Duty...", *Twenty-ninth Congress*. Nova Scotian tariffs: "An Act for Granting Colonial Duties...", *Statutes of the Province of Nova Scotia* (1834); "An Act for Granting Colonial Duties of Impost...", *Statutes* (1843); "An Act for Granting Colonial Duties...", *Statutes* (1854). Halifax prices: from the "Prices Current" of various Halifax newspapers. New York prices: Arthur H. Cole, *Working Papers Price Committee*, GA 13, 11, Baker Library, Harvard University. U.S. currency: C.F. Warren and F.A. Pearson, *Wholesale Prices for 213 Years, 1720 to 1932* (Ithaca, 1932). Freight index: Douglas North, "Ocean Freight Rates and Economic Development 1750-1913", *Journal of Economic History*, 18 (1958).