

# Prosperity Through Self-Reliance

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The Economic Value of Import Replacement  
In Atlantic Canada  
&  
How to Achieve It

By Michael H. Shuman  
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**For Further Information, Contact:**

Michael H. Shuman  
2203 Quinton Road  
Silver Spring, MD 20910  
United States  
202-669-1220  
[shuman@igc.org](mailto:shuman@igc.org)

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## Introduction

To understand and seize the opportunities for expanding micro enterprises and small businesses in the Atlantic Maritime Provinces—New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island—the Center for Local Prosperity (CLP) commissioned this study, after receiving a grant from Atlantic Canada Opportunities Agency (ACOA). The analysis aims to identify the potential for growing the region through greater self-reliance, economic diversification, and import replacement.

The immediate impetus for the study was a perceived gap between theory and practice concerning economic development in Atlantic Canada. Most of the region's economic development strategies, past and present, have emphasized growing export industries, even though most of the region's traditional natural resources such as fish and lumber can no longer sustain a long-term growth in exports. Economic developers and policymakers counter that new export industries must take their place, perhaps industries focusing on high tech, biotech, or nanotech. The logical imperative that flows from this viewpoint is that economic development must focus on attracting and retaining global companies for building up these exporting sectors and clusters. And many other policy recommendations – from infrastructure development to education and immigration policy – flow from the perceived urgency of satisfying the growing needs of international business.

An example of this logic can be found in “Now or Never: An Urgent Call to Action for Nova Scotians,” the influential report of the Nova Scotia Commission on Building Our New Economy. Published in February 2014, the report urged prioritization of “support for growth oriented enterprises, expanding exports and diversifying markets for traditional and new export products.” (p. ix) Why? “Being a small province, and one with slow population growth, means that Nova Scotia has a small domestic market. For most businesses to grow significantly, whether goods producers or service providers, they have to access larger external markets through trade activities.” (p. 29)

But what if the domestic markets in Atlantic Canada have more than “small” potential? What if domestic markets can sustain significant new and expanded businesses? And what if it turns out that greater self-reliance is, paradoxically, the best strategy for generating more exports? This last point was the essential argument made by the late Canadian economist Jane Jacobs.

Economic developers often suggest that the only way of growing an economy is to bring new money into it, and the only way of attracting new money is through the sale or exchange of exports. Neither of these assertions, however, is correct. An economy can become wealthier, for example, by becoming more efficient, perhaps by increasing the productivity of its workforce. And an economy can effectively gain new money not only by selling more exports but also by purchasing fewer imports. What matters for prosperity is the *trade balance*, and the problem facing the Atlantic Maritime provinces is

that their economies are running a long-term trade deficit. Greater exports are important, but equally important are fewer imports.

Three examples illustrate the importance of import substitution:

- In the 1980s Güssing was a dying rural community of 4,000 in Austria.<sup>1</sup> Its old industries of logging and farming had been demolished by global competition. Many of today's economic developers would have given up and encouraged the residents to move elsewhere. But the mayor of Güssing decided that the key to prosperity was to plug energy "leaks." He built a small district heating system, fueled with local wood. The money saved by importing less energy was then reinvested in expanding the district heating system and in new energy businesses. By 2007, 50 new energy-related firms had opened, creating 1,000 new jobs. And most remarkably, the town estimates that this economic expansion actually reduced its carbon footprint by 90 percent.
- In autumn of 2008 Marian Burros of the *New York Times* wrote a piece about how the 3000-person community of Hardwick, Vermont, prospered by creating a new "economic cluster" around local food.<sup>2</sup> Cutting-edge restaurants, artisan cheese makers, and organic orchardists were just some of the new businesses that had added an estimated 75-100 jobs to the area at a time when most rural communities were losing jobs. A Vermont Food Venture Center also was put in place to continue the creation of local food enterprises.
- Even a single, visionary business can lead a community-wide effort at import substitution. Take Zingerman's in Ann Arbor, Michigan. On its first day of business in a college town known globally more for its radicalism than for its food, Zingerman's Deli sold about \$100 worth of sandwiches. That was 1982. It has since grown into a community of ten businesses, each independent but linked through overlapping partnerships that collectively employ 650 people and achieve annual sales of over \$50 million. Over that period the proprietors conscientiously built a food cluster from scratch. They carefully assessed the items going into the deli – bread, coffee, cheeses – and captured profitable opportunities for creating a bakery, a coffee roaster, and a creamery. They looked at the products being sold at the deli – fabulous coffee cakes and high-quality meats – and built new, value-adding businesses with these products, including a mail-order company and a restaurant called the Roadhouse.

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<sup>1</sup> Jonathan Tirone, "'Dead-End' Austrian Town Blossoms with Green Energy," *International Herald-Tribune*, 28 August 2007.

<sup>2</sup> Marian Burros, "Uniting Around Food to Save an Ailing Town," *New York Times*, 7 October 2008.

These three case examples cast doubt on one of the principal prescriptions given by economic developers – that communities should focus on expanding *existing* clusters of export-oriented business. Instead, the examples point to the possibilities of creating *new* clusters based, initially at least, on local demand.

This paper suggests that an import-replacement strategy could have enormous potential in Atlantic Canada. Specifically, just a 10% shift in purchasing from nonlocal to local sources could provide jobs to more than a third of the people living in the four provinces currently unemployed. A 10% shift could create more than 43,000 new jobs, \$2.6 billion in new wages, and \$220 million in new taxes.

The analysis proceeds in four sections:

- First, it outlines the current state of the Atlantic Canada economy.
- Second, it analyzes the magnitude and location of significant leaks out of the regional economy – that is, outflows of dollars that ultimately do no good for the region.
- Third, it shows the impact of a 10% shift – that is, a shift in local purchasing that reduces the leakage in every sector by a modest 10%.
- Finally, it explores some of the steps needed to help realize a 10% shift.

## I. The Economies of Atlantic Canada

Atlantic Canada comprises four provinces: New Brunswick, Newfoundland, Nova Scotia, and Prince Edward Island. To understand their economies, a helpful tool is the IMPLAN Input-Output model used by economic-development departments across North America. The most recent data available from IMPLAN are from 2012. Chart 1 shows that the “total value added” for Atlantic Canada—that is, the regional equivalent of gross domestic product (GDP)—is \$84 billion per year.<sup>3</sup> The largest contribution comes from Nova Scotia (\$31 billion), and the smallest from Prince Edward Island (about \$5 billion). In between are New Brunswick (\$28 billion) and Newfoundland (\$21 billion). Many of the other data discussed below, like population and employment, split roughly in proportion to the GDP contributions.

**Chart 1**  
**Overview of Atlantic Canada Economies (2012)**

Model Information	New Brunswick	Newfoundland	Nova Scotia	Prince Edward	Region
Model Year	2012	2012	2012	2012	2012
Gross Regional Product	\$27,571,147,268	\$20,641,174,737	\$31,670,827,228	\$4,628,586,615	\$84,511,735,848
Total Personal Income	\$21,855,250,000	\$16,819,230,000	\$26,685,710,000	\$3,897,030,000	\$69,257,220,000
Total Employment	308,156	231,678	382,545	56,405	978,784
Population	757,000	526,800	945,100	145,200	2,374,100
Total Households	302,800	210,720	378,040	58,080	949,640
Average Household Income	\$72,177	\$79,818	\$70,590	\$67,098	\$72,930
<b>Supply (Value Added)</b>					
Employee Compensation	\$15,701,505,862	\$12,157,228,054	\$19,001,387,256	\$2,793,216,807	\$49,653,337,979
Proprietor Income	\$676,730,074	\$447,466,642	\$997,074,404	\$128,489,601	\$2,249,760,721
Other Property Type Income	\$9,704,925,332	\$6,951,118,534	\$9,905,142,682	\$1,479,304,154	\$28,040,490,702
Tax on Production and Imports	\$1,487,986,001	\$1,085,361,508	\$1,767,222,886	\$227,576,052	\$4,568,146,447
Total Value Added	\$27,571,147,269	\$20,641,174,738	\$31,669,439,972	\$4,628,586,614	\$84,511,735,849
<b>Final Demand</b>					
Households	\$15,290,116,983	\$11,766,878,817	\$18,669,549,614	\$2,726,395,835	\$48,452,941,249
Federal Government	\$9,218,577,483	\$7,541,322,208	\$12,049,947,987	\$2,580,716,199	\$31,390,563,877
Capital	\$4,637,222,359	\$4,675,261,130	\$5,946,381,280	\$735,278,617	\$15,994,143,386
Exports	\$17,986,141,981	\$8,687,424,831	\$10,920,789,257	\$2,012,771,672	\$39,607,127,741
Imports	-\$19,391,964,187	-\$11,982,794,457	-\$15,750,693,430	-\$3,405,433,886	-\$50,530,885,960
Institutional Sales	-\$168,947,352	-\$46,917,792	-\$165,147,481	-\$21,141,822	-\$402,154,447
Total Final Demand	\$27,571,147,267	\$20,641,174,737	\$31,670,827,227	\$4,628,586,615	\$84,511,735,846

On the production or supply side, businesses in Atlantic Canada pay \$50 billion to employees in wages, \$2 billion to proprietors,<sup>4</sup> \$28 billion in “other property income” (which includes corporate profits, dividends, and interest), and \$5 billion to government entities in business taxes. On the consumption or demand side, households in Atlantic Canada spend \$48 billion, government entities about \$31 billion, and capital budgets \$16

<sup>3</sup> “Value added” equals “gross regional product,” which IMPLAN explains is “derived from the income paid to the owners of the factors of production in the model year.” The income paid is to labor (wages), proprietors (profits), government (taxes), and property owners (rents).

<sup>4</sup> Proprietors’ income is what’s left after business owners pay the cost of goods, wages, and taxes.

billion.<sup>5</sup> Another “demand” for goods and services comes from export markets, equal to \$39 billion for the region (and accounting for a bit under half of the local value added). A final component of demand is imports. Atlantic Canada businesses and residents import \$51 billion worth of goods and services.

Note that IMPLAN balances the supply and demand sides for each county like an accountant’s balance sheet. That is, the categories ensure that every dollar of demand is linked with a dollar of supply, and vice-versa.

The IMPLAN model also shows that the total employment in Atlantic Canada in 2012 was 978,784 and the total population 2,374,100. Chart 2 presents more updated data from Statistics Canada.<sup>6</sup> It shows that, as of August 2016, the region’s unemployment rate is nearly 10%, with it exceeding 12% in Prince Edward Island and Newfoundland. The total number of residents who want to work but cannot find employment is 120,900.

**Chart 2**  
**Regional Employment Picture (August 2016)**

	<b>Population</b>	<b>Workforce</b>	<b>Unemployed</b>	<b>Unemployment Rate</b>
<b>NB</b>	623,600	388,100	36,500	9.4%
<b>NF</b>	444,600	269,100	33,200	12.3%
<b>NS</b>	789,300	486,600	41,400	8.5%
<b>PEI</b>	122,100	81,000	9,800	12.1%
<b>Region</b>	1,979,600	1,224,800	120,900	9.9%

Chart 3 shows the distribution of jobs in Atlantic Canada. And Charts 4a-4d detail each province’s employment, wages, output, proprietors’ income, and business taxes.

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<sup>5</sup> Capital expenditures are defined by IMPLAN as the “sales of durable goods and infrastructure to households and firms within the study area.

<sup>6</sup> <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/lfss01a-eng.htm>

**Chart 3**  
**Job Distribution in Atlantic Canada (2012)**

<b>Sector Description</b>	<b>NB</b>	<b>NF</b>	<b>NS</b>	<b>PEI</b>
Farming, Ranching, & Forestry	9,465	4,394	13,796	3,647
Mining, Oil, and Gas	2,453	6,390	1,200	20
Energy & Utilities	3,229	2,064	2,076	243
Construction	23,398	23,787	28,041	3,471
Manufacturing	25,928	12,681	30,498	4,356
Wholesale Trade	10,968	5,935	14,306	1,260
Retail	44,413	35,663	60,229	7,539
Transportation	13,212	9,174	15,987	1,439
Warehousing & Storage	646	147	639	20
Services				
* <i>Information Businesses</i>	4,390	3,063	5,244	244
* <i>Banking &amp; Finance</i>	5,364	3,600	6,976	809
* <i>Real Estate &amp; Leasing</i>	9,728	6,925	13,939	2,402
* <i>Professional Services</i>	32,209	19,073	31,597	4,869
* <i>Private Education</i>	779	639	802	160
* <i>Health &amp; Human Services</i>	9,991	7,893	13,016	1,819
* <i>Entertainment, Tourism, &amp; Food Services</i>	21,802	16,726	28,601	4,916
* <i>Personal Services</i>	11,567	9,653	11,994	1,851
* <i>Churches, Nonprofits, &amp; Unions</i>	10,080	8,678	12,980	2,646
* <i>Government Services</i>	68,538	55,193	90,624	14,693
	308,160	231,678	382,545	56,405



**Chart 4a – Overview of the New Brunswick Economy (2012)**

<b>IMPLAN Sector</b>	<b>Employment</b>	<b>Output</b>	<b>Employee Compensation</b>	<b>Proprietor Income</b>	<b>Other Property Type Income</b>	<b>Indirect Business Tax</b>
Farming, Ranching, & Forestry	9,465	\$2,326,933,746	\$357,044,456	\$41,840,028	\$400,961,257	-\$11,601,968
Mining, Oil, and Gas	2,453	\$1,329,381,968	\$213,402,773	\$2,921,019	\$482,154,884	\$54,331,951
Energy & Utilities	3,229	\$1,439,691,124	\$342,587,208	\$561,000	\$578,863,758	\$69,322,977
Construction	23,398	\$4,826,060,495	\$1,301,899,955	\$175,173,051	\$428,700,919	\$157,159,076
Manufacturing						
<i>* Food, Beverages, &amp; Tobacco</i>	8,913	\$2,418,318,252	\$411,773,733	\$1,642,249	\$327,177,901	\$13,189,661
<i>* Fibers, Textiles, &amp; Clothing</i>	421	\$49,826,850	\$13,392,455	\$2,142,194	\$5,376,754	\$422,544
<i>* Wood and Wood Products</i>	3,420	\$759,266,357	\$204,844,910	\$2,568,245	\$20,141,527	\$9,773,527
<i>* Paper, Paper Products, &amp; Printing</i>	4,280	\$1,726,267,361	\$372,660,437	\$4,161,257	\$83,241,379	\$36,853,660
<i>* Petroleum-Based Products</i>	2,810	\$9,436,445,250	\$307,780,041	\$952,989	\$1,016,499,010	\$36,735,719
<i>* Rubber, Glass, Stone, &amp; Concrete Products</i>	1,041	\$234,198,406	\$58,474,494	\$1,922,341	\$29,019,921	\$4,871,559
<i>* Metals</i>	41	\$31,508,724	\$3,701,355	\$18,072	\$2,125,494	\$281,089
<i>* Metal Products</i>	2,009	\$362,670,715	\$110,457,512	\$2,876,363	\$17,430,725	\$4,147,427
<i>* Machinery &amp; Equipment</i>	370	\$82,307,213	\$24,327,694	\$168,543	\$6,167,338	\$870,611
<i>* Computers, Electronics, &amp; Appliances</i>	87	\$20,020,300	\$5,834,650	\$75,676	\$2,266,999	\$410,966
<i>* Vehicles, Boats, &amp; Planes</i>	192	\$45,424,421	\$9,701,623	\$1,262,923	\$3,021,062	\$244,948
<i>* Furniture</i>	939	\$113,781,021	\$34,744,236	\$4,094,370	\$5,928,913	\$1,274,222
<i>* All Other Manufacturing.</i>	1,405	\$226,749,054	\$57,394,943	\$5,929,387	\$24,560,354	\$1,415,847
Wholesale Trade	10,968	\$1,774,655,884	\$657,401,001	\$8,808,990	\$373,931,854	\$55,544,350
Retail	44,413	\$2,944,643,555	\$1,306,297,974	\$21,715,984	\$431,693,298	\$95,459,747
Transportation	13,212	\$2,839,762,207	\$706,008,447	\$30,657,964	\$626,074,329	\$102,453,300
Warehousing & Storage	646	\$56,140,198	\$29,050,100	\$0	\$5,776,254	\$2,797,984
Services						
<i>* Information Businesses</i>	4,390	\$1,227,403,503	\$310,385,120	\$757,092	\$405,302,268	\$14,501,729
<i>* Banking &amp; Finance</i>	5,364	\$1,868,186,829	\$499,658,325	\$0	\$509,078,461	\$78,140,892
<i>* Real Estate &amp; Leasing</i>	9,728	\$4,628,457,275	\$493,387,371	\$93,314,150	\$1,989,297,867	\$551,546,945
<i>* Professional Services</i>	32,209	\$3,182,010,746	\$1,387,937,296	\$143,766,748	\$397,930,715	\$26,900,536
<i>* Private Education</i>	779	\$87,787,086	\$45,285,519	\$277,560	\$8,880,968	-\$1,293,763
<i>* Health &amp; Human Services</i>	9,991	\$1,223,650,757	\$522,375,610	\$23,857,828	\$233,067,337	-\$19,339,596
<i>* Entertainment, Tourism, &amp; Food Services</i>	21,802	\$1,641,583,832	\$595,856,819	\$17,206,260	\$164,328,495	\$44,228,369
<i>* Personal Services</i>	11,567	\$649,599,976	\$231,486,031	\$68,131,704	\$82,766,659	\$13,442,195
<i>* Churches, Nonprofits, &amp; Unions</i>	10,080	\$760,289,581	\$389,250,381	\$11,416,293	\$27,053,530	\$8,799,883
<i>* Government Services</i>	68,538	\$9,059,480,240	\$4,697,441,986	\$8,509,998	\$1,016,965,601	\$135,119,096
	308,160	\$57,372,502,927	\$15,701,844,456	\$676,730,280	\$9,705,785,833	\$1,488,005,482

**Chart 4b – Overview of the Newfoundland Economy (2012)**

<b>IMPLAN Sector</b>	<b>Employment</b>	<b>Output</b>	<b>Employee Compensation</b>	<b>Proprietor Income</b>	<b>Other Property Type Income</b>	<b>Indirect Business Tax</b>
Farming, Ranching, & Forestry	4,394	\$864,276,096	\$132,590,507	\$34,263,248	\$138,363,291	\$3,087,963
Mining, Oil, and Gas	6,390	\$3,374,324,546	\$721,729,227	\$1,486,291	\$1,063,530,410	\$55,179,820
Energy & Utilities	2,064	\$943,921,715	\$223,752,815	\$0	\$381,682,441	\$45,395,695
Construction	23,787	\$5,070,965,927	\$1,441,640,923	\$71,436,018	\$494,678,829	\$161,512,595
Manufacturing						
<i>* Food, Beverages, &amp; Tobacco</i>	7,132	\$1,550,163,354	\$290,081,292	\$526,980	\$131,669,642	\$5,714,080
<i>* Fibers, Textiles, &amp; Clothing</i>	477	\$47,894,855	\$16,051,058	\$612,562	\$5,075,198	\$182,004
<i>* Wood and Wood Products</i>	278	\$59,499,634	\$15,726,239	\$559,707	\$1,546,294	\$765,899
<i>* Paper, Paper Products, &amp; Printing</i>	1,425	\$573,810,001	\$125,432,558	\$422,247	\$27,927,603	\$12,380,474
<i>* Petroleum-Based Products</i>	586	\$1,836,164,317	\$62,302,944	\$0	\$196,531,850	\$7,147,930
<i>* Rubber, Glass, Stone, &amp; Concrete Products</i>	645	\$200,042,278	\$43,823,932	\$525,049	\$32,007,875	\$6,373,848
<i>* Metals</i>	5	\$4,112,029	\$481,875	\$4,198	\$276,715	\$36,683
<i>* Metal Products</i>	721	\$129,144,791	\$39,069,721	\$1,329,352	\$6,165,390	\$1,476,873
<i>* Machinery &amp; Equipment</i>	307	\$68,984,161	\$20,502,468	\$0	\$5,197,601	\$729,685
<i>* Computers, Electronics, &amp; Appliances</i>	180	\$42,643,840	\$12,416,382	\$606	\$4,801,016	\$794,744
<i>* Vehicles, Boats, &amp; Planes</i>	341	\$60,663,219	\$22,218,944	\$12,514	-\$1,855,337	\$260,637
<i>* Furniture</i>	348	\$46,300,541	\$15,152,237	\$479,219	\$2,585,646	\$518,515
<i>* All Other Manufacturing</i>	235	\$40,025,543	\$10,445,275	\$598,326	\$4,469,726	\$249,924
Wholesale Trade	5,935	\$948,395,874	\$349,466,003	\$7,619,990	\$198,777,405	\$29,683,519
Retail	35,663	\$2,367,052,734	\$1,051,165,039	\$15,996,988	\$347,379,303	\$76,735,352
Transportation	9,174	\$1,616,392,155	\$487,280,475	\$22,895,934	\$187,676,883	-\$26,642,488
Warehousing & Storage	147	\$12,778,698	\$6,610,754	\$1,996	\$1,314,467	\$636,880
Services						
<i>* Information Businesses</i>	3,063	\$807,240,112	\$200,762,622	\$5,485,177	\$260,407,114	\$6,528,280
<i>* Banking &amp; Finance</i>	3,600	\$1,196,645,691	\$340,474,503	\$0	\$328,915,680	\$47,434,187
<i>* Real Estate &amp; Leasing</i>	6,925	\$3,854,976,639	\$415,091,484	\$26,726,062	\$1,629,767,231	\$489,707,864
<i>* Professional Services</i>	19,073	\$2,012,025,726	\$833,604,652	\$175,353,103	\$217,224,500	\$7,582,974
<i>* Private Education</i>	639	\$72,820,946	\$37,657,894	\$119,299	\$7,385,110	-\$1,073,200
<i>* Health &amp; Human Services</i>	7,893	\$970,388,123	\$418,022,552	\$13,475,715	\$186,508,331	-\$15,336,823
<i>* Entertainment, Tourism, &amp; Food Services</i>	16,726	\$1,241,760,559	\$451,921,265	\$13,631,378	\$119,322,166	\$36,006,981
<i>* Personal Services</i>	9,653	\$588,380,249	\$221,434,387	\$45,378,210	\$79,345,978	\$12,194,550
<i>* Churches, Nonprofits, &amp; Unions</i>	8,678	\$662,798,770	\$346,295,841	\$5,148,637	\$23,424,773	\$6,840,775
<i>* Government Services</i>	55,193	\$7,695,907,516	\$3,804,022,186	\$3,377,836	\$869,015,401	\$113,255,287
	231,678	\$38,960,500,639	\$12,157,228,054	\$447,466,642	\$6,951,118,534	\$1,085,361,508

**Chart 4c – Overview of the Nova Scotia Economy (2012)**

<b>IMPLAN Sector</b>	<b>Employment</b>	<b>Output</b>	<b>Employee Compensation</b>	<b>Proprietor Income</b>	<b>Other Property Type Income</b>	<b>Indirect Business Tax</b>
Farming, Ranching, & Forestry	13,796	\$2,785,659,767	\$433,039,074	\$71,988,267	\$470,624,071	\$3,175,341
Mining, Oil, and Gas	1,200	\$496,036,761	\$116,671,696	\$2,060,554	\$133,008,153	\$14,127,139
Energy & Utilities	2,076	\$866,555,038	\$209,090,843	\$551,000	\$342,612,293	\$41,887,666
Construction	28,041	\$5,663,510,418	\$1,528,764,912	\$242,539,062	\$502,507,143	\$180,875,201
Manufacturing						
* Food, Beverages, & Tobacco	6,904	\$1,787,485,383	\$298,148,121	\$4,310,748	\$202,757,375	\$9,378,894
* Fibers, Textiles, & Clothing	1,694	\$213,153,168	\$62,069,483	\$4,232,819	\$24,162,116	\$1,669,670
* Wood and Wood Products	2,234	\$482,316,040	\$128,105,774	\$3,849,864	\$12,596,095	\$6,208,531
* Paper, Paper Products, & Printing	2,590	\$770,413,910	\$188,911,854	\$808,250	\$53,403,243	\$14,516,422
* Petroleum-Based Products	5,425	\$1,435,842,942	\$324,051,459	\$905,990	\$147,229,621	\$13,570,987
* Rubber, Glass, Stone, & Concrete Products	1,179	\$275,016,644	\$67,113,718	\$2,766,050	\$24,596,828	\$5,950,254
* Metals	75	\$58,677,750	\$6,910,714	\$5,647	\$3,968,461	\$523,464
* Metal Products	1,636	\$280,810,699	\$82,081,055	\$6,215,303	\$12,952,785	\$3,211,293
* Machinery & Equipment	954	\$209,251,648	\$61,440,544	\$940,360	\$15,575,854	\$2,213,376
* Computers, Electronics, & Appliances	1,740	\$402,124,436	\$119,855,956	\$116,772	\$46,331,809	\$8,142,829
* Vehicles, Boats, & Planes	4,944	\$1,511,203,609	\$360,865,600	\$5,105,819	\$215,640,978	\$7,185,968
* Furniture	361	\$46,672,916	\$14,973,488	\$834,983	\$2,555,143	\$522,685
* All Other Manufacturing	762	\$133,752,197	\$35,478,401	\$1,180,172	\$15,181,862	\$835,164
Wholesale Trade	14,306	\$2,316,378,418	\$858,335,999	\$11,089,986	\$488,224,335	\$72,499,535
Retail	60,229	\$3,969,927,734	\$1,751,017,944	\$42,734,970	\$578,660,217	\$128,697,510
Transportation	15,987	\$2,784,399,396	\$807,683,139	\$54,461,980	\$247,948,549	\$46,076,664
Warehousing & Storage	639	\$54,364,468	\$27,158,312	\$1,166,379	\$5,400,095	\$2,709,483
Services						
* Information Businesses	5,244	\$1,390,928,223	\$346,076,538	\$6,725,001	\$435,202,189	\$4,201,162
* Banking & Finance	6,976	\$2,334,349,854	\$658,390,533	\$0	\$640,828,033	\$93,273,937
* Real Estate & Leasing	13,939	\$6,833,221,283	\$746,383,385	\$94,567,953	\$2,757,656,418	\$853,546,475
* Professional Services	31,597	\$3,388,529,575	\$1,385,339,209	\$258,092,347	\$417,955,181	\$15,702,616
* Private Education	802	\$89,803,223	\$46,253,410	\$370,231	\$9,070,782	-\$1,323,476
* Health & Human Services	13,016	\$1,582,311,890	\$663,701,782	\$47,895,294	\$296,122,559	-\$25,008,177
* Entertainment, Tourism, & Food Services	28,601	\$2,087,847,076	\$745,177,521	\$41,091,349	\$200,996,544	\$57,424,108
* Personal Services	11,994	\$742,730,469	\$274,046,844	\$64,063,307	\$97,813,652	\$15,499,316
* Churches, Nonprofits, & Unions	12,980	\$996,658,382	\$499,649,973	\$15,923,206	\$35,513,267	\$9,436,388
* Government Services	90,624	\$12,007,894,684	\$6,154,599,976	\$10,480,741	\$1,468,047,031	\$180,492,461
	382,545	\$57,997,828,001	\$19,001,387,256	\$997,074,404	\$9,905,142,682	\$1,767,222,886

**Chart 4d – Overview of Prince Edward Island Economy (2012)**

<b>IMPLAN Sector</b>	<b>Employment</b>	<b>Output</b>	<b>Employee Compensation</b>	<b>Proprietor Income</b>	<b>Other Property Type Income</b>	<b>Indirect Business Tax</b>
Farming, Ranching, & Forestry	3,647	\$969,377,608	\$95,570,479	\$22,249,100	\$202,681,834	-\$16,997,034
Mining, Oil, and Gas	20	\$8,265,226	\$2,198,766	\$1,049	\$2,074,919	\$120,965
Energy & Utilities	243	\$110,728,753	\$26,267,562	\$2,000	\$44,733,566	\$5,326,360
Construction	3,471	\$678,427,326	\$190,534,988	\$25,477,008	\$57,962,800	\$22,258,729
Manufacturing						
* Food, Beverages, & Tobacco	2,182	\$713,253,512	\$105,875,975	\$463,546	\$70,574,252	\$3,272,183
* Fibers, Textiles, & Clothing	17	\$2,315,732	\$664,994	\$40,386	\$267,110	\$19,553
* Wood and Wood Products	143	\$30,225,750	\$7,939,924	\$338,136	\$780,699	\$389,076
* Paper, Paper Products, & Printing	84	\$14,196,562	\$4,598,023	\$24,541	\$1,716,694	\$199,644
* Petroleum-Based Products	289	\$105,357,433	\$20,283,500	\$162,567	\$21,911,553	\$581,615
* Rubber, Glass, Stone, & Concrete Products	185	\$53,677,981	\$11,864,060	\$311,714	\$8,532,608	\$1,646,792
* Metals	9	\$6,820,540	\$798,264	\$8,557	\$458,401	\$60,846
* Metal Products	360	\$66,942,009	\$20,845,156	\$1,998	\$3,289,466	\$765,535
* Machinery & Equipment	72	\$16,208,824	\$4,817,350	\$0	\$1,221,251	\$171,450
* Computers, Electronics, & Appliances	22	\$5,124,726	\$1,496,275	\$4,388	\$579,424	\$100,995
* Vehicles, Boats, & Planes	892	\$223,184,130	\$62,947,772	\$607	\$22,210,263	\$1,388,267
* Furniture	65	\$8,006,783	\$2,468,953	\$260,030	\$421,313	\$89,667
* All Other Manufacturing	35	\$5,930,080	\$1,531,841	\$111,071	\$655,503	\$37,028
Wholesale Trade	1,260	\$208,004,410	\$77,710,999	\$0	\$44,202,271	\$6,510,259
Retail	7,539	\$495,567,780	\$217,977,997	\$6,135,995	\$72,035,355	\$16,065,367
Transportation	1,439	\$228,897,922	\$72,058,921	\$3,584,311	\$23,588,565	\$1,344,874
Warehousing & Storage	20	\$1,740,644	\$896,349	\$5,224	\$178,228	\$86,752
Services						
* Information Businesses	244	\$66,523,122	\$16,350,270	\$303,591	\$22,329,393	\$470,700
* Banking & Finance	809	\$278,987,717	\$75,660,719	\$0	\$76,168,472	\$11,535,469
* Real Estate & Leasing	2,402	\$1,023,568,790	\$110,424,628	\$26,652,191	\$397,580,593	\$125,330,230
* Professional Services	4,869	\$469,463,693	\$205,320,023	\$16,028,270	\$62,450,171	\$4,712,548
* Private Education	160	\$18,242,041	\$9,427,778	\$36,736	\$1,848,887	-\$268,842
* Health & Human Services	1,819	\$222,520,325	\$94,724,609	\$4,727,783	\$42,263,100	-\$3,516,897
* Entertainment, Tourism, & Food Services	4,916	\$363,798,820	\$128,100,683	\$8,634,610	\$36,155,602	\$9,311,971
* Personal Services	1,851	\$110,350,346	\$40,306,486	\$10,148,808	\$14,449,555	\$2,288,801
* Churches, Nonprofits, & Unions	2,646	\$197,961,651	\$104,011,219	\$1,779,364	\$6,793,350	\$2,012,930
* Government Services	14,693	\$2,153,424,500	\$1,079,542,245	\$996,018	\$239,188,956	\$32,260,218
	56,405	\$8,857,094,735	\$2,793,216,807	\$128,489,601	\$1,479,304,154	\$227,576,052

One way to make sense of these data is to compare them with the Canadian economy overall. Chart 5 shows the breakdown of jobs in the Canadian economy and in each of the four Maritime provinces, using 2016 data from Statistics Canada. Overall, 21% of the jobs in the Canadian economy produce goods, while 79% deliver services. The breakdown in Atlantic Canada is similar, though Newfoundland has slightly more jobs producing goods and Prince Edward Island has slightly more jobs delivering services.

**Chart 5**  
**Composition of Canadian Economy vs. Atlantic Canada**  
**By Jobs (August 2016)<sup>7</sup>**

	Canada	NB	NF	NS	PEI
<b>Goods-producing sector</b>	<b>21%</b>	<b>21%</b>	<b>22%</b>	<b>18%</b>	<b>23%</b>
Agriculture	2%	2%	1%	1%	4%
Forestry, fishing, mining, quarrying, oil and gas	2%	3%	6%	2%	4%
Utilities	1%	1%	1%	1%	0%
Construction	8%	7%	9%	7%	7%
Manufacturing	9%	9%	4%	6%	8%
<b>Services-producing sector</b>	<b>79%</b>	<b>79%</b>	<b>78%</b>	<b>82%</b>	<b>77%</b>
Wholesale and retail trade	15%	17%	19%	16%	15%
Transportation and warehousing	5%	6%	4%	5%	4%
Finance, insurance, real estate, rental and leasing	6%	5%	3%	5%	4%
Professional, scientific and technical services	8%	4%	4%	6%	5%
Business, building and other support services	4%	5%	3%	4%	3%
Educational services	7%	8%	6%	8%	7%
Health care and social assistance	13%	15%	17%	17%	15%
Information, culture and recreation	4%	3%	3%	4%	4%
Accommodation and food services	7%	6%	7%	7%	8%
Other services (except public administration)	4%	5%	5%	4%	4%
Public administration	5%	7%	6%	6%	9%

But in the more detailed sectoral breakdowns, more distinct differences are apparent. For example:

<sup>7</sup> <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/labr67a-eng.htm>

- More jobs in the Atlantic provinces are dependent on natural resources, such as fishing, forestry, and mining. Newfoundland is particularly dependent on these traditional industries.
- Most of Atlantic Canada has fewer jobs in manufacturing, which is problematic because manufacturing jobs pay relatively well. Only New Brunswick matches the national percentage (9%) in manufacturing.
- Most of Atlantic Canada has more jobs in retail and wholesale, which again is a problem because these tend to be low-paying jobs. Only Prince Edward Island tracks close to the national average.
- Atlantic Canada has fewer jobs in finance, insurance, and real estate (FIRE), which means that there is less capital available for local reinvestment. Newfoundland has a particularly big FIRE deficit.
- Atlantic Canada has fewer jobs in professional services. As will be discussed later, this deficit is especially damaging, because these jobs pay relatively well.
- Atlantic Canada has more jobs in health care, social services, and public administration than the country overall. Many would interpret this as symptoms of weaker private sectors and greater poverty.

Another characteristic of Atlantic Canada that warrants attention is its trade balance. Chart 6 takes the import and export data from Chart 1, and shows that the region is importing \$11 billion more than it is exporting, and every one of the four provinces in the region is running a trade deficit as well. A key to economic development in the region, therefore, is to transform this regional deficit into a surplus. Increasing exports and reducing imports both can help, but thus far official attention only has focused on the former.

**Chart 6**  
**Regional Trade Balance (2012)**

	<b>Exports</b>	<b>Imports</b>	<b>Trade Balance</b>
NB	\$17,986,141,981	-\$19,391,964,187	-\$1,405,822,206
NF	\$8,687,424,831	-\$11,982,794,457	-\$3,295,369,626
NS	\$10,920,789,257	-\$15,750,693,430	-\$4,829,904,173
PEI	\$2,012,771,672	-\$3,405,433,886	-\$1,392,662,214
Region	\$39,607,127,741	-\$50,530,885,960	-\$10,923,758,219

Charts 7a and 7b illuminate some of the opportunities for expanding export earnings:

- New Brunswick's exports are dominated by fossil fuels, pulp and paper, and non-metallic mining. Other major exports are seafood, fruits and vegetables, meat, and electricity. Most of these exports are relatively unprocessed, which means that value-adding activity is going on elsewhere.
- Newfoundland's exports are quite similar. The largest exports include raw metal mining, seafood, fossil fuels, and electricity. The second largest export is "provincial and territorial government services," which refers to hydroelectricity exports. Another significant export is retail sales, which refers to purchases by tourists visiting the province.
- Retail sales to tourists is the largest "export" in Nova Scotia. Fishing, prepared seafood, crops, and animals are all major exports. Nova Scotia also has two value-adding manufacturing sectors that are in its top-ten exports: plastics and aerospace products.
- Most of Prince Edward Island's exports are foodstuffs: crops, livestock, seafood, and dairy products. As is the case in the other provinces in the region, there are significant retail sales to tourists and exports of government-produced electricity.

The challenge with most of these export industries, however, is that they depend on limited stocks of natural resources. If not done carefully, short-term increases in the exploitation of forests, fisheries, minerals, and hydrological flows can undermine the long-term vitality of these industries. As noted, there are opportunities for expansion of value-adding activities in some of these industries. New technologies tapping tidal power might increase electricity exports. And tourism always can be expanded.

But the larger point is this. Except for a few niches, such as plastics in Nova Scotia and aerospace in Prince Edward Island, there are very few globally competitive industries that easily can be expanded. Much has been written about how to expand these industries and seed new ones, but ultimately this potential is limited. The much bigger opportunity – and the focus of the remainder of this paper – is on reducing imports through greater local production.

**Chart 7a**  
**Top Exporting Sectors in Atlantic Canada (2012)**

	Sector	Domestic Exports	Foreign Exports	Total Exports
<b>New Brunswick</b>	34 Petroleum and coal product manufacturing	\$5,290,623,752	\$2,212,133,789	\$7,502,757,541
	31 Pulp, paper and paperboard mills	\$246,248,872	\$1,101,675,691	\$1,347,924,563
	08 Non-metallic mineral mining and quarrying	\$311,488,488	\$783,547,280	\$1,095,035,768
	82 Administrative and support services	\$435,169,607	\$205,016,296	\$640,185,903
	22 Seafood product preparation and packaging	\$78,664,164	\$526,989,807	\$605,653,971
	65 Truck transportation	\$281,613,416	\$288,562,622	\$570,176,038
	19 Fruit and veg. preserving and speciality food mfr.	\$296,350,216	\$254,956,253	\$551,306,469
	10 Electric power generation, transmission and distribution	\$451,209,911	\$84,356,248	\$535,566,159
	101 Other provincial and territorial government services	\$471,586,533	\$21,372,437	\$492,958,970
	01 Crop and animal production	\$24,511,060	\$415,072,601	\$439,583,661
<b>Newfoundland</b>	07 Metal ore mining	\$600,021,328	\$1,094,556,763	\$1,694,578,091
	101 Other provincial and territorial government services	\$1,077,297,812	\$24,435,137	\$1,101,732,949
	22 Seafood product preparation and packaging	\$129,765,165	\$691,789,368	\$821,554,533
	34 Petroleum and coal product manufacturing	\$313,918,599	\$430,191,284	\$744,109,883
	61 Retail trade	\$479,824,048	\$6,034,168	\$485,858,216
	31 Pulp, paper and paperboard mills	\$68,014,493	\$373,302,870	\$441,317,363
	05 Oil and gas extraction	\$0	\$432,110,107	\$432,110,107
	10 Electric power generation, transmission and distribution	\$318,035,905	\$57,798,569	\$375,834,475
	09 Support activities for mining and oil and gas extraction	\$232,586,197	\$11,771,453	\$244,357,650
	64 Water transportation	\$69,509,411	\$137,019,455	\$206,528,866



**Chart 7b**  
**Top Exporting Sectors in Atlantic Canada (2012)**

	Sector	Domestic Exports	Foreign Exports	Total Exports
<b>Nova Scotia</b>	61 Retail trade	\$946,297,489	\$10,120,270	\$956,417,759
	03 Fishing, hunting and trapping	\$330,022,878	\$482,930,644	\$812,953,522
	40 Plastic product manufacturing	\$343,959,434	\$407,329,503	\$751,288,937
	62 Air transportation	\$291,321,815	\$246,347,992	\$537,669,807
	22 Seafood product preparation and packaging	\$47,892,222	\$452,090,759	\$499,982,981
	01 Crop and animal production	\$32,350,405	\$459,344,208	\$491,694,613
	60 Wholesale trade	\$0	\$452,234,131	\$452,234,131
	100 Other federal government services	\$407,237,741	\$33,361,042	\$440,598,783
	98 Public hospitals	\$414,894,120	\$24,781,286	\$439,675,406
	54 Aerospace product and parts manufacturing	\$0	\$412,711,179	\$412,711,179
<b>Prince Edward</b>	01 Crop and animal production	\$134,531,161	\$268,357,330	\$402,888,491
	20 Dairy product manufacturing	\$260,812,563	\$12,640,779	\$273,453,341
	100 Other federal government services	\$220,795,834	\$9,626,118	\$230,421,952
	101 Other provincial and territorial government services	\$183,524,229	\$6,553,564	\$190,077,792
	22 Seafood product preparation and packaging	\$16,165,085	\$105,207,329	\$121,372,413
	82 Administrative and support services	\$69,502,157	\$36,181,942	\$105,684,099
	54 Aerospace product and parts manufacturing	\$0	\$104,048,355	\$104,048,355
	61 Retail trade	\$46,311,379	\$1,263,318	\$47,574,697
	38 Pharmaceutical and medicine manufacturing	\$0	\$47,095,158	\$47,095,158
	60 Wholesale trade	\$0	\$40,609,379	\$40,609,379

## II. Leakage Analysis

Leakage analysis identifies those economic sectors that can be expanded based strictly on local demand. Every import that could have been obviated through local production represents a loss of dollars from that production and the associated "multiplier" benefits. It also represents a loss of other documented benefits that local businesses bring to an economy such as knowledge, skills, tax payments, charitable giving, revitalized downtowns, tourists, stronger civil society, and more political participation. Note that leakage analysis attempts to identify opportunities additional local production *without reducing production for exports*. It posits that the ideal economy is one that maximizes local production for both local demand and nonlocal demand.

IMPLAN is a particularly useful tool for measuring leakage. The Canadian version of the model combines the roughly 1,100 sectors of the North American Industrial Classification System (NAICS) into 110 broad categories. For example, multiple wholesale sectors in NAICS are reduced to one wholesale category in IMPLAN. It's possible to estimate the level of local self-reliance in a given sector by looking at the value of its "regional purchasing coefficient" (RPC). The RPC shows how much of "total gross demand" in a region is currently met by local industry. "Gross demand" includes both local demand (that is, local consumption) and export demand. Multiplying "total gross demand" by 1-RPC shows how much additional industry could be built to meet local demand, again without reducing production for export.

Charts 7a-7c show the degree to which each of the 110 sectors is self-reliant in all four provinces. The following generalizations can be made about sectors that show a high level of self-reliance.

- Many of the sectors here with high levels of self-reliance are typically self-reliant in other regions. These include most government services and retail. (In a few places, government services show less than self-reliance because government-run utilities are importing electricity.)
- Many service categories naturally show high levels of local self-reliance, such as education, health care, and social services. Local service industries are also highly competitive, because people naturally choose services, say legal services, from providers they know and trust.
- Sectors that are strong export sectors, such as oil, gas, and coal, also show high degrees of self-reliance, since there is more than enough production for local and nonlocal demand.

**Chart 7a**  
**Degree of Self-Reliance in Atlantic Canada Sectors (2012)**

Sector	NB	% Self-Reliance		PEI
		NF	NS	
01 Crop and animal production	100%	31%	100%	100%
02 Forestry and logging	100%	41%	14%	11%
03 Fishing, hunting and trapping	2%	2%	100%	3%
04 Support activities for agriculture and forestry	6%	3%	7%	2%
05 Oil and gas extraction	0%	2%	1%	1%
06 Coal mining	0%	0%	0%	0%
07 Metal ore mining	0%	100%	0%	1%
08 Non-metallic mineral mining and quarrying	100%	1%	100%	0%
09 Support activities for mining and oil and gas extraction	1%	100%	11%	1%
10 Electric power generation, transmission and distribution	100%	100%	65%	72%
11 Natural gas distribution, water, sewage and other systems	22%	0%	76%	2%
12 Residential building construction	99%	100%	99%	97%
12 Non-residential building construction	85%	79%	86%	84%
14 Engineering construction	89%	100%	86%	58%
15 Repair construction	2%	12%	5%	2%
16 Other activities of the construction industry	5%	29%	39%	9%
17 Animal food manufacturing	100%	5%	19%	1%
18 Sugar and confectionary product manufacturing	36%	27%	3%	2%
19 Fruit and vegetable preserving and speciality food manufacturing	100%	1%	23%	83%
20 Dairy product manufacturing	67%	73%	100%	100%
21 Meat product manufacturing	21%	26%	25%	100%
22 Seafood product preparation and packaging	100%	100%	100%	100%
23 Miscellaneous food manufacturing	20%	14%	38%	32%
24 Soft drink and ice manufacturing	0%	62%	11%	1%
25 Breweries	100%	16%	32%	1%
26 Wineries and distilleries	0%	18%	14%	3%
27 Tobacco manufacturing	1%	2%	1%	7%
28 Textile and textile product mills	11%	2%	36%	3%
29 Clothing and leather and allied product manufacturing	2%	9%	8%	0%
30 Wood product manufacturing	100%	1%	49%	6%
31 Pulp, paper and paperboard mills	100%	100%	65%	2%
32 Converted paper product manufacturing	13%	3%	22%	2%
33 Printing and related support activities	3%	2%	14%	5%
34 Petroleum and coal product manufacturing	100%	100%	2%	1%
35 Basic chemical manufacturing	0%	0%	0%	0%

**Chart 7b**  
**Degree of Self-Reliance in Atlantic Canada Sectors (2012)**

Sector	% Self-Reliance			
	NB	NF	NS	PEI
36 Resin, synthetic rubber, and artificial and synthetic fibers and filaments mfg.	0%	0%	0%	2%
37 Pesticide, fertilizer and other agricultural chemical manufacturing	6%	0%	1%	0%
38 Pharmaceutical and medicine manufacturing	0%	0%	1%	15%
39 Miscellaneous chemical product manufacturing	0%	2%	3%	1%
40 Plastic product manufacturing	4%	1%	100%	0%
41 Rubber product manufacturing	3%	0%	9%	0%
42 Non-metallic mineral product manufacturing (except cement and concrete)	20%	3%	4%	10%
43 Cement and concrete product manufacturing	2%	98%	4%	100%
44 Primary metal manufacturing	0%	0%	0%	0%
45 Fabricated metal product manufacturing	7%	2%	4%	10%
46 Machinery manufacturing	3%	3%	8%	5%
47 Computer and peripheral equipment manufacturing	1%	1%	0%	2%
48 Electronic product manufacturing	1%	2%	10%	1%
49 Electrical equipment and component manufacturing	0%	1%	6%	0%
50 Household appliance manufacturing	0%	0%	0%	0%
51 Motor vehicle manufacturing	0%	0%	6%	1%
52 Motor vehicle body and trailer manufacturing	22%	10%	2%	70%
53 Motor vehicle parts manufacturing	1%	0%	2%	0%
54 Aerospace product and parts manufacturing	2%	3%	14%	18%
55 Railroad product and parts manufacturing	1%	7%	61%	55%
56 Ship and boat building	12%	57%	87%	81%
57 Other transportation equipment manufacturing	1%	2%	1%	3%
58 Furniture and related product manufacturing	27%	13%	10%	12%
59 Miscellaneous manufacturing	23%	5%	10%	3%
60 Wholesale trade	55%	34%	68%	31%
61 Retail trade	100%	100%	100%	100%
62 Air transportation	3%	71%	100%	1%
63 Rail transportation	8%	6%	2%	0%
64 Water transportation	6%	100%	1%	100%
65 Truck transportation	100%	13%	43%	20%
66 Transit, ground passenger and sightseeing, and support activities	18%	100%	29%	15%
67 Pipeline transportation	100%	0%	2%	4%
68 Postal service and couriers and messengers	100%	100%	100%	100%
69 Warehousing and storage	10%	3%	10%	1%
70 Motion picture and sound recording industries	11%	18%	27%	11%

**Chart 7c**  
**Degree of Self-Reliance in Atlantic Canada Sectors (2012)**

Sector	% Self-Reliance			
	NB	NF	NS	PEI
71 Radio and television broadcasting	8%	7%	53%	0%
72 Publishing, pay/specialty services, telecommunications and other information services	100%	73%	70%	17%
73 Depository credit intermediation and monetary authorities	49%	48%	69%	42%
74 Insurance carriers	86%	54%	75%	60%
75 Lessors of real estate	41%	74%	98%	100%
76 Owner-occupied dwellings	100%	100%	100%	100%
77 Rental and leasing services and lessors of non-financial intangible assets	43%	15%	35%	22%
78 Other finance, insurance and real estate services and management	48%	51%	66%	96%
79 Legal, accounting and architectural, engineering and related services	20%	38%	34%	3%
80 Computer systems design and other professional, sci. and tech services	15%	17%	32%	14%
81 Advertising, public relations and related services	1%	5%	3%	0%
82 Administrative and support services	100%	11%	12%	100%
83 Waste management and remediation services	100%	17%	100%	100%
84 Educational services	100%	100%	69%	100%
85 Health care and social assistance	100%	74%	100%	58%
86 Arts, entertainment and recreation	65%	39%	60%	100%
87 Accommodation and food services	80%	86%	83%	97%
88 Repair and maintenance	66%	100%	85%	70%
89 Personal services and private households	100%	100%	79%	92%
90 Professional and similar organisations	9%	35%	100%	100%
91 Non-profit education services	100%	100%	94%	100%
92 Non-profit social assistance	89%	100%	77%	100%
93 Non-profit arts, entertainment and recreation	71%	42%	67%	100%
94 Religious organizations	100%	100%	100%	100%
95 Miscellaneous non-profit institutions serving households	74%	92%	97%	100%
96 Public educational services (except universities)	90%	91%	71%	65%
97 Public universities	90%	100%	100%	87%
98 Public hospitals	100%	100%	100%	62%
99 Public nursing and residential care facilities	96%	67%	100%	60%
100 Other federal government services	100%	100%	100%	100%
101 Other provincial and territorial government services	100%	100%	100%	100%
102 Other municipal government services	53%	39%	62%	19%
103 Other aboriginal government services	80%	100%	100%	48%

What is more striking about these data is how many sectors are nowhere close to self-reliant. Chart 8 shows that the percentage of the 110 IMPLAN sectors that are at different levels of self-reliance. Complete self-reliance (<99%) only existing in fewer than quarter of the sectors in all four provinces (and fewer than a fifth of the sectors in Nova Scotia). Nearly half the sectors in all four provinces are less than 20% self-reliant. And 10-20% of the sectors in all four provinces show almost no activity whatsoever.

**Chart 8**  
**Percentage of 110 Sectors at Different Levels of Self-Reliance (2012)**

	<b>NB</b>	<b>NF</b>	<b>NS</b>	<b>PEI</b>
<b>&gt;99% Self-Reliant Sectors</b>	27%	23%	19%	21%
<b>&lt;50% Self-Reliant Sectors</b>	57%	62%	55%	61%
<b>&lt;20% Self-Reliant Sectors</b>	46%	50%	42%	56%
<b>&lt;1% Self-Reliant Sectors</b>	17%	15%	10%	20%

Chart 9 shows the magnitude of these leakages. In the region overall, residents currently spend \$76 billion for local production, and would need to spend another \$51 billion to achieve complete self-reliance. This implies that the level of leakage in the region is 40% -- that is, four out of every ten dollars spent leave the economy. The levels of leakage are somewhat higher in New Brunswick (45%) and Prince Edward Island (44%) and somewhat lower in Newfoundland (38%) and Nova Scotia (35%).

**Chart 9**  
**Overall Leakage in Atlantic Canada (2012)**

	<b>NB</b>	<b>NF</b>	<b>NS</b>	<b>PEI</b>	<b>Region</b>
<b>Current Spending on Local Production</b>	\$23,338,732,512	\$19,247,747,019	\$29,585,967,010	\$4,312,743,116	\$76,485,189,656
<b>Additional Production for Self-Reliance</b>	\$19,390,351,209	\$11,982,794,457	\$15,750,693,430	\$3,405,433,886	\$50,529,272,982
<b>Total Demand for Local Production</b>	\$42,729,083,720	\$31,230,541,477	\$45,336,660,439	\$7,718,177,002	\$127,014,462,639
<b>Rough Level of Leakage</b>	45%	38%	35%	44%	40%

There are two ways to think about these myriad leaks. A pessimistic interpretation is that Atlantic Canada has a high degree of economic fragility. An optimistic interpretation is that there are opportunities for import-replacing development in most sectors of the economy, which means the most entrepreneurs in the region would have no difficulty finding promising markets for new or expanded local businesses.

### III. A 10% Shift to Localization

What would be the impact on the Atlantic Canada economies if there was a small shift in demand for local goods and services? By local, we mean that residents of each of the four provinces increased their demand for goods and services produced *within that province*. By small, we mean 10% (we reflect more on this choice shortly).

To answer this question, we created a scenario within IMPLAN increasing production in every sector one tenth of the way toward self-reliance.<sup>8</sup> Take, for example, the demand for dairy product manufacturing (IMPLAN Sector 20). Chart 7a shows that New Brunswick is 67% self-reliant in that category now. The model indicates that the amount of leakage—that is, the amount of money going for imports of dairy products to meet local demand—is \$67 million. Expanding the New Brunswick dairy product industry by the 10% would therefore mean \$6.7 million in additional local production. For sectors that are already self-reliant, no increases in local production are assumed.

Charts 10 shows the total impact of ramping up all local production 10% in all four provinces. Overall, the region would experience more than 43,000 new jobs, \$2.6 billion in new wages, and \$219 million in new tax revenue. The GDP of the region would grow by \$4.7 billion.

**Chart 10**  
**Impact of 10% Shift in Atlantic Canada**

	Employment	Labor Income	Total Value Added	Output	Indirect Business Taxes
NB	14,502	\$907,680,544	\$1,827,838,866	\$3,920,039,749	\$84,636,950
NF	10,314	\$619,305,559	\$1,096,394,617	\$2,301,768,460	\$53,036,832
NS	15,000	\$877,251,772	\$1,462,788,865	\$3,163,562,185	\$67,262,890
PEI	3,443	\$193,876,276	\$314,718,331	\$631,884,283	\$14,476,151
Total	43,259	\$2,598,114,152	\$4,701,740,679	\$10,017,254,676	\$219,412,822

Recall that roughly 121,000 residents in Atlantic Canada are currently unemployed. As shown in Chart 11, *a 10% shift thus could provide more than enough jobs to reemploy more than third of those currently unemployed*.

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<sup>8</sup> One methodology note: When IMPLAN is used to study very small areas, as is the case in this study, the model has many zero-activity sectors. To model a self-reliant economy, these sectors – mostly in manufacturing – need to be rebuilt with a minimum of one worker. “Production functions” based on national composites of industries are then imported to show the linkage of new sector’s expenditures with other local industries.

**Chart 11**  
**Impact of 10% Shift on Unemployment**

	<b>10% Shift</b>	<b>Jun-16</b>	
	<b>Employment</b>	<b>Unemployment</b>	<b>% Solved</b>
<b>NB</b>	14,502	40,000	36%
<b>NF</b>	10,314	32,400	32%
<b>NS</b>	15,000	39,800	38%
<b>PEI</b>	3,443	8,800	39%
<b>Total</b>	43,259	121,000	36%

Chart 12 shows the sectors where these 43,259 jobs appear. Charts 13a-13d break out the “top 40” most promising job-creating opportunities by province. These jobs, according to IMPLAN, come from three sources:

- *Direct effects* are jobs created by changes in local consumer demand.
- *Indirect effects* are jobs created by expansions in local industry that supply companies experiencing direct job growth.
- *Induced effects* are jobs created by the increased purchasing now done by the new employees thanks to the direct and indirect effects.



**Chart 12 – Additional Jobs By Sector from 10% Shift**

<b>IMPLAN Sector</b>	<b>NB</b>	<b>NF</b>	<b>NS</b>	<b>PEI</b>	<b>Total</b>
Farming, Ranching, & Forestry	304	283	283	65	934
Mining, Oil, and Gas	641	141	105	14	901
Energy & Utilities	128	86	121	25	359
Construction	548	263	519	128	1,458
Manufacturing					
* Food, Beverages, & Tobacco	384	287	434	77	1,182
* Fibers, Textiles, & Clothing	390	257	440	64	1,152
* Wood and Wood Products	33	107	44	12	196
* Paper, Paper Products, & Printing	234	160	197	36	627
* Petroleum-Based Products	402	279	445	84	1,210
* Rubber, Glass, Stone, & Concrete Products	135	92	183	21	432
* Metals	45	37	58	8	148
* Metal Products	288	251	362	45	946
* Machinery & Equipment	207	173	255	33	668
* Computers, Electronics, & Appliances	265	223	401	45	934
* Vehicles, Boats, & Planes	191	142	355	282	971
* Furniture	139	113	169	26	447
* All Other Manufacturing.	173	149	220	37	580
Wholesale Trade	772	650	735	160	2,317
Retail	1,378	973	1,391	298	4,041
Transportation	817	521	829	157	2,324
Warehousing & Storage	57	40	58	11	166
Services	0	0	0	0	0
* Information Businesses	254	206	289	67	816
* Banking & Finance	424	304	369	78	1,174
* Real Estate & Leasing	977	581	746	147	2,451
* Professional Services	2,116	1,550	2,141	378	6,185
* Private Education	23	15	33	6	76
* Health & Human Services	165	202	166	80	613
* Entertainment, Tourism, & Food Services	1,257	920	1,396	224	3,797
* Personal Services	520	307	566	108	1,500
* Churches, Nonprofits, & Unions	269	142	256	35	702
* Government Services	966	860	1,435	692	3,953
	14,502	10,314	15,000	3,443	43,259

**Chart 13a – Top 40 IR Opportunities in NB (By Jobs)**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>IMPLAN Sector Number &amp; Sector Description</b>	<b>6,859</b>	<b>4,186</b>	<b>3,457</b>	<b>14,502</b>
61 Retail trade	0	387	992	1,378
87 Accommodation and food services	294	205	469	968
82 Administrative and support services	0	711	179	890
60 Wholesale trade	335	281	156	772
78 Other finance, ins. and real estate services and management of companies	254	324	127	706
80 Computer systems design and other prof., sci. and tech services	392	184	37	613
05 Oil and gas extraction	489	0	0	489
79 Legal, accounting and architectural, engineering and related services	202	229	41	472
102 Other municipal government services	411	27	24	462
15 Repair construction	160	162	55	376
73 Depository credit intermediation and monetary authorities	135	116	75	326
66 Transit, ground passenger and sightseeing, and support activities for transportation	211	80	25	315
29 Clothing and leather and allied product manufacturing	310	0	2	313
86 Arts, entertainment and recreation	146	37	106	289
45 Fabricated metal product manufacturing	193	87	9	288
89 Personal services and private households	0	43	236	279
88 Repair and maintenance	77	95	68	241
96 Public educational services (except universities)	194	10	26	230
46 Machinery manufacturing	194	12	2	207
65 Truck transportation	0	148	45	193
59 Miscellaneous manufacturing	145	11	17	173
72 Publishing, pay/specialty services, telecom and info services	0	102	64	166
85 Health care and social assistance	0	16	149	165
01 Crop and animal production	0	104	51	155
75 Lessors of real estate	101	18	32	152
33 Printing and related support activities	136	11	4	151
48 Electronic product manufacturing	145	1	0	147
58 Furniture and related product manufacturing	123	4	12	139
23 Miscellaneous food manufacturing	108	9	12	130
09 Support activities for mining and oil and gas extraction	85	45	0	129
68 Postal service and couriers and messengers	0	96	33	129
40 Plastic product manufacturing	96	23	4	124
95 Miscellaneous non-profit institutions serving households	84	9	29	122
77 Rental and leasing servs. and lessors of intangible assets	37	61	21	119
38 Pharmaceutical and medicine manufacturing	114	0	0	114
62 Air transportation	110	2	2	114
39 Miscellaneous chemical product manufacturing	106	0	0	107
21 Meat product manufacturing	83	12	12	107
97 Public universities	53	11	33	98
74 Insurance carriers	15	37	45	97

**Chart 13b – Top 40 IR Opportunities in NF (By Jobs)**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>IMPLAN Sector Number &amp; Sector Description</b>	<b>5,624</b>	<b>2,434</b>	<b>2,256</b>	<b>10,314</b>
61 Retail trade	0	294	679	973
82 Administrative and support services	357	284	89	730
60 Wholesale trade	441	132	77	650
87 Accommodation and food services	157	144	347	648
80 Computer systems design and other professional, scientific and technical services	315	121	27	463
102 Other municipal government services	432	14	13	459
78 Other finance, ins. and real estate services and management of companies	157	163	76	396
86 Arts, entertainment and recreation	208	19	45	272
79 Legal, accounting and architectural, engineering and related services	91	141	34	266
45 Fabricated metal product manufacturing	222	26	3	251
73 Depository credit intermediation and monetary authorities	107	61	51	219
29 Clothing and leather and allied product manufacturing	198	1	6	206
65 Truck transportation	139	53	12	204
85 Health care and social assistance	97	13	91	202
15 Repair construction	21	105	55	180
46 Machinery manufacturing	166	6	1	173
89 Personal services and private households	0	26	144	171
96 Public educational services (except universities)	142	6	18	166
59 Miscellaneous manufacturing	144	2	3	149
66 Transit, ground passenger and sightseeing, and support activities for transportation	0	104	41	145
72 Publishing, pay/specialty services, telecomm and info services	35	66	40	141
88 Repair and maintenance	0	78	57	136
99 Public nursing and residential care facilities	126	0	6	133
48 Electronic product manufacturing	120	2	0	122
58 Furniture and related product manufacturing	107	2	4	113
01 Crop and animal production	55	42	15	111
30 Wood product manufacturing	102	5	0	107
03 Fishing, hunting and trapping	103	2	2	106
33 Printing and related support activities	95	5	2	102
38 Pharmaceutical and medicine manufacturing	99	0	0	99
77 Rental and leasing services and lessors of non-financial intangible assets	69	21	8	99
23 Miscellaneous food manufacturing	84	5	5	93
40 Plastic product manufacturing	87	5	1	93
68 Postal service and couriers and messengers	0	67	23	90
75 Lessors of real estate	30	21	35	86
74 Insurance carriers	46	16	23	85
12 Non-residential building construction	77	0	0	77
05 Oil and gas extraction	68	4	1	73
21 Meat product manufacturing	53	9	9	72
49 Electrical equipment and component manufacturing	61	2	0	62

**Chart 13c – Top 40 IR Opportunities in NS (By Jobs)**

	<b>Direct</b>	<b>Indirect</b>	<b>Induced</b>	<b>Total</b>
<b>IMPLAN Sector Number &amp; Sector Description</b>	<b>7,741</b>	<b>3,537</b>	<b>3,722</b>	<b>15,000</b>
61 Retail trade	0	374	1,017	1,391
82 Administrative and support services	563	336	155	1,054
87 Accommodation and food services	307	180	500	987
96 Public educational services (except universities)	776	7	21	805
60 Wholesale trade	266	288	180	735
80 Computer systems design and other professional, scientific and technical services	332	186	61	579
78 Other finance, ins. and real estate services and management of companies	165	207	150	522
102 Other municipal government services	422	26	30	478
86 Arts, entertainment and recreation	248	42	119	409
79 Legal, accounting and architectural, engineering and related services	151	170	55	376
45 Fabricated metal product manufacturing	292	62	7	362
29 Clothing and leather and allied product manufacturing	346	2	9	357
89 Personal services and private households	148	28	177	353
66 Transit, ground passenger and sightseeing, and support activities for transportation	205	91	43	339
15 Repair construction	84	109	81	273
73 Depository credit intermediation and monetary authorities	86	86	95	267
65 Truck transportation	84	134	38	256
46 Machinery manufacturing	234	17	3	255
48 Electronic product manufacturing	216	13	4	233
59 Miscellaneous manufacturing	207	6	8	220
88 Repair and maintenance	38	92	84	213
72 Publishing, pay/specialty services, telecomm and info services	59	75	59	193
01 Crop and animal production	0	112	61	173
58 Furniture and related product manufacturing	163	2	4	169
85 Health care and social assistance	0	14	153	166
38 Pharmaceutical and medicine manufacturing	138	1	1	139
14 Engineering construction	130	0	0	130
23 Miscellaneous food manufacturing	91	18	21	129
68 Postal service and couriers and messengers	0	80	38	118
77 Rental and leasing services and lessors of non-financial intangible assets	53	43	19	115
21 Meat product manufacturing	88	14	14	115
33 Printing and related support activities	79	25	11	115
39 Miscellaneous chemical product manufacturing	107	4	1	112
75 Lessors of real estate	4	34	70	108
92 Non-profit social assistance	84	6	16	105
74 Insurance carriers	36	23	43	102
49 Electrical equipment and component manufacturing	86	12	2	100
54 Aerospace product and parts manufacturing	84	13	1	98
81 Advertising, public relations and related services	74	15	6	95
10 Electric power generation, transmission and distribution	35	33	26	95
53 Motor vehicle parts manufacturing	81	10	1	93

**Chart 13d – Top 40 IR Opportunities in PEI (By Jobs)**

	Direct	Indirect	Induced	Total
<b>IMPLAN Sector Number &amp; Sector Description</b>	<b>2,060</b>	<b>617</b>	<b>767</b>	<b>3,443</b>
61 Retail trade	0	75	224	298
53 Motor vehicle parts manufacturing	237	0	0	237
96 Public educational services (except universities)	203	1	4	208
102 Other municipal government services	197	2	2	201
87 Accommodation and food services	6	48	122	176
60 Wholesale trade	107	30	23	160
98 Public hospitals	149	2	3	154
82 Administrative and support services	0	95	40	136
80 Computer systems design and other professional, scientific and technical services	82	25	8	115
79 Legal, accounting and architectural, engineering and related services	84	13	4	101
78 Other finance, ins. and real estate services and management of companies	3	47	39	89
85 Health care and social assistance	43	11	27	80
15 Repair construction	25	22	15	62
89 Personal services and private households	8	9	43	60
73 Depository credit intermediation and monetary authorities	29	12	15	57
99 Public nursing and residential care facilities	52	0	2	54
29 Clothing and leather and allied product manufacturing	54	0	0	54
66 Transit, ground passenger and sightseeing, and support activities for transportation	37	12	4	53
65 Truck transportation	28	18	6	51
72 Publishing, pay/specialty services, telecomm and info services	39	7	5	50
86 Arts, entertainment and recreation	0	11	37	48
88 Repair and maintenance	13	18	17	48
45 Fabricated metal product manufacturing	27	16	2	45
14 Engineering construction	42	0	0	42
59 Miscellaneous manufacturing	36	0	1	37
77 Rental and leasing services and lessors of non-financial intangible assets	19	11	5	34
46 Machinery manufacturing	31	2	0	33
103 Other aboriginal government services	33	0	0	33
01 Crop and animal production	0	15	16	30
97 Public universities	19	2	7	28
58 Furniture and related product manufacturing	25	0	1	26
48 Electronic product manufacturing	25	0	0	25
39 Miscellaneous chemical product manufacturing	24	0	0	25
23 Miscellaneous food manufacturing	16	4	4	25
75 Lessors of real estate	0	8	16	24
68 Postal service and couriers and messengers	0	16	7	23
40 Plastic product manufacturing	23	0	0	23
33 Printing and related support activities	18	3	1	21
62 Air transportation	21	0	0	21
38 Pharmaceutical and medicine manufacturing	18	2	1	21

Chart 14 combines these sectors into thematic categories that can help guide strategies for import replacement. For example, various food sectors – growing, manufacturing, distributing, retailing, and serving food – are combined into one category.

**Chart 14**

### Job Opportunities from Import Replacement (By Thematic Categories)

	NB	NF	NS	PEI	Region
Food Growing, Processing, and Service	1,633	1,183	1,646	311	4,772
Mining, Oil, and Gas	641	141	105	14	901
Energy & Utilities	128	86	121	25	359
Construction	548	263	519	128	1,458
Manufacturing (Except Food)	2,510	1,989	3,138	694	8,331
Wholesale & Retail	2,150	1,623	2,126	458	6,358
Transportation, Warehousing, & Storage	874	561	886	169	2,490
Finance, Insurance, and Real Estate (FIRE)	1,401	885	1,115	225	3,626
Information Services	254	206	289	67	816
Professional Services	2,116	1,550	2,141	378	6,185
Health and Social Services	165	202	166	80	613
Personal Services	279	171	353	60	862
Nonprofit Services	269	142	256	35	702
Government Services	966	860	1,435	692	3,953
Other	569	452	704	107	1,833
	14,502	10,314	15,000	3,443	43,259

Starting with the largest opportunities for job creation first, here are the top six categories for import substitution.

- Local Manufacturing (except food) (8,331 jobs)* – The single largest opportunity is to expand manufacturing—but *local manufacturing*. This connects to the “maker” revolution worldwide, which embraces cottage industries that produce local goods for local needs. Some manufacturing sectors that require large economies of scale, such as aircraft, would be poor candidates for this approach. The priority instead would be sectors where smaller scale production can be competitive. These are the kinds of companies that could be grown by a local entrepreneur, initially selling to local markets, and naturally expanding into national and global markets. One attractive feature of manufacturing jobs is that wages tend to be high.
- Local Wholesale and Retail (6,358 jobs)* – The second biggest opportunity is wholesale and retail. Because the retail sector is already 100% self-reliant, almost all the retail growth comes from the purchases from business by expanding businesses (indirect effects) and by their employee spending (induced effects). The wholesale sector, however, has significant leakage now, so it would be important to connect retailers with new local distributors. Another 2,490 jobs are possible from more local warehousing, storage, and transportation of goods.
- Local Professional Services (6,185 jobs)* – Professional services is one of the easiest sectors to localize. Local professionals already exist in every category, and it’s largely a matter of encouraging residents to prioritize local lawyers,

engineers, architects, etc. To the extent there may be shortages, it's also a sector that's relatively easy to attract new professionals based on lifestyle. Professional service providers tend to operate in small firms, pay high wages, and require low overheads.

- *Local Food (4,772 jobs)* – While food is part of the retail sector, it's possible to tease out additional jobs from local farming, local food manufacturing, and local food service. Atlantic Canada already has an energetic grassroots movement promoting local food, so it should not be difficult to accelerate it. Food is a relatively easy sector to localize because consumers viscerally appreciate and support a product that tastes better.
- *Local FIRE (3,626 jobs)* – Plugging leaks in financial services, including those for insurance and real estate, yields a double benefit: more jobs are created, and more wealth and savings are available for local investment, which benefits all the other import-replacement initiatives outlined here.
- *Government Services (3,953 jobs)* – Leakages in government services, as discussed, primarily concern electricity transfers. Greater energy self-reliance in each province, through more efficiency or more renewable energy, would help create these jobs.

Together, these categories account for more than three-quarters of all the potential jobs from import replacement in Atlantic Canada.

It's worth noting is that higher degrees of localization—beyond a 10% shift—would produce greater economic benefits, but the choice of 10% as a goal is a conservatism. Not all *possible* local jobs are *plausible* for a given community. In some cases, such as production of bauxite for aluminum, the Maritimes lack the right natural resources. In others, such as automobile manufacturing, achieving a competitive advantage through local industry would be challenging. And in still others, such as nuclear waste disposal, plausible jobs might nevertheless be undesirable. That said, readers and policymakers should think hard about whether 10% is the right goal and whether localization might move farther and faster.

It's also worth noting, finally, that “leak plugging” can be accomplished by more than creating or expanding local industry. For example:

- *Efficiency* – Simply improving the efficiency of a good or service that's being imported can plug a leak. This is easy to see with energy. Beyond the jobs in private energy firms and public agencies that could come from greater local energy production, increasing overall energy efficiency of all households and industrial sectors means that every resident and every business has more money to spend on other local goods and services. The same is true for water efficiency and materials recycling. And more efficient uses of land in urban

settings might allow activities like food growing that might be difficult with current land-use patterns.

- *Substitution* – Sometimes the best way to plug a leak is by transforming a demand. A good example is health care. Shifting from treatment to prevention, as most public health experts advocate, means substituting mostly local activities (good nutrition, counseling, pre-natal care, checkups, exercise) for non-local ones (imported pharmaceuticals and end-of-life high-tech equipment). Another example is shifting from nonlocal automotive transportation to local bicycles and buses. Or shifting from eating out to home-cooked meals. Indeed, shifts away from consumerism altogether might be a way reduce imports. Giving home-made gifts instead of buying imported items from China improves the trade balance (though it could hurt other local industries, such as local gift sellers).
- *Ownership* – Like nearly all regional models, IMPLAN takes no account of the ownership of businesses analyzed, just the flows of goods and services into and out of the region. But there's ample evidence that locally owned businesses tend to purchase their goods and services locally.<sup>9</sup> It is for this reason that studies consistently show that replacing a nonlocal business with an equivalent local one tends to generate two-to-four times the consequent income, wealth, and job effects.<sup>10</sup> So even in a category like retail, where much of Atlantic Canada registers nominally 100% self-reliance, replacing chain stores with local ones would plug more leaks.

To summarize, a comprehensive regional strategy for import replacement would grow local businesses, increase their efficiency, emphasize local solutions to regional problems, and expand local ownership of business. But how exactly can this be accomplished?

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<sup>9</sup> By locally owned business, we mean businesses in which more than 50% of the ownership shares are held by nearby residents. This would include local chains (say a network of local grocery stores) and certain franchises (provided owners controlled most elements of the business, such as signage, sourcing, marketing, and so forth).

<sup>10</sup> See, for example, Michael H. Shuman, *Local Dollars, Local Sense: How to Shift Your Money from Wall Street to Main Street and Achieve Real Prosperity* (White River Junction, VT: Chelsea Green, 2012), pp. 17-25.



## IV. A New Economic Development Strategy

To realize the significant job opportunities from a 10% shift, Atlantic Canada needs to deploy a fundamentally different approach to economic development. Appendix I summarizes the myriad reasons why the current approach – to attract and retain outside business, often by giving them “incentives” like tax breaks – has been largely discredited and should be discarded. The new focus for the region should be on *local* economic development and on locally owned, import-substituting (LOIS) businesses.

Local economic development invites attention to questions that fall into six categories, each which begins with the letter “P”:

- *Planning* – Where are there significant dollar “leaks” caused by unnecessary imports, and how can the leaks best be plugged with competitive LOIS enterprises?
- *People* – How can a new generation of LOIS entrepreneurs be nurtured and trained to lead and expand leak-plugging enterprises?
- *Partners* – How can LOIS businesses work together (through, for example, joint purchasing or marketing cooperatives) to improve their competitiveness?
- *Purse* – How can local savings, whether in banks or pension funds, be tapped to support new or expanded LOIS businesses?
- *Purchasing* – How can LOIS businesses achieve greater success through “Local First” purchasing by consumers, businesses, and government agencies?
- *Public Policymaking* – How can the myriad biases that currently exist against LOIS be eliminated so that local businesses can compete on a level playing field?

Below, we explore some promising initiatives that could be taken in each of these categories.

### *Planning*

The previous sections shed light on the *overall* leakiness of Atlantic Canada. More comprehensive inquiries at the community level can provide a deeper understanding of opportunities for import replacement. For example:

- *Inventory Local Businesses* – In many sectors, expanding existing local businesses—with proven leadership and success—into new import-replacing markets might make more sense than starting new companies. Communities

can and should create an inventory of local businesses ready, willing, and able to expand.

- *Inventory Local Assets* – Community assessments of assets, such as skills, land, and buildings, can help to sharpen the list of which possible job opportunities are plausible. For example, if a community discovers that it has a critical mass of unemployed programmers, it might prioritize the creation of local software businesses. Or if it has wasted energy or piles of scrap metal, it could transform these into new industries.
- *Assess Local Leakages* – Even in sectors that have low leakage province-wide, communities might nevertheless have business shortages. Many rural communities, for example, lack ready access to a full range of retail goods. One technique a community might use for setting priorities is to survey local businesses and anchor institutions about their largest imports, and then systematically pair them with local suppliers.
- *Engage in Placemaking* – Another fruitful inquiry concerns “placemaking”—creating or enhancing spaces that naturally attract local and visiting foot traffic. Good placemaking can help a community draw more tourists and increase visitor spend rates.
- *Hold Focus Groups* – The companion paper to this one by Karen Foster, associate professor of sociology at Dalhousie University, shows the insights that can manifest from community focus groups that assess import-replacement opportunities.

### *People*

A healthy entrepreneurial ecosystem should contain the following components:

- *Courses* – Entrepreneurship education should be available in both formal and informal settings. It should reach students of all ages, including adults, and all kinds of learners, through online and classroom offerings.
- *Mentorship* – Experienced entrepreneurs, whether active or retired, should be connected with aspiring entrepreneurs to provide guidance and support.
- *Coaching* – A community should identify professional coaches prepared to help entrepreneurs on a fee-for-service basis.
- *Peer Networks* – Early stage entrepreneurs in similar industries, like food processing, should be brought together as a way of bolstering everyone’s prospects for success.

- *Co-Working Spaces* – Dedicated spaces like Impact Hubs should be provided to early stage entrepreneurs who cannot afford an office to facilitate networking and learning from peers.
- *Technical Assistance* – A community might engage in conversations with local business people to discover exactly what barriers they face to expansion, and systematically devise individually tailored strategies to assist them.
- *Intellectual Property Protectors* – Regions with strong university clusters should create centers for helping entrepreneurs legally protect their inventions and other intellectual property.
- *Incubators* – A community should provide dedicated space and technical assistance to incubate and accelerate especially promising local businesses. These can be open to all businesses or focus on particular sectors, as kitchen incubators or nonprofit centers do.
- *Maker Spaces* – For entrepreneurs interested in making products, giving them access to machines for woodworking, metalworking, or even 3D printing can help support their work.

### *Partners*

Creating or strengthening business networks enables local businesses to be more competitive than they would be operating alone. Common business networking organizations include the Chamber of Commerce, local business alliances, downtown business associations, and sector specific organizations (e.g., associations of retailers or manufacturers). These networks can lead many types of valuable partnership initiatives, including joint training, joint advertising, joint procurement, joint selling, joint financing, and joint contracting.

One especially powerful tool for creating effective partnerships is to organizing local business members into smaller affinity groups that maximize the benefits of working together. By creating peer cohorts around specific sectors, a business alliance can become more diverse and more powerful. Among the sectors that make sense for affinity groups are local food, local energy, affordable housing, local finance, information services, local transportation, small-scale manufacturing, professional services, local retail, tourism, and local entertainment.

Cohorts of peer businesses resemble industry clusters. The virtue of industry clusters, according to Harvard Professor Michael Porter, is that when similar businesses congregate and collaborate, they attract a critical mass of intelligence, talent, creativity, and technology. The clustering of computer businesses around Silicon Valley, for example, created a pool of extraordinary pioneers, who graduated from the world-class computer departments of Stanford and U.C. Berkeley, who moved in and out of various companies like Apple and Intel, and who nurtured all kinds of support businesses like

intellectual property law firms and venture capital companies. These programmers, marketers, and high-tech developers went to the same bars, frequented the same health clubs and were active in the same PTA meetings. All these organizations and individuals formed relationships, fostered innovation, and established linkages that facilitated more competitively advantageous behavior.

Unfortunately, the concept of cluster development has largely been used by economic developers to argue for corporate attractions in the name of expanding existing clusters (rather than creating new ones). In rural communities with only a few industries, these strategies leave their economies hollow and vulnerable to sudden changes in their small number of export markets. Local economic development, in contrast, encourages the growth of many diverse clusters, including new clusters that do not yet exist locally. A strong local economy ultimately seeks to have viable clusters in as many sectors as possible.

### *Purse*

Input-output models like IMPLAN provide excellent data on leakages of consumer dollars but almost no data on leakages of investment dollars. But there is ample evidence that most investment dollars in Atlantic Canada wind up in projects and businesses hundreds or thousands of kilometers away. Banking, for example, is dominated by a relatively small number of large banks that tend to shift deposits from poorer communities to richer ones, often across provinces, and from rural communities to urban ones. Other investments that go into stocks, bonds, RRSPs, pension funds, mutual funds, and insurance funds wind up almost entirely in publicly traded companies with little or no real connection to Atlantic Canada's communities.

A critical part of an import-replacement strategy, therefore, is to move local dollars into local businesses and projects. Among the tools for doing so are the following:

- *Grassroots Education* – Residents of Atlantic Canada who are financially struggling need to better appreciate that their best investment opportunities may be, not to put more money into nonlocal RRSPs, but instead to avoid payday lenders, pay off high-interest credit cards, and transform themselves from renters to homeowner. All these actions not only strength the financial position of people with limited incomes but also localize financial dollars.
- *Credit Unions* – Businesses and individuals should consider moving their money from nonlocal banks to community credit unions. Studies in the United States suggest that the probability of a dollar deposited in a local bank or credit union going to a local business is three times greater than the probability of a dollar deposited in a large, nonlocal bank.
- *Business Tools* – Local businesses need to learn how to take advantage of an expanding range of tools for raising local capital including donation crowdfunding, interest-free loans (e.g., from Kiva), and pre-selling, all of

which are usually exempt from expensive securities law filings. Equity crowdfunding, which provides a new option for small businesses seeking equity or loans from many customers or fans, has recently been legalized in Atlantic Canada, but few businesses thus far have taken advantage of it.<sup>11</sup>

- *Financial Innovations* – Investment professionals in Atlantic Canada should expand existing local investment institutions, such as Community Economic Development Investment Funds (CEDIFs) in Nova Scotia. Legalized in the late 1990s, CEDIFs enable grassroots groups to create community-based funds for their pension savings. Alternatively, investment professionals might create new institutions, such as internet portals that help local investors find local businesses,<sup>12</sup> local stock exchanges that help local investors resell securities, and local mutual funds with diversified portfolios of, say, local energy projects or local food businesses.
- *Investor Tools* – Residents who have pension or other savings should be introduced to local businesses looking for capital. This can be done through monthly gatherings (as Local Investment Opportunities Networks, or LIONs, do) or through internet listings (as the web site Investibule does in the United States). Through self-directed RRSPs, residents in Atlantic Canada can begin to move their investments into all the innovations discussed in this section.
- *Municipal Innovations* – Local governments could facilitate local investing in many ways: by moving their own banking to community credit unions; by listing local companies currently seeking capital; by issuing municipal bonds purchasable by residents (as the web site Neighborly facilitates in the United States); by helping resident move more of their investment dollars into self-directed RRSP's; or by creating municipal investment funds (perhaps focusing on affordable housing, commercial real estate, or energy efficiency).

### *Purchasing*

A smart local business knows that the difference between a successful year and a disastrous one, between profit and loss, can be summed up in one word—*customers*. More selling is a necessary condition for commercial success. This explains why one of the first and most common action steps for local economic development is a “buy local” campaign. Every consumer persuaded to buy local improves the bottom line not only for

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<sup>11</sup> On 25 January 2016, for example, Multilateral Instrument 45-108 Crowdfunding (45-108 crowdfunding regime) was implemented collectively by Saskatchewan, Manitoba, Ontario, Québec, New Brunswick, and Nova Scotia.

<sup>12</sup> Among the portals currently operating in Atlantic Canada are RealStarter ([www.realstarter.ca](http://www.realstarter.ca)), Canadragon Enterprise Interchange ([www.ecfex.ca](http://www.ecfex.ca)), Consider Funding ([www.considerfunding.com](http://www.considerfunding.com)), CrowdCo ([www.gotroo.com](http://www.gotroo.com)), Frontfundr ([www.frontfundr.com](http://www.frontfundr.com)), StellaNova ([www.stellanova.ca](http://www.stellanova.ca)), and Vested Technology ([www.vested.ca](http://www.vested.ca)).

local sellers but also for the community at large because of a stronger economic multiplier.

Many communities have branded these activities with the slogan “Think Local First.” The formulation is a reminder that the goal is not to “buy local all the time” or to “buy local at all costs.” The goal is rather to promote smarter shopping. And before a consumer buys another good from a nonlocal store or another service from a nonlocal vendor, he or she should at least know and consider the local alternatives. “Think Local First” is fundamentally a marketing campaign for local businesses, except instead of promoting one business it promotes collectively all the businesses on the local team. The primary mission is to persuade potential local purchasers that the local alternatives are superior. Among the ways of fulfilling this mission are:

- To label local goods, and put clear signage on locally owned businesses;
- To show price advantages enjoyed by local goods and services; and,
- To educate consumers about the economic, environmental, and social benefits that flow from buying local.

Smart local economic development practitioners will seek to promote greater local purchasing not just by consumers but also by businesses, by government purchasing agents, and by “anchor institutions” like hospitals, universities, school districts, prisoners, and sports teams.

### *Public Policy*

A successful local economic development program should critically review existing policies that touch local business, whether local, county, and provincial, and make concrete recommendations for improving them. One top priority is to remove all government money from corporate attraction and retention, the reasons for which are elaborated in Appendix I. This usually frees up funds for all other priorities discussed in this section.

Other policies that commonly (even if inadvertently) disadvantage local businesses and usually need repeal or revision are:

- *Taxes* – Relatively high taxes imposed on local businesses, compared to tax breaks given to nonlocal businesses, create competitive disadvantages for the former.
- *Land Use* – Zoning rules that limit home-based businesses or prohibit mixed-use development often impede local business.
- *Licensing* – Excessively complex or expensive requirement on entrepreneurs may deter professionals from going into business.

- *Procurement* – Procurement rules often prevent local governments from getting competitive bids from local suppliers. One reform worth spreading is New Brunswick’s effort to give local businesses due credit for the taxes they pay (outside bidders, in contract, usually spend money in ways that generate fewer local taxes).

A community might consider improving its public policies by appointing a blue-ribbon panel of local business owners. The panel’s mission would be to produce each year a series of recommendations about initiatives and policies that would be helpful to the local business community. A paid staff person might serve as a coordinator. This panel might arrange monthly hearings where it took testimony about different issues—everything from licensing, permits, taxes, and zoning to placemaking, climate change, and schools. It might invite ongoing public engagement online.

Additionally, a community produce an annual *State of Community Report* on the overall health of the local economy. This report would be made widely available to residents on line and in print. Among the things this report might contain are: key indicators of the community’s leakages; an updated assessment of local assets, including the entrepreneurial ecosystem; and a list of policy priorities from the work of the blue-ribbon panel discussed above.

### *Pollinators*

To the six P’s just elaborated, one more P should be added. Perhaps the smartest way to approach at least five of the P’s above is to develop self-financing approaches to them. *The Local Economy Solution* (Chelsea Green, 2015) shows that local economic development might be possible at zero long-term cost, if the profession were to take full advantage of an expanding range of business “pollinators.”

A “pollinator” is a self-financing enterprise committed to boosting local business. Some pollinators are for-profit businesses, some are nonprofits, but they all allow a community to undertake one or more of five key economic-development functions—planning, purchasing, people, partnerships, and purse—with far greater efficacy and at a substantially lower cost than typical, taxpayer-funded programs. Here are some examples of each.

A planning pollinator might include the “spatial” planning undertaken by urban planners and “business” planning undertaken by consultants.

- *Business Efficiency* –The Main Street Genome Project analyzes data from local businesses to help them identify weak spots and remedy them by, for example, getting better prices from suppliers and sharing the savings with clients. [www.mainstreetgenome.com](http://www.mainstreetgenome.com)

- *Green Design*—Bazzani Associates brings old buildings back to life with green designs, and has revitalized several neighborhoods in Grand Rapids, Michigan. [www.bazzani.com](http://www.bazzani.com)
- *Placemaking*—The Village Well, based in Melbourne, is hired by public and private property owners to help stakeholders set in motion a plan to revitalize a place with many new kinds of work and play. [www.villagewell.org](http://www.villagewell.org)

A purchasing pollinator includes companies that induce local purchasing by consumers, businesses, and government agencies.

- *Coupon Books*—The Chinook Book, active in a half dozen cities, enables consumers to buy a book of coupons worth thousands of dollars of savings at local businesses. [www.chinookbook.net](http://www.chinookbook.net)
- *Local Business Magazines*—Edible Communities is a magazine design, currently licensed in 85 cities across North America, that raises consumer awareness of local farmers and local food businesses and is underwritten primarily by local advertising. [www.ediblecommunities.com](http://www.ediblecommunities.com)
- *Local Web Marketplaces*—ShopCity licenses a web platform to three dozen American and Canadian cities that draws consumers to great local goods and services. [www.shopcity.com](http://www.shopcity.com)
- *Local Debit Cards*—Bernal Bucks in San Francisco has partnered with its local credit union to issue a debit card that rewards local business purchases. [www.bernalbucks.org](http://www.bernalbucks.org)
- *Local Gift Cards*—Tucson Originals provides foodies an easy “stocking stuffer” to buy for friends and relatives that ultimately can be redeemed at local restaurants. [www.tucsonoriginals.instagift.com](http://www.tucsonoriginals.instagift.com)
- *Local Loyalty Cards*—Supportland (recently rebranded as Placemaker) has 80,000 users in Portland, Oregon, who receive gifts and discounts for loyally making purchases at local stores and service providers. [www.supportland.com](http://www.supportland.com)

People pollinators help identify, train, and support entrepreneurs, employees, and economic developers.

- *Enterprise Facilitators*—The Sirolli Institute, based in Sacramento, has helped 300 communities worldwide deploy “enterprise facilitators” that transform local entrepreneurs with great ideas into successful businesspeople. [www.sirolli.com](http://www.sirolli.com)



- *Local Economic Developer Training*—Simon Fraser University in Vancouver runs a successful “adult education” course that teaches development professionals how to do *local* economic development. [www.sfu.ca/cscd/professional-programs/community-economic-development.html](http://www.sfu.ca/cscd/professional-programs/community-economic-development.html)
- *Youth Entrepreneurship Schools*—Fundación Paraguaya now runs three high schools in Paraguay that pay all their expenses through the revenues generated by student-run enterprises, and is working with another organization based in the United Kingdom, Teach a Man to Fish, to spread this model worldwide. <http://www.teachamantofish.org.uk/>
- *Short Entrepreneurship Courses*—ZingTrain, part of the Zingerman’s Community of Businesses in Ann Arbor, Michigan, provides training through two or three-day courses to more than one thousand entrepreneurs each year. [www.zingtrain.com](http://www.zingtrain.com)
- *Maker Spaces* – Maker-Works, also in Ann Arbor, educates its members on how to use advanced industrial tools to make cutting-edge products. [www.maker-works.com](http://www.maker-works.com)
- *Co-Working Spaces*—The Impact Hub represents a worldwide network of 63 spaces where social entrepreneurs can work and cross-pollinate shoulder-to-shoulder with like-minded people. [www.impacthub.net](http://www.impacthub.net)
- *Incubators*—The Northwest Regional Planning Commission in rural Wisconsin runs a network of ten small business incubators over an area of 11,000 square miles, with “circuit riders” who move from site to site and provide various forms of technical assistance. [www.nwrpc.com](http://www.nwrpc.com)
- *Accelerators* – Each year the Seattle-based Fledge leads three cohorts of promising local entrepreneurs through intensive trainings, and pays for its work through modest royalty payments from its graduates. [www.fledge.co](http://www.fledge.co)

Partnership pollinators facilitating collaborations of, by, and for local businesses.

- *Joint Support*—Local First Arizona has grown to be the largest BALLE network in the United States (with 2,600 businesses) by providing members with technical assistance, peer support, and effective buy-local campaigns. [www.localfirstaz.com](http://www.localfirstaz.com)
- *Joint Advertising*—The Calgary-based organization REAP (standing for Respect the Earth and All People) directs consumers to local ethical businesses through ads and an online directory and finances its work by positioning itself as a one-stop marketing firm for its 120 business members. [www.reapcalgary.com](http://www.reapcalgary.com)

- *Joint Purchasing* – Tucson Originals (noted above) negotiates discounts from “preferred” local suppliers that all its food-business members can enjoy.
- *Joint Delivery*—Small Potatoes Urban Delivery directly delivers the products from small farmers and local food processors to locavore households in six metro areas in North America. [www.spud.com](http://www.spud.com)
- *Joint Selling*— The Reading Terminal Market is one of a growing number of permanent “public markets” that are effectively shopping malls for local food providers, local artisans, and other local businesses. [www.readingterminalmarket.org](http://www.readingterminalmarket.org)

Purse pollinators provide capital to new or expanding local business, including debt and equity capital, over short and long terms, in small and large amounts

- *Local Banking* –Vancity is a pioneering locally owned credit union that serves 500,000 members in metro Vancouver and has staff who support 38,000 local business members with credit, partnerships, and technical assistance. [www.vancity.com](http://www.vancity.com)
- *Local Securities Creation*—Cutting Edge Capital, based in Oakland, teaches local small businesses how to jump through the legal hoops necessary to mobilize investment from non-wealthy, “retail” investors in their communities. [www.cuttingedgecapital.com](http://www.cuttingedgecapital.com)
- *Local Securities Trading* – WeFunder is one of a growing number of companies that connect local businesses with local investors. [www.wefunder.com](http://www.wefunder.com)
- *Local Investment Funds* –FarmWorks is one of 60 investment funds that Nova Scotia permits grassroots groups to organize and through which locals can reinvest tax-deferred retirement savings into area food production and distribution enterprises. [www.farmworks.ca](http://www.farmworks.ca)
- *Local Prepurchasing* –Credibles, based in San Francisco, provides a platform for local food businesses to raise capital from their customers—without legal paperwork—through preselling. [www.credibles.co](http://www.credibles.co)

The only P that is hard to build pollinators around is public policy. Public initiatives, alas, cannot and should not be outsourced to private businesses.

## Conclusion

Atlantic Canada is struggling with many of the challenges that afflict rural economies worldwide, including declining natural resource industries, chronic poverty and unemployment, a brain drain of the best and the brightest, declining populations, and rising infrastructure costs. The commonly proposed solution, however—that the region attract new global companies and increase exports—is a dead end. The costs of corporate attraction, both in terms of giveaways and reduced environmental and labor standards, are rarely worth the benefits. But more importantly, there is an alternative.

Import replacement is a strategy that gives Atlantic Canada an opportunity to grow jobs, income, and wealth through local business in a way that consistent with its values and character. This paper shows that if the region were simply to target creating 10% of the potential jobs from import replacement, it would enjoy more than 43,000 new jobs, \$2.6 billion in new wages, \$219 million in new tax revenue annually, and \$4.7 billion in new GDP annually. More than a third of the regions unemployment problem would be solved. Moreover, such as strategy turns out to be the smartest way of expanding exports, not in a handful of markets chosen in advance by economic developers (who usually guess incorrectly), but in dozens or hundreds of export markets that local businesses naturally open up.

The paper also shows ways of achieving these goals through carefully tailored initiatives around planning, entrepreneurs, local business networks, local purchasing, local investing, and smarter public policy. Most of these initiatives cost relatively little, and if deployed through proven “pollinator” models, they actually could cost nothing and generate net revenue.

The message for economic development in Atlantic Canada is aptly summed up in the words of Francis Bacon written hundreds of years ago. “Things that have never been done, never will be done, except by means that have never yet been tried.”

## Appendix I

### The Case Against Corporate Attraction

For many years, Atlantic Canada, like thousands of other regions across the world, has undertaken economic development primarily by attracting or retaining outside businesses. A growing body of evidence suggests, however, that this model of economic development is ineffectual at best and a huge waste of local resources and opportunities at worst. Moreover, many of the more popular concepts in economic development today – industrial parks, high-tech clusters, tax-increment financing (TIFs), business incubators, even many green-job programs – turn out ultimately to rely on the flawed paradigm of attraction and retention.

One of the sharpest analysts of corporate attraction policies has been Professor Ann Markusen, director of the Project on Regional and Industrial Economics at the Humphrey Institute of Public Affairs, based at the University of Minnesota. Several years ago, she assembled the best analysts in the field to explore the validity of these critiques and to offer reforms. Some of these analysts believed that these deals were ultimately beneficial, some did not, and some were unsure. The resulting book of essays, *Reining in the Competition for Capital* (Kalamazoo, MI: W.E. Upjohn Institute for Employment Research, 2007), remains the best analysis of the field. In the opening essay, Markusen and Katherine Ness of the University of Illinois at Urbana-Champaign set out the problem by writing: “Incentive competition is on the rise. It is costly, generally inefficient, and often ineffective for the winning regions.”<sup>13</sup>

Markusen and her colleagues review a number of troubling problems with economic-development attraction practices. Here are some of the key findings of academic research that need to be weighed:

- Companies attracted often don’t stay very long and under-deliver the jobs they promise.
- The jobs delivered pay poorly and have few benefits, and therefore have the potential to drive down labor costs and reduce family incomes throughout the region.
- About 80% of the jobs created, particularly for very large projects, are taken by workers who learn about the new project and move to the community to take the new position.
- The cost-benefit of subsidies exceeding say half a million dollars per job is impossible to justify, since the jurisdiction could simply put the money into a

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<sup>13</sup> Ann Markusen, ed., *Reining in the Competition for Capital* (Kalamazoo, MI: W. E. Upjohn Institute for Employment Research, 2007).

low risk bond fund, pay a family of four a living wage in perpetuity, and dispense with the risky business proposition altogether.

- Many of the costs that a community promises to subsidize – of capital improvements, for example – are often much greater than originally projected.
- The structure of site-selection representatives' compensation, around finders' fees, gives them an incentive to represent community interests poorly—that is, to overstate the benefits, understate the costs, and exaggerate the packages other communities are putting on the table.
- The site-selection industry has been able to overstate benefits over the costs through massive advertising (the industry sponsors, for example, *Site Selection* magazine and distributes it widely to local politicians and economic developers).
- The secrecy surrounding much of the deal-making facilitates communities making ill-informed decisions about such deals and short-circuits altogether needed democratic accountability.
- The details of these deals are so embarrassing to the politicians who approve them that they fight to keep the details secret even after the deal, and—in the case of New Mexico's former Governor, Bill Richardson—work assiduously to kill or veto legislation that might bring those details to light.
- The packages are such a small fraction of a corporation's bottom line that they actually have very little impact on its siting decision, which instead is driven by other factors like the proximity of weak regulations, no unions, nearby input suppliers, readily available land, or close target markets.
- Most communities engaged in global attraction wind up losing any given bid, which means they are draining precious civic time, money, and goodwill—and, at a minimum, these costs need to be weighed against the purported benefits of any deal occasionally won.

The case against corporate attraction has become so powerful that it's exceedingly difficult to find an economist prepared to defend the practice. The vast majority of scholarly articles either questions the benefits or disproves them altogether.

Moreover, almost none of the studies have weighed the biggest problem with incentives—namely the opportunity costs. What were communities providing incentives unable to do, because their economic development dollars were focused on outside attraction? What local businesses were not grown? What were the consequent costs?

Case studies in *The Local Economy Solution* suggest local economic development typically costs \$500-1,000 per job, whereas attract-and-retain economic development

often costs five, ten, even hundreds of times as much. Moreover, with the creative deployment of “pollinator enterprises,” as outlined in Section IV, the costs of local economic development can be transformed into net revenues.

## About the Author

Michael H. Shuman is a Stanford-educated economist, attorney, and author. His latest books are *The Local Economy Solution: How Innovative, Self-Financing Pollinator Enterprises Can Grow Jobs and Prosperity* (Chelsea Green, 2015), *Local Dollars, Local Sense: How to Shift Your Money from Wall Street to Main Street* (Chelsea Green, 2012) and *The Small-Mart Revolution: How Local Businesses Are Beating the Global Competition* (Berrett-Koehler, 2006). For comments on this paper or to conduct a similar analysis of another community, please contact Michael H. Shuman by phone (202-669-1220), e-mail ([shuman@igc.org](mailto:shuman@igc.org)), or mail (2203 Quinton Rd., Silver Spring, MD 20910).