

The Fiscal 2016 Economic Impact of Finance PEI and Island Investment Development Inc. Supported Firms

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Executive Summary

Finance PEI (FPEI) and Island Investment Development Inc. (IIDI) are crown corporations of the Ministry of Economic Development and Tourism. Finance PEI and Island Investment Development Inc. administer business financing programs for the provincial government including the management and operation of the Century 2000 Fund. This report looks at the economic impact of the firms (incorporated and unincorporated) that are supported by FPEI and IIDI.

Table 1 shows the estimated gross domestic product (GDP), labour income, jobs, taxes and consumer spending impacts associated with the firms in the FPEI and IIDI portfolio. Collectively these firms generated \$1.65 billion in sales in 2016 which supported \$972 million worth of provincial GDP, \$526 million worth of labour income on the Island and over 13,392 jobs. In addition, the economic activity generated by these firms resulted in an estimated \$106 million in tax revenue to provincial and local governments – or an amount equivalent to 10.9 percent of the provincial GDP contribution. The labour income generated by the firms led to an estimated \$390 million worth of consumer spending including \$59 million on food, \$99 million on shelter and \$83 million on transportation.

Table 1: Economic impact of FPEI and IIDI supported firms – combined industries (2016)*

	Direct economic impact	Direct + Indirect (with supply chain)	Total economic impact*
Output/sales	\$1,649,292,974		
GDP (basic price)	n/a	\$854,069,715	\$972,404,658
Labour income	\$254,431,380	\$480,715,705	\$526,298,533
Jobs		11,964	13,392
PEI and local government taxes			\$105,952,871
<i>Taxes as a share of GDP</i>			10.9%
Consumer spending			\$390,326,389
Food			59,368,337
Shelter			98,564,389
Transportation			83,024,715
Health and personal care			26,022,787
Recreation			29,753,542
Gifts and charitable donations			12,584,365

*Includes direct, indirect and induced effects.

The economic impact can also be analyzed on an industry basis. Table 2 shows the breakdown of high-level economic impacts by primary sector group. FPEI and IIDI supported firms in the manufacturing and processing sector (largest sector by impact) generated \$832 million worth of sales in 2016 which translates into an estimated \$472 million worth of GDP, \$251 million worth of labour income, over 6,100 jobs and \$50 million worth of taxes to the PEI government and local municipalities around the province.

Fisheries is the second most important sector by economic contribution (GDP) and supported some 1,700 jobs and over \$12 million worth of provincial and local tax revenue.

Executive Summary (continued)

Table 2: Economic impact of FPEI and IIDI supported firms – by industry group (total effects)*

Industry Group:	Output/sales	GDP (provincial)	Labour income	Jobs	PEI gov. and local taxes
Agriculture	\$57,380,818	\$39,654,532	\$18,706,735	605	\$4,729,510
Tourism	72,834,878	54,970,851	33,380,847	1,701	7,183,744
Manufacturing and Processing	831,677,564	472,665,878	250,945,598	6,135	49,992,196
Fisheries	179,348,387	123,876,965	59,865,518	1,697	12,330,606
Small Business	56,210,820	47,485,103	27,015,198	634	5,726,277
Technology	6,768,600	6,438,821	4,649,154	109	821,319
Aerospace	297,981,762	119,957,656	69,460,367	1,215	12,664,289
Bioscience	74,996,176	46,452,173	27,626,398	482	5,160,614
General business	<u>72,093,969</u>	<u>60,902,679</u>	<u>34,648,718</u>	<u>814</u>	<u>7,344,316</u>
Totals	\$1,649,292,974	\$972,404,658	\$526,298,533	13,392	\$105,952,871

*Includes direct, indirect and induced effects.

Table 3 shows a basic calculation of the 'return' on the taxpayers' investment into these firms through the FPEI and IIDI programs. FPEI and IIDI earned \$13.6 million in interest payments from its loan portfolio in 2016. The PEI government cost of capital is two percent meaning that it cost government \$7.1 million to carry the \$354 million worth of debt. At the same time, the average write-offs in 2016 from the loan portfolio was \$2.8 million. This means that the province's \$13.6 million worth of interest payments was offset by \$9.9 million in total costs for a net benefit to the taxpayer of \$3.8 million not considering the broader economic impacts of the firms. Adding in the estimated tax benefits that accrue to PEI and local governments on the Island, the 'revenue' from these firms (interest on loans and tax revenue) amounts to \$131.3 million while the costs are \$9.9 million. For every \$1 worth of taxpayer costs (in the form of PEI government cost of capital and average write-offs), \$13.27 worth of interest payments and tax benefits are provided.

It should be noted that these calculations do not take into consideration the day to day operating expenses or any other program delivery costs of FPEI and IIDI (or the underlying economic benefits of those).

Table 3: Return on the PEI taxpayers' investment into the FPEI and IIDI loan programs

Revenue generated from the FPEI and IIDI loan programs:	
Interest earned from the loan portfolio	\$13,640,337
Indirectly through the tax revenue supported by the firms' economic activity	<u>\$105,952,871</u>
Total tax and interest benefit	\$119,593,208
Cost to the taxpayer from the FPEI and IIDI loan programs:	
PEI government cost of capital	\$7,085,117
Average write-offs per year (2016)	<u>\$2,807,874</u>
Total cost	\$9,892,991
Return on taxpayer investment: Excluding tax impacts	\$3,747,346
Return on taxpayer investment: Including tax impacts	\$109,700,217
Return on taxpayer investment ratio: Excluding tax impacts (for every dollar of cost)	\$1.38
Return on taxpayer investment ratio: Including tax impacts (for every dollar of cost)	\$12.09

1. Introduction

1.1 Purpose of this report

The objective of the project is to estimate the economic contribution of FPEI and IIDI supported firms (corporations and unincorporated businesses) to the Prince Edward Island economy including direct, indirect, and induced economic activity. This report provides data on combined output and gross domestic product (GDP) as well as employment, employment income, taxation and consumer spending. In addition, the report includes a broader set of data to tell the story of the contribution these firms collectively make to the Island economy.

There are a number of reasons why a provincial government provides a loan program to support the growth of private sector industry. It can be for competition reasons - i.e. other jurisdictions offer similar support programs and the Island risks losing many projects to those jurisdictions - or it can be because there are gaps in the private capital market (i.e. projects struggle to source capital from private sector capital providers). Regardless of the reasons for support, FPEI and IIDI supported firms collectively generate a substantial economic impact on the Island and, as will be shown in Section 4, at relatively low cost to the PEI taxpayer.

This analysis does not suggest the importance of the FPEI and IIDI support to a particular firm's decision to invest on the Island. There are many factors why a firm would invest, ranging from access to a resource to the quality of the business environment. The FPEI and IIDI loan programs are one part of the broader value proposition for firms in strategic industry sectors to invest on PEI.

1.2 The economic impact model

The primary purpose of this report is to develop an economic impact model estimating the contribution of FPEI and IIDI supported firms to the economy of Prince Edward Island. The economic impact model is based on Statistics Canada's Input-Output (I-O) tables that provide a detailed profile of how expenditures in specific sectors flow through the provincial and national economy as well as by international trade.

The I-O tables are developed using actual spending patterns within specific industries and provinces and therefore estimates of new economic activity are based on the expenditure profile of previous activity in those industries. The economic impact model evaluates the direct, indirect, and induced economic impacts, using the following parameters:

- *Direct impact* measures the value-added to the economy from the firms that is attributed directly from the employees, the wages earned, and the revenues generated. In certain cases, direct impacts are not published by Statistics Canada due to privacy considerations.
- *Indirect impact* measures the value-added the FPEI and IIDI supported firms generate within the PEI economy through the firm and organizational demand for intermediate inputs or other support services (e.g. the supply chain).
- *Induced impacts* are derived when employees in the aforementioned industries spend their earnings and owners spend their profits. These purchases lead to more employment, higher wages, and increased income and tax revenues, and can be felt across a wide range of industries.

The I-O tables trace the impact of economic activity (output shock) on the provincial and national economies (including imports and exports). In addition to the output, GDP and employment impacts, the economic impact model estimates the amount of tax revenue supported by the industry as well as consumer spending impacts.

Table 4: The Economic Impact Model

Direct effect -within province (where available)	Simple multipliers (direct and indirect) - within province and rest of Canada	Total multipliers (direct, indirect and induced) - within province and rest of Canada
⇒ Output	⇒ Output	⇒ Output
⇒ GDP basic price	⇒ GDP basic price	⇒ GDP basic price
⇒ Labour income	⇒ Labour income	⇒ Labour income
⇒ Jobs	⇒ Jobs	⇒ Jobs
⇒ International imports	⇒ International imports	⇒ International imports
⇒ Export shares		

There are over 200 industries for which detailed I-O data is available. FPEI and IIDI provided information on the sales, wages and capital spending associated with the firms they have in their loan portfolio. These firms were grouped into industries and then assigned to the appropriate I-O industry classification (using the NAICS classification system¹) and the spending of those organizations was analyzed to determine economic impacts. It is important to point out that no company-specific information is included in this report nor can it be inferred from the data. The report is meant to derive the overall economic impact of FPEI and IIDI supported firms to the PEI economy.

Note: The more granular the sector information the more precise the economic impact assessment.

¹ North American Industrial Classification System (NAICS).

2. Economic impact analysis of FPEI and IIDI supported firms

2.1 Economic impact model parameters

FPEI and IIDI provided sales, wages and capital spending associated with the firms they have in their loan portfolio. Using the description of the firms' business operations on PEI, each was segmented into appropriate four-digit NAICS industry groups to provide an accurate assessment of their economic impact.

Table 5 shows a list of industries used in the model. The small business and 'other' sectors use the multipliers for the overall PEI economy because they do not fit in one specific industry category. Note that some sectors do not have highly specific multipliers. For example, aquaculture is classified with the I-O tables as part of animal production and both blueberry and cranberry production are part of crop production.

Table 5: Sectors included in the economic impact model

<u>Industry group:</u> *	<u>Industry Code:</u>	<u>Title</u>
Aerospace	BS336400	Aerospace product and parts manufacturing
Agriculture	BS11A	Crop and animal production
Biosciences	BS325400	Pharmaceutical and medicine manufacturing
Fishing	BS114000	Fishing, hunting and trapping
Small business	TOTAL	All industry average
Manufacturing & processing	BS3A0	Manufacturing
Tourism	BS710	Arts, entertainment and recreation
Technology	BS541500	Computer systems design and related services

**Provided by FPEI.*

Once segmented into their proper industry group, each industry was analyzed to determine its indirect and induced employment on PEI; direct, indirect and induced gross domestic product (GDP) impact and other impacts.

It is important to point out that some of these industries feature a significant import component. For example, according to the I-O multipliers, for every dollar of direct output in the PEI aerospace product and parts manufacturing sector, there is 41 cents worth of imports. This is common in high value sectors such as this as products are part of a global supply chain, but it does reduce the GDP contribution from the sector relative to overall industry output.

2.2 Industry output and GDP impacts

In 2016, the firms supported by FPEI generated \$1.65 billion worth of output/sales. Combined these firms accounted for an approximately 17 percent of total PEI economic output. The \$1.65 billion worth of output generated by the FPEI and IIDI supported firms resulted in an estimated \$854 million worth of direct and indirect (i.e. with supply chain effects) gross domestic product (GDP) on the Island. GDP represents the value added from industry output that stays on Prince Edward Island. With induced effects, the GDP supported by these firms rose to \$972 million or about 19 percent of the total PEI GDP in 2016. The true impact of these firms is even greater because they are mostly exporters which boost the PEI economy by doing work here that generates revenue from outside the province. Section 3 below discusses the importance of the export sector to the PEI economy.

Table 6: FPEI and IIDI supported firms' output and GDP on PEI (2016)

Direct industry output	\$1.65 billion
Direct & indirect GDP	\$854 million
Total GDP*	\$872 million

Direct GDP for the combined firms is not available as some direct multipliers are suppressed.

**Combined direct, indirect and induced effects.*

Derived using Statistics Canada's I-O Tables at the M level (2014) and other Statistics Canada tables relating to taxation and spending. See Appendix A for a full source list.

2.3 Employment and labour income effects

The firms using FPEI and IIDI loan programs generated direct labour income of \$254.4 million in 2016. Using the Statistics Canada I-O tables that level of income in the related industries supports some 7,860 direct jobs. Including the supply chain effects, labour income supported on the Island jumps to \$481 million and total employment to 11,964. Adding in the induced economic effects, the firms supported by FPEI and IIDI supported 13,393 jobs in 2016 and a total labour income of \$526 million. This represents approximately 16 percent of all workers across Prince Edward Island. The employment multiplier is 1.7 meaning that for every direct job created by the FPEI and IIDI supported firms another 0.7 jobs are created elsewhere in the economy due to indirect and induced effects. The \$526 million in labour income supported by FPEI and IIDI supported firms represents approximately 16 percent of total labour income generated by the entire economy.

Table 7: FPEI and IIDI supported firms' employment and labour income supported on PEI (2016)

Direct sector employment	7,862
Direct and indirect employment	11,964
Total employment on PEI*	13,392
Employment multiplier (direct to total)	1.7
Direct & indirect labour income	\$481 million
Total labour income supported on PEI**	\$526 million

**Combined direct, indirect and induced effects.*

Derived using Statistics Canada's I-O Tables at the M level (2014) and other Statistics Canada tables relating to taxation and spending. See Appendix A for a full source list.

2.4 Taxation effects

The firms supported by FPEI and IIDI provide a significant boost to government tax revenue each year. Table 8 shows the estimated total taxes generated by these firms in 2016. The firms contributed an estimated \$39 million in personal income tax (PIT) to the provincial government as well as \$32 million worth of provincial harmonized sales taxes (HST). Local governments on PEI benefitted from \$10.3 million worth of residential property taxes. Finally, indirect taxes generated from these firms accounted for \$25.2 million worth of revenue to the provincial government.

In total, taxes generated by the firms supported by FPEI and IIDI were an estimated \$106 million or an amount equivalent to 10.9 percent of their total provincial GDP contribution.

Table 8: FPEI and IIDI support firms' taxes generated to support provincial and local government (2016)*

Personal income tax (PIT)	\$39.0 million
Harmonized sales tax (HST)	\$31.5 million
Property taxes (residential)	\$10.3 million
Indirect taxes**	\$25.2 million
Total taxes	\$106.0 million
Taxes as a percentage of GDP	10.9%

*Combined direct, indirect and induced effects. Derived using Statistics Canada's I-O Tables at the M level (2014) and other Statistics Canada tables relating to taxation and spending. See Appendix A for a full source list.

**In addition to non-refundable HST, indirect taxes include business-related property taxes, fuel taxes and other fees and levies. Note that corporate income tax is not included in the model nor is the impact of any tax incentives or subsidies.

2.5 Consumer spending effects

The employment income generated by FPEI and IIDI supported firms in 2016 led to a wide variety of consumer spending on the Island. Table 9 shows the estimated direct, indirect and induced consumer spending activity supported by the industry by major expenditure category. The figures are based on the average household expenditures on PEI and on the assumption that the firms' employment income would be spent in a similar pattern to the average household across the Island.

In total, the employment income generated by FPEI and IIDI supported firms resulted in \$390 million worth of consumer spending during the year. This included \$59 million on food (groceries and restaurants), \$99 million in housing-related expenditures such as mortgage payments, utilities and furniture and \$83 million on transportation costs that are mostly related to vehicle purchases, operations and maintenance. As shown in Table 9, the employment income from FPEI and IIDI supported firms resulted in \$26 million worth of spending on health and personal care spending and another \$30 million on recreation.

Table 9: Estimated consumer spending arising from the FPEI and IIDI supported economic activity on PEI (2016)

Total consumer spending	\$390,326,389
Food	59,368,337
Shelter	98,564,389
Transportation	83,024,715
Health and personal care	26,022,787
Recreation	29,753,542
Gifts and charitable donations	12,286,825

Source: Derived using Statistics Canada's I-O Tables at the national M level (2014) Statistics Canada's Survey of household spending (SHS), household spending (2016). See Appendix A for a full source list.

2.6 Impact of FPEI and IIDI supported firms' capital investment on PEI

The FPEI and IIDI supported firms included in this analysis collectively generated \$97.6 million worth of capital investment on the Island in 2016. This is an amount equivalent to 18 percent of all non-residential capital investment on PEI that year (public and private sector).

The economic impact of this spending was not included in the analysis above because of the challenges related to determining how the investment was spent. If the \$97.6 million was spent on construction or expansion of buildings, it would have a significant impact on the Island economy. If the \$97.6 million was spent on the purchase of new equipment from off Island, it would not have as great an impact.

Table 10 shows the potential economic impact from the capital spending at various levels allocated to construction activity:

Table 10: Estimating the potential impact of FPEI and IIDI supported firms' capital investment on PEI (2016)

Share of the \$97.6 million allocated to non-residential construction:	Provincial GDP	Labour income	Jobs	Total PEI taxes
100%	\$82,988,231	\$58,310,424	1,215	\$12,575,244
50%	\$41,494,116	\$29,155,212	607	\$6,287,622
25%	\$20,747,058	\$14,577,606	304	\$3,143,810

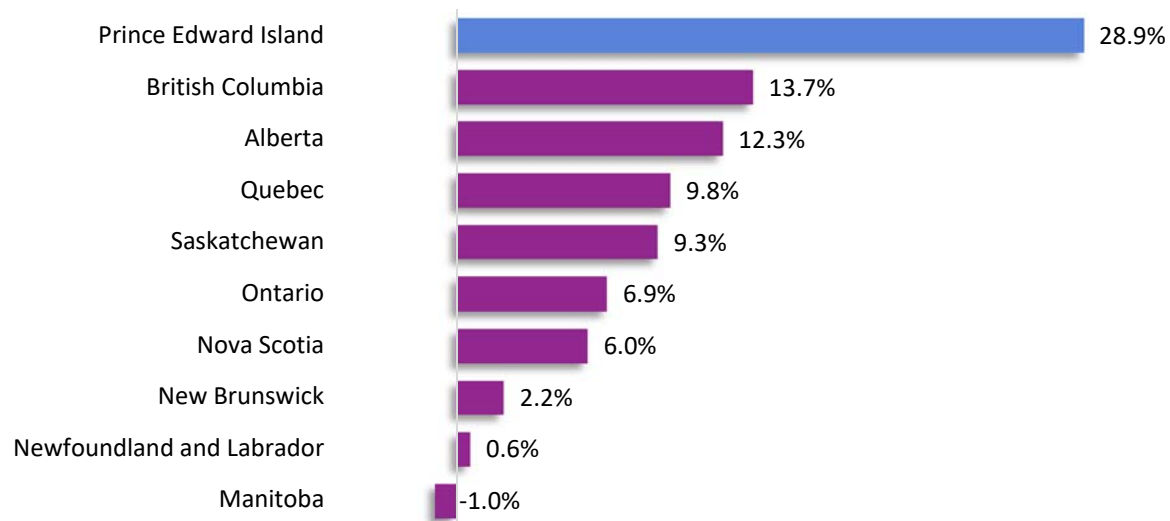
Source: Derived using Statistics Canada's I-O Tables at the national M level (2014) and Statistics Canada's Survey of household spending (SHS), household spending (2016). See Appendix A for a full source list.

3. FPEI and IIDI supported firms: Broader impacts

3.1 FPEI and IIDI supported firms are driving much of PEI's economic growth

The FPEI and IIDI supported firms have been responsible for much of the province's economic and employment growth in recent years. Overall real gross domestic product (GDP) growth increased by seven per cent between 2013 and 2017 – a faster growth rate than all but three other provinces. The value of industrial production, which includes manufacturing, mining and utilities, rose by 28.9 per cent over the past five years – more than twice as fast as any other province across Canada. This rise in industrial production is particularly impressive when set against other eastern Canadian provinces.

Figure 1: Increase/decrease in the value of industrial production (2013 to 2017)

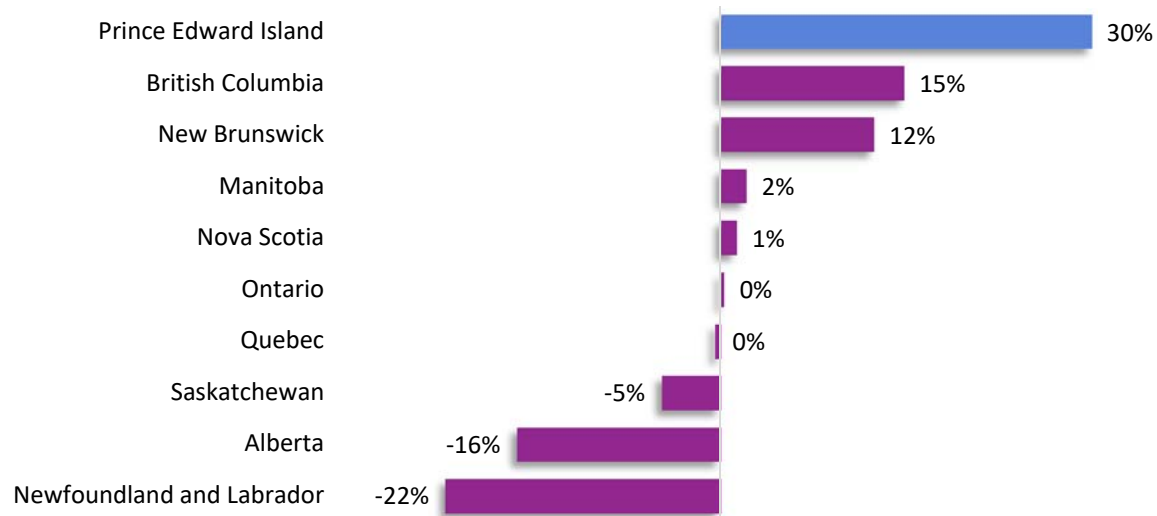


Industrial production includes mining, utilities and manufacturing.

Source: Statistics Canada Table 36-10-0402-01.

The manufacturing sector overall has witnessed a 30 percent increase in employment between 2013 and 2017 – the fastest growth rate in the country (Figure 2).

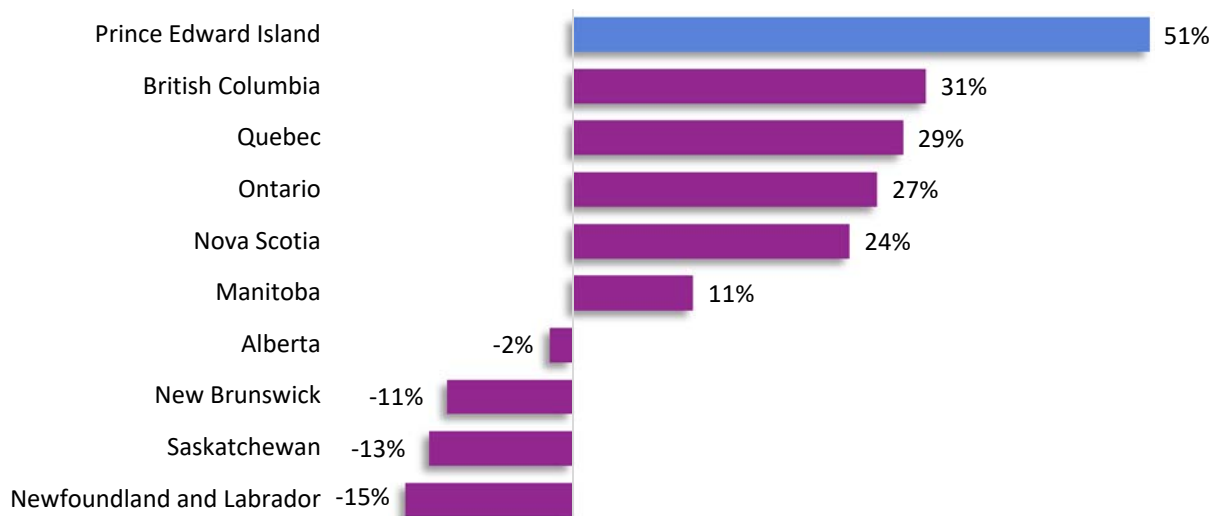
FPEI and IIDI supported sectors have all been growing their GDP contribution in recent years including seafood production (real GDP up 65 percent between 2013 and 2017), pharmaceutical products (up 66 percent) and chemical manufacturing (up 43 percent). Machinery manufacturing GDP is up 85 per cent. Manufacturing GDP overall is up 32 per cent between 2013 and 2017.

Figure 2: Increase/decrease in total manufacturing employment (2013 to 2017)

Source: Statistics Canada Table 14-10-0023-01.

3.2 FPEI and IIDI supported firms: A main driver of international exports

FPEI and IIDI firms are primarily in export sectors of the economy and the export economy is driving much of the Island's recent economic growth. Between 2013 and 2017, PEI had the fastest growing international merchandise exports among the 10 provinces across Canada. The total value of international exports rose from \$918 million in 2013 to \$1.38 billion in 2017.

Figure 3: Increase/decrease in the value of international exports by province (2013 to 2017)

Source: Statistics Canada as published on Trade Data Online

Most of this export growth came from FPEI and IIDI supported firms. As shown in Table 11, overall provincial seafood production exports rose by 45 percent from 2013 to 2017. The value of engine, turbine and related manufacturing exports are up 146 percent over the five-year period. Aerospace products exports doubled over the same timeframe. Navigational, measuring, medical & control instruments exports are up 71 per cent. Several smaller but important export sectors more than doubled exports in the past five years.

Table 11: Increase in the value of international exports from PEI by selected sectors (2012 to 2016)

<u>Industry:</u>	<u>2013</u>	<u>2017</u>	<u>\$\$ change</u>	<u>% change</u>
31141 - Frozen Food Manufacturing	\$222,107	\$327,677	\$105,570	+48%
31171 - Seafood Product Preparation and Packaging	\$146,339	\$212,206	\$65,867	+45%
33361 - Engine, Turbine and related Manufacturing	\$64,985	\$160,120	\$95,136	+146%
33641 - Aerospace Product and Parts Manufacturing	\$65,243	\$130,658	\$65,415	+100%
11121 - Vegetable and Melon Farming	\$65,544	\$77,464	\$11,920	+18%
32541 - Pharmaceutical and Medicine Manufacturing	\$30,847	\$66,529	\$35,682	+116%
11251 - Animal Aquaculture	\$35,885	\$42,148	\$6,263	+17%
32519 - Other Basic Organic Chemical Manufacturing	\$20,648	\$30,968	\$10,320	+50%
11411 - Fishing	\$21,629	\$29,793	\$8,164	+38%
32221 - Paperboard Container Manufacturing	\$114	\$25,344	\$25,230	+22198%
33329 - Other Industrial Machinery Manufacturing	\$11,574	\$20,600	\$9,026	+78%
33531 - Electrical Equipment Manufacturing	\$639	\$17,321	\$16,681	+2609%
31191 - Snack Food Manufacturing	\$8,577	\$11,240	\$2,663	+31%
33291 - Metal Valve Manufacturing	\$3,362	\$7,829	\$4,467	+133%
31142 - Fruit and Vegetable Canning, Pickling and Drying	\$3,580	\$7,241	\$3,661	+102%
33621 - Motor Vehicle Body and Trailer Manufacturing	\$2,030	\$7,030	\$5,000	+246%
31122 - Starch and Vegetable Fat and Oil Manufacturing	\$4,051	\$6,585	\$2,534	+63%
33451 - Navigational, Measuring and related Manufacturing	\$3,652	\$6,238	\$2,586	71%
21239 - Other Non-Metallic Mineral Mining and Quarrying	\$3,773	\$5,770	\$1,997	+53%
32561 - Soap and Cleaning Compound Manufacturing	\$2,398	\$5,185	\$2,787	+116%

Source: Statistics Canada as published on Trade Data Online.

4. Return on FPEI and IIDI investments at the firm level

The financial support provided by FPEI and IIDI comes in the form of interest-bearing loans. There are different programs offering loans at various interest rates. Example loans include:

- Fishers low interest loan = 4%
- Cattle loan program = Prime + 1%
- Entrepreneur loan program = Prime + 3%
- Farmland financing program = 4%

When considering the return on PEI taxpayer investment into the loan programs the analysis is based on the tax dollars expended versus the tax dollars generated by the firms. As shown above, the firms supported by FPEI and IIDI support an estimated \$106 million in PEI tax revenue each year.

Because these are interest-bearing loans, there is no tax revenue lost through providing the financing and in fact because the interest rates are above the Island government's cost of capital, there can be a positive return on the loans themselves as long as any loan write-offs do not exceed the net interest earned – not considering the tax revenue generated by the companies financed by the organization.

It should be noted that these calculations do not take into consideration the day to day operating expenses or any other program delivery costs of FPEI and IIDI (or the underlying economic benefits of those).

Some firms in the province's strategic sectors including aerospace and biosciences receive 'tax incentives' to continue their growth on the Island. These firms are entitled to receive back any portion of sales tax, provincial corporate income tax paid and property taxes paid to the PEI government. This would reduce the \$106 million figure shown above and thus reduce the overall ROI to the provincial government.

As shown in Table 11, FPEI and IIDI earned \$13.6 million in interest payments from their loan portfolios in 2016. The PEI government cost of capital is two percent meaning that it cost government \$7.1 million to carry the debt related to FPEI and IIDI supported companies (\$354 million). At the same time, the write-offs in 2016 from the loan portfolio was \$2.8 million. This means that the province's \$13.6 million worth of interest payments was offset by \$9.9 million in total costs for a net benefit to the taxpayer of \$3.7 million not considering the broader economic impacts of the firms.

Adding in the estimated tax benefits that accrue to PEI and local governments on the Island, the 'revenue' from these firms (interest on loans and tax revenue) comes to \$119.6 million while the costs are \$9.9 million. This provides a \$12.09 return on the investment. For every \$1 worth of taxpayer costs (in the form of PEI government cost of capital and average write-offs), \$12.09 worth of interest payments and tax benefits are provided.

Table 11: Return on the PEI taxpayers' investment into the FPEI and IIDI loan programs

Revenue generated from the FPEI and IIDI loan programs:	
Interest earned from the loan portfolio	\$13,640,337
Indirectly through the tax revenue supported by the firms' economic activity	<u>\$105,952,871</u>
Total tax and interest benefit	\$119,593,208
Cost to the taxpayer from the FPEI loan programs:	
PEI government cost of capital	\$7,085,117
Average write-offs per year	<u>\$2,807,874</u>
Total cost	\$9,892,991
Return on taxpayer investment: Excluding tax impacts	\$3,747,346
Return on taxpayer investment: Including tax impacts	\$109,700,217
Return on taxpayer investment ratio: Excluding tax impacts (for every dollar of cost)	\$1.38
Return on taxpayer investment ratio: Including tax impacts (for every dollar of cost)	\$12.09

Notes:

Interest earned, average write-offs per year and PEI government cost of capital (2%) provided by FPEI and IIDI. Write-off amount represents the 10-year average annual write-off.

5. Conclusion: Supporting economic growth on PEI

Relative to other provinces in eastern Canada, the PEI economy has performed well in recent years. Between 2013 and 2017, real GDP growth on PEI was seven percent – considerably higher than Newfoundland and Labrador (up 0.4 percent), Nova Scotia (up 4.9 percent) and New Brunswick up 4.3 percent) and the same growth rate as in Quebec.

There are a number of ways the government can support economic growth ranging from ensuring a supply of qualified workers to investments in key infrastructure. Financial support at the firm level has been a tool used by governments in many jurisdictions to support key industries. As this analysis shows, the 'cost' to the taxpayer by offering these programs is limited relative to the benefits derived – particularly taxes generated – from these investments.

Appendix A: The Economic Impact Model

<u>Statistic:</u>	<u>Description:</u>
Sales/output, capex, loan amounts, interest earned, write-offs and cost of capital.	Supplied by FPEI and IIDI.
Employment, indirect and induced GDP, employment and income estimates	Uses Statistics Canada Input-Output multiplier and impact estimates at the M industry level. Provincial Input-Output Multipliers, 2014. Catalogue no. 15F0046XDB. Industry Accounts Division. Statistics Canada.
HST paid	Based on the ratio of HST collected to total provincial personal income in 2016 (Source: provincial budget documents and Statistic Canada).
Personal income taxes paid	Derived using several sources including Statistics Canada Table: 11-10-0164-01 - Income tax, by economic family type and Table: 11-10-0177-01 Income tax quintiles and Statistics Canada Table: 11-10-0222-01 - Survey of household spending (SHS) for 2016.
Property taxes paid (from employment income)	Derived using Statistics Canada Table: 11-10-0222-01 - Survey of household spending (SHS) for 2016.
Indirect taxes	Source: Statistics Canada Input-Output tables. These indirect taxes are levied on the business activity (not employment income) and include such tax areas as: business property taxes, fuel taxes, vehicle license fees, land transfer taxes, and any sales taxes arising out of the corporate activity.
Estimated consumer spending impacts	Derived using Statistics Canada Table: 11-10-0222-01 - Survey of household spending (SHS) for 2016.
Industrial production by industry comparison	Uses Statistics Canada Table: 36-10-0402-01.
Provincial GDP by industry comparison	Uses Statistics Canada Table: 36-10-0402-01. Gross domestic product (GDP) at basic prices, by North American Industry Classification System (NAICS).
Export data by industry	Statistics Canada data as published in Trade Data Online.