



US-Alberta Trade: Job Profile by State

Presentation for the REMI Users conference

**Government of Alberta
Economic Development Trade**

PRESENTATION OVERVIEW

- Background
 - Canada and Alberta overview
 - Project background
- Modeling
 - REMI model(s)
 - Inputs
- Results



BACKGROUND

CANADA'S ECONOMY



- Population in 2016: 36 million
- Economic output: \$1,777 billion (basic prices in 2013 current dollars CAD)
- The contribution to GDP from the five largest sectors was more than 40 percent:
 - Finance and insurance
 - Manufacturing
 - Mining and oil and gas extraction
 - Professional, scientific and technical services and
 - Wholesale trade

Canada's per capita GDP in 2015 was \$55,405 (in 2015 \$)

ALBERTA'S ECONOMY

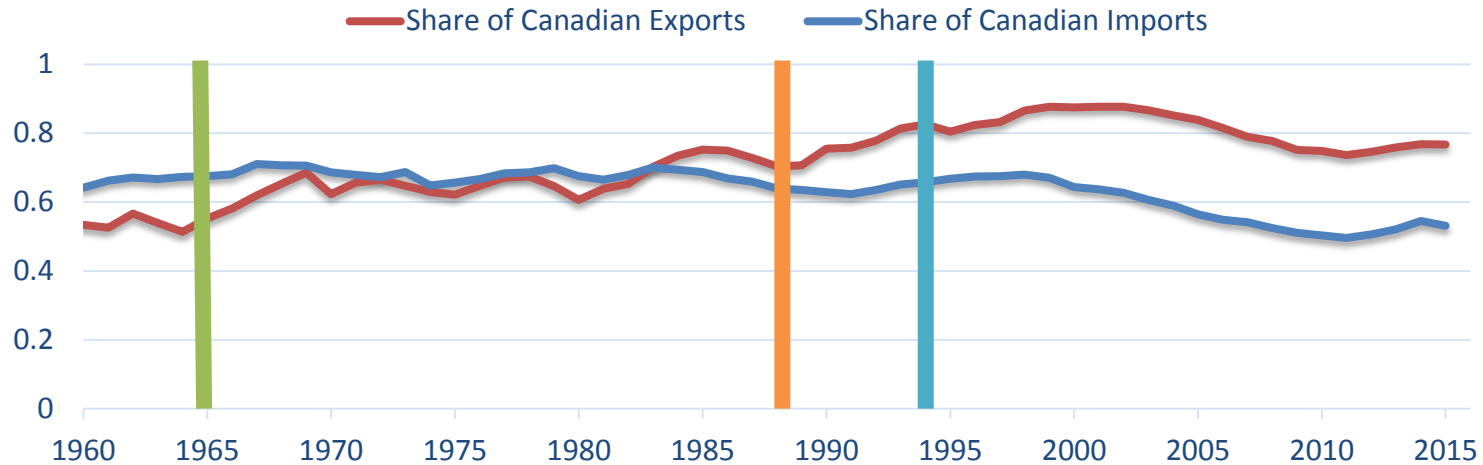


- Population in 2016: 4.3 million
- Economic output: \$330 billion
 - Alberta has the third largest oil resource in the world
 - Alberta's economy shrunk in terms of real GDP growth in 2015 and 2016 due to weak oil and gas prices
- The five largest sectors generated more than 60% to Alberta's GDP:
 - Mining, Oil and Gas extraction
 - Construction
 - Finance and insurance
 - Manufacturing and
 - Government
- Alberta's per capita GDP in 2015 was \$78,100 (in 2015 CAD\$), the highest in Canada

- Support our trade exposed industries, and clusters
 - In 2015, 1 out 5 jobs in Alberta was in an export exposed industry
- The US is Alberta's main trading partner
 - 88% of Alberta's merchandise exports go to the US
 - Up to 70% of Alberta merchandise imports come from the US
- Current proposed policies in the US are expected to change the trade relationship
 - Renegotiation of NAFTA
 - Border Adjustment Tax
 - Softwood lumber

CANADA US TRADE

US Share of Canadian Trade Flows

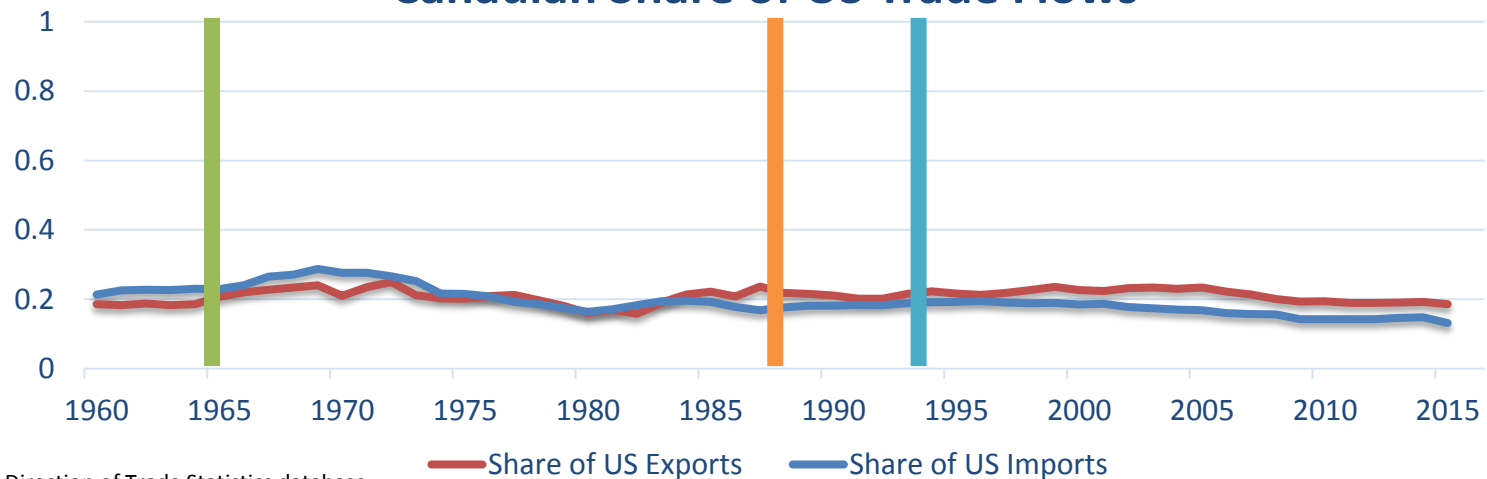


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CUSFTA

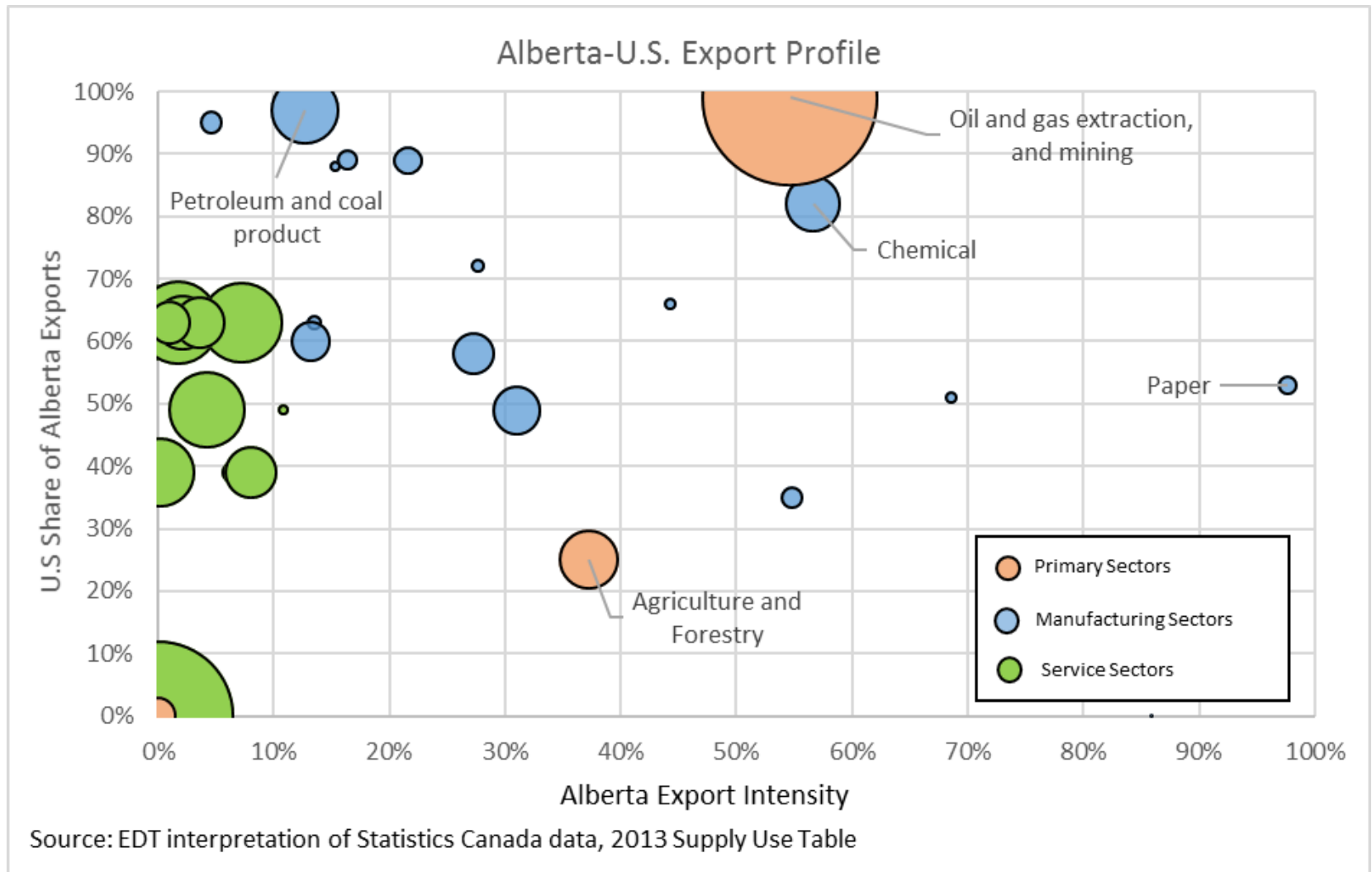
NAFTA

Canadian Share of US Trade Flows



ALBERTA ECONOMY

- Many sectors in Alberta are trade exposed, with the US being the main trading partner



MODELING

- Two regional models are used to estimate the economic contribution, or footprint, of inter regional trade:
 - Alberta and Rest of Canada model
 - Calibrated to the Canadian Supply and Use tables
 - More than 50 industry sectors
 - US 51 state model
 - Calibrated to the U.S. Supply and Use tables
 - More than 60 industry sectors









Notes:

- Data from Trade Data Online and Statistics Canada's Input-Output tables.
- Import data adjusted to estimate the destination basis not point of entry basis
- Input Data was average exports from 2010-2013 mapped to REMI Model industry categories
- Trade numbers are subtracted from the model so that we can see the footprint effect
- US agriculture jobs were not available from the REMI model. However, the United States Department of Agriculture has a trade multiplier calculator that provided jobs estimates










Overview

	Alberta to US (\$ million CAD)	US to Alberta (\$ million USD)	Bilateral (\$ million USD)
Total Trade	\$90,090	\$50,960	\$140,158
Top 5 industries	Oil and gas extraction	Primary metal manufacturing	Oil and gas extraction
	Other transportation equipment manufacturing	Computer and electronic product manufacturing	Primary metal manufacturing
	Motor vehicles, bodies and trailers, and parts manufacturing	Fabricated metal product manufacturing	Computer and electronic product manufacturing
	Wood product manufacturing	Printing and related support activities	Other transportation equipment manufacturing
	Textile mills; Textile product mills	Wood product manufacturing	Fabricated metal product manufacturing

Example of inputs for Alberta model

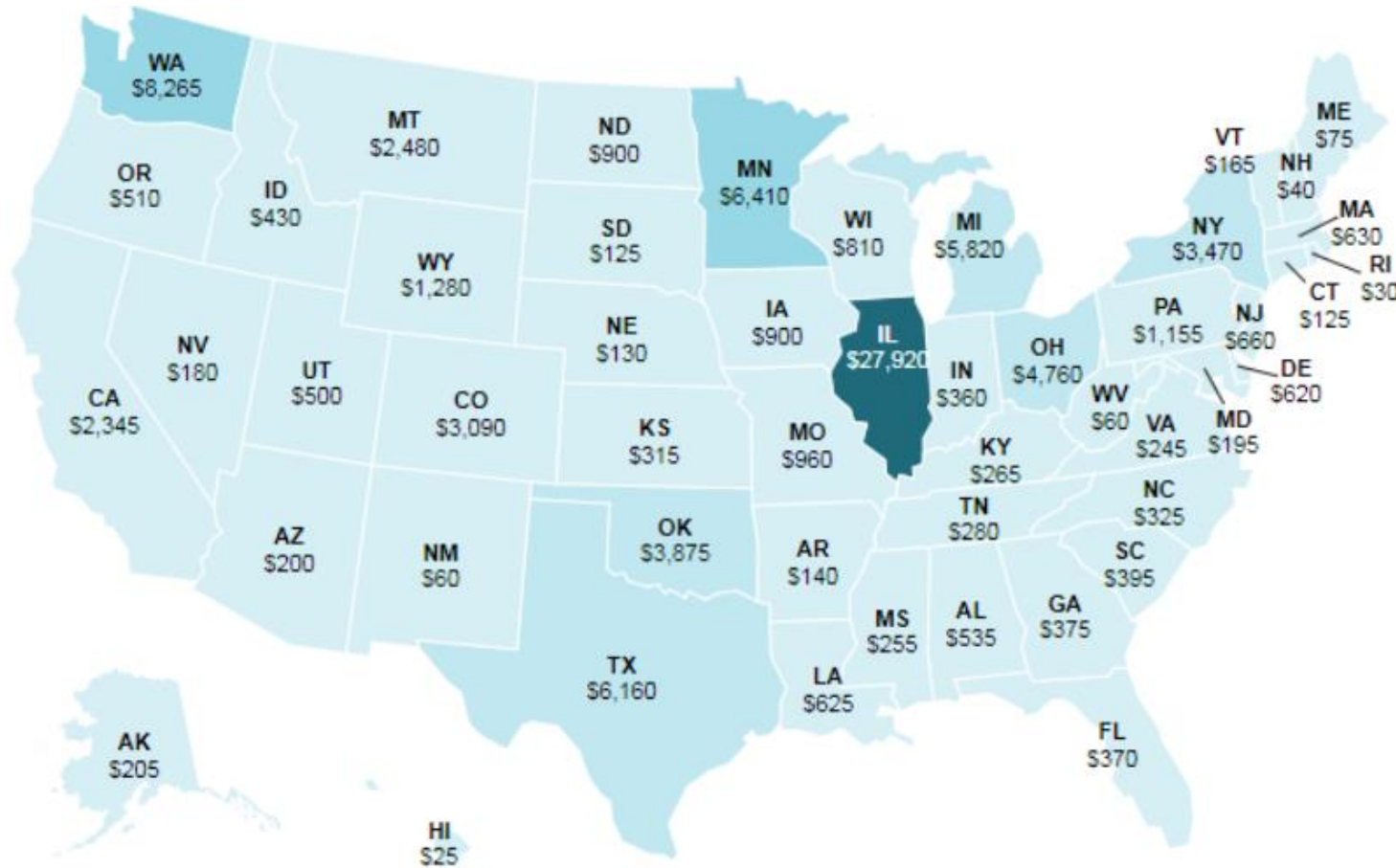
<input checked="" type="checkbox"/>  Alberta Exports to US													
Active	View	Category	Detail	Region	Units	2012	2013	2014	2015	2016	2017	2018	2019
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Crop and animal production	Alberta	2011 National C\$ (M)	0	0	0	-982.04795	-982.04795	-982.04795	-982.04795	-982.04795
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Forestry, fishing, and relat	Alberta	2011 National C\$ (M)	0	0	0	-1.0789315	-1.0789315	-1.0789315	-1.0789315	-1.0789315
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Conventional oil and gas e:	Alberta	2011 National C\$ (M)	0	0	0	-18947.808	-18947.808	-18947.808	-18947.808	-18947.808
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Non-conventional oil extra	Alberta	2011 National C\$ (M)	0	0	0	-44211.552	-44211.552	-44211.552	-44211.552	-44211.552
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Mining and quarrying (exce	Alberta	2011 National C\$ (M)	0	0	0	-199.93826	-199.93826	-199.93826	-199.93826	-199.93826
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Support activities for minin	Alberta	2011 National C\$ (M)	0	0	0	0	0	0	0	0
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Electric power generation,	Alberta	2011 National C\$ (M)	0	0	0	-4.02061	-4.02061	-4.02061	-4.02061	-4.02061

Example of inputs for US model

<input checked="" type="checkbox"/>  US exports to Alberta										
Active	View	Category	Detail	Region	Units	2015	2016	2017	2018	2019
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Wood product manufacturing -	Alabama	2009 Fixed National \$ (M)	-0.85	-0.85	-0.85	-0.85	-0.85
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Nonmetallic mineral product ma	Alabama	2009 Fixed National \$ (M)	-6.54	-6.54	-6.54	-6.54	-6.54
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Primary metal manufacturing -	Alabama	2009 Fixed National \$ (M)	-80.1	-80.1	-80.1	-80.1	-80.1
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Fabricated metal product manu	Alabama	2009 Fixed National \$ (M)	-22.37	-22.37	-22.37	-22.37	-22.37
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Machinery manufacturing - 33:	Alabama	2009 Fixed National \$ (M)	-28.76	-28.76	-28.76	-28.76	-28.76
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Computer and electronic produ	Alabama	2009 Fixed National \$ (M)	-10.43	-10.43	-10.43	-10.43	-10.43
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Electrical equipment and applia	Alabama	2009 Fixed National \$ (M)	-9.87	-9.87	-9.87	-9.87	-9.87
<input checked="" type="checkbox"/>		Industry Sales (International Exports)	Motor vehicles, bodies and trai	Alabama	2009 Fixed National \$ (M)	-459.71	-459.71	-459.71	-459.71	-459.71

RESULTS

Total Alberta Exports to the U.S. (by State)



Top 10:
Illinois
Washington
Minnesota
Texas
Michigan
Ohio
Oklahoma
New York
Colorado
Montana

Final Estimates

\$ Millions, CAD

Source: EDT, Alberta REMI Model

Total Exports: \$90,090M CAD

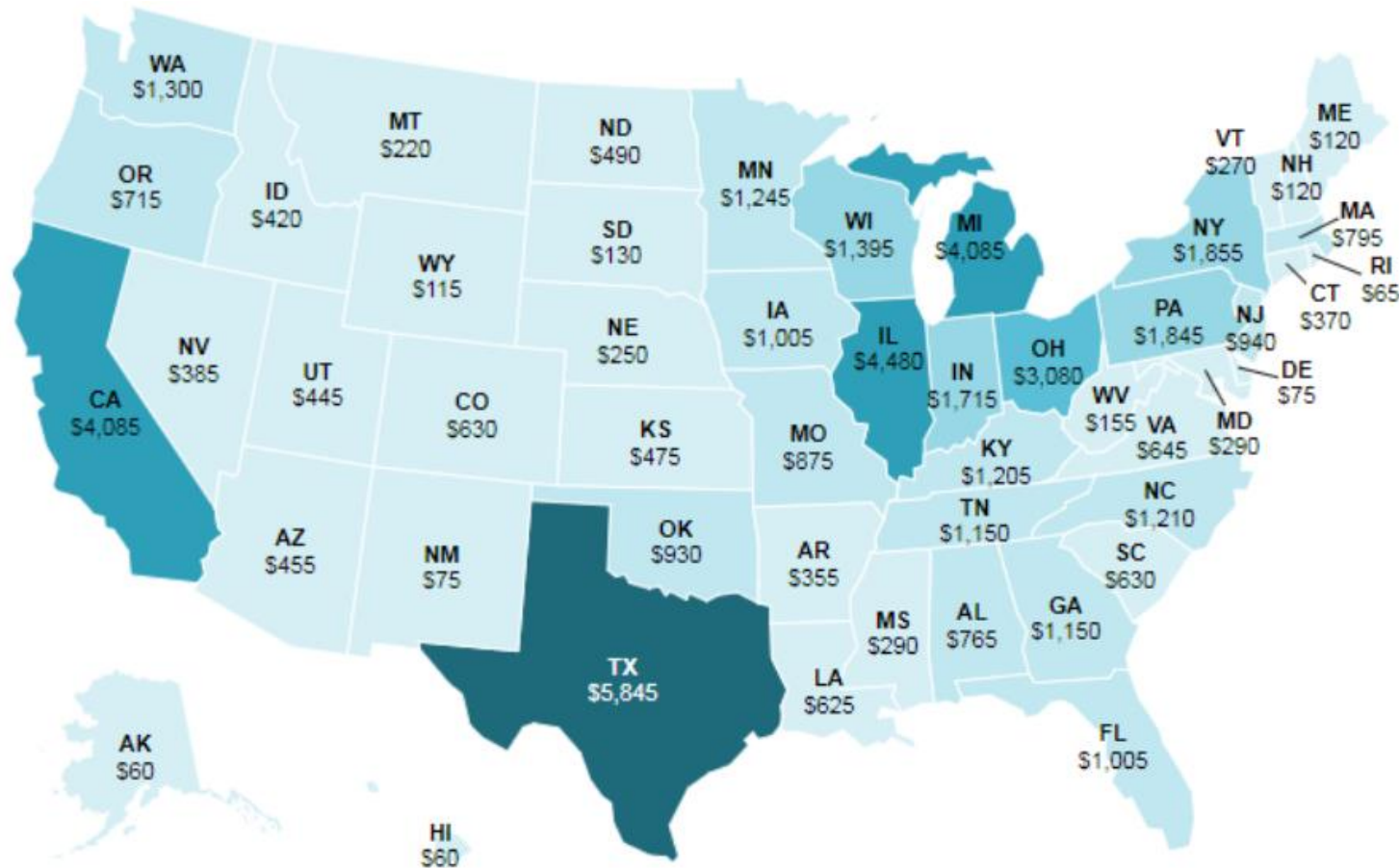
Alberta
Government



Source: EDT, Alberta REMI Model

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Total U.S. Exports to Alberta (by State)



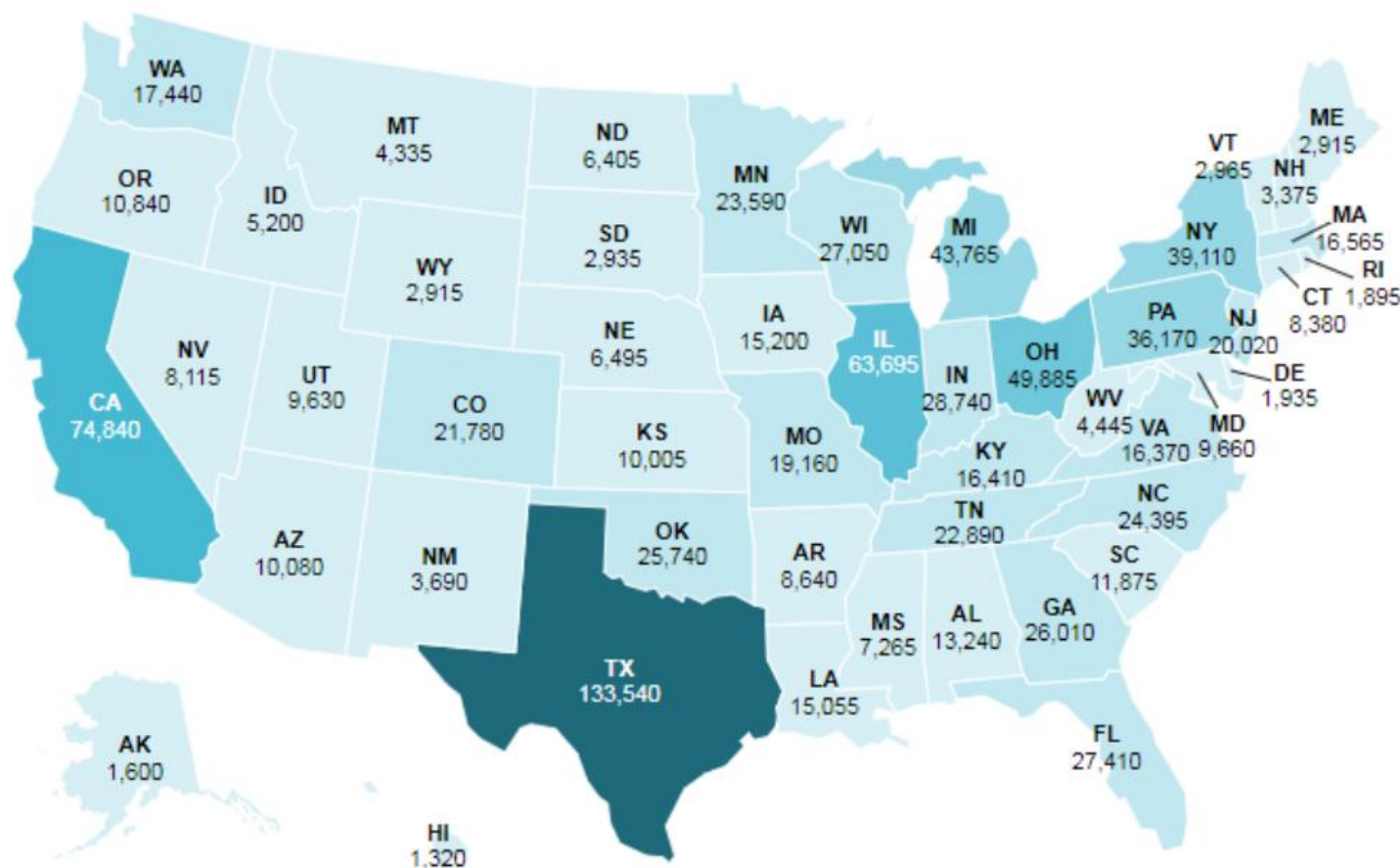
Top 10:
Texas
Illinois
Michigan
California
Ohio
New York
Pennsylvania
Indiana
Wisconsin
Washington

Final Estimates

Source: EDT, Alberta REMI Model

Total Exports: \$50,960M USD

Total Jobs Supported in the U.S. resulting from Exports to Alberta (by State)



Top 10:
Texas
California
Illinois
Ohio
Michigan
New York
Pennsylvania
Indiana
Florida
Wisconsin

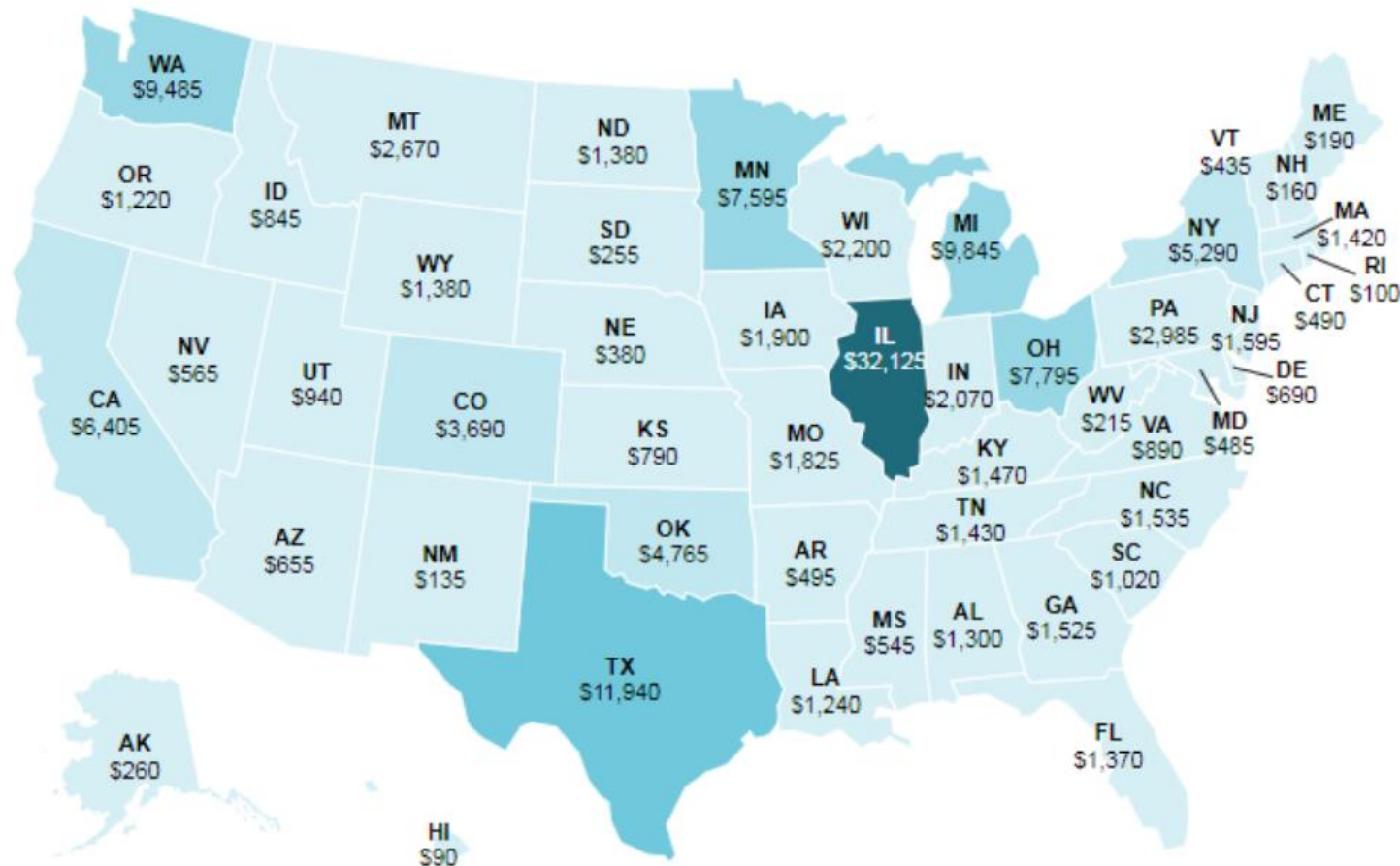
Total Jobs: 966,827

Final Estimates

\$ Millions, USD

Source: EDT, Alberta REMI Model

Total Bilateral Exports (by State)



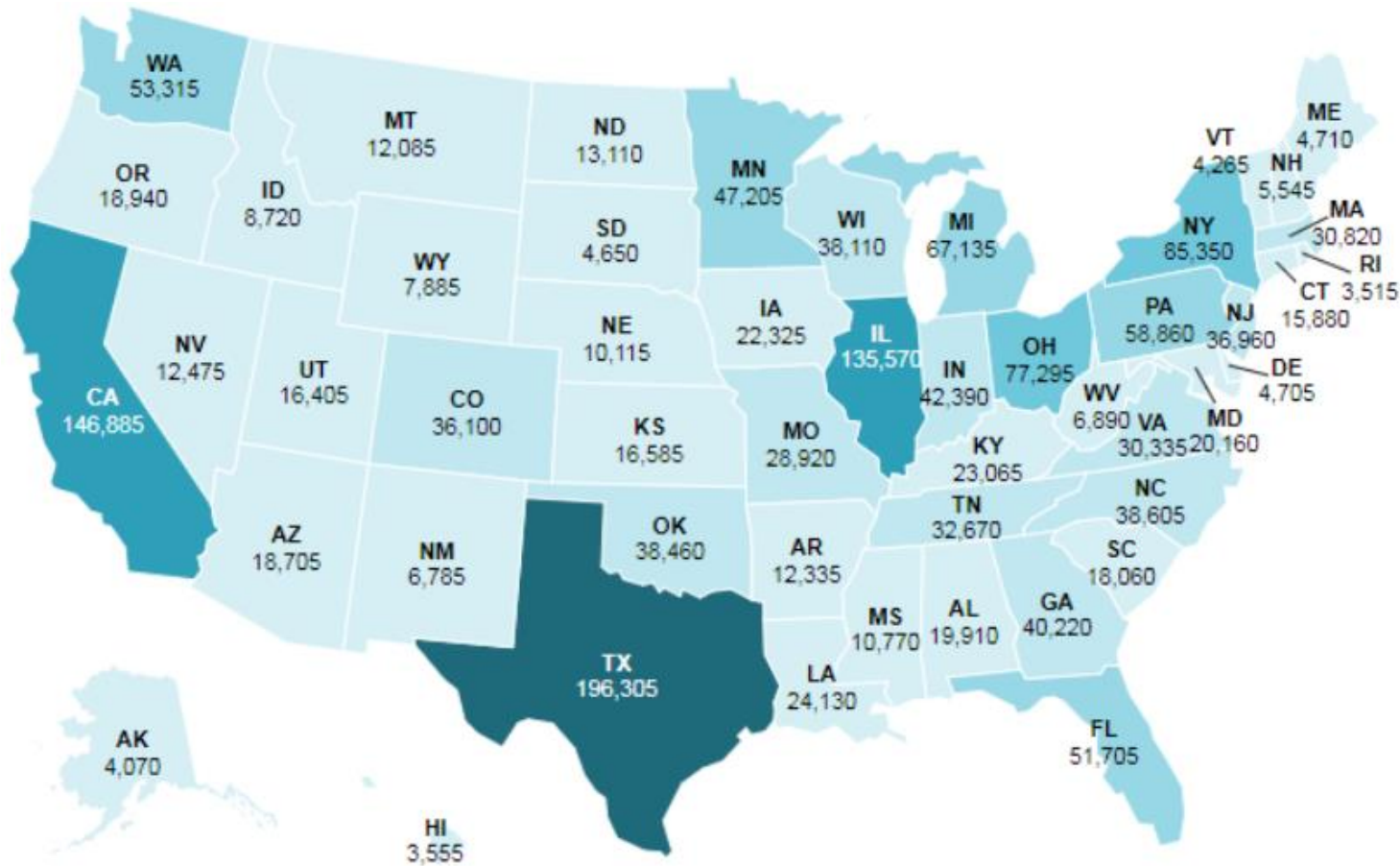
Top 10:
Illinois
Texas
Michigan
Washington
Ohio
Minnesota
California
New York
Oklahoma
Colorado

Final Estimates

Source: EDT, Alberta REMI Model

Total Exports: \$140,158M USD

Total Bilateral Jobs Supported (by State)



Top 10:
Texas
California
Illinois
New York
Ohio
Michigan
Pennsylvania
Washington
Florida
Minnesota

Final Estimates

\$ Millions, USD

Source: EDT, Alberta REMI Model

Total Jobs: 1,688,764

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Other products related to this project:

- State specific fact sheets
- Employment and trade flow maps
- Analytical working paper:
The Employment Impact of Bilateral Trade between Alberta and the United States
- Economic Commentary:
How Much Does Alberta Import From The U.S.?