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ALBERTA'S EXPORT EXPERIENCE UNDER FREE TRADE AGREEMENTS: 1988-2006

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Executive Summary

The Alberta Export Experience Under the Free Trade Agreements: 1988 - 2006

- In 2006, Alberta exported goods worth \$83.3 billion worldwide. Of this, \$74.5 billion, or 89.4%, was destined for FTA partners (the United States, Mexico, Chile, Israel, and Costa Rica). The United States was by far the most important destination for Alberta's exports, absorbing \$73.8 billion or 88.6% of Alberta's total exports.
- Since 1988, the year before the inception of the Canada-US FTA, Alberta's exports to the United States have grown 700%, from \$9.2 billion to \$73.8 billion in 2006. During the same time, Alberta's exports to non-FTA countries increased by only 116.6%.
- Since 1993, the year before the inception of the NAFTA, Alberta's exports to Mexico have grown from \$85.4 million to \$628.6 million, a growth rate of 635.9%. By contrast, Alberta's exports to non-FTA countries grew only 133.2%.
- Over the period of the FTAs, the compound annual growth rate for Alberta's exports was 11.6% to the United States and 15.3% to Mexico. Other FTA's have had mixed results. The compound annual growth rate of exports to Israel was 8.0%, to Chile -1.0%, and to Costa Rica 32.8%. Overall, since 1988, the compound annual growth rate for Alberta's exports to free trade partners has been 11.6% compared to 4.2% for non-FTA countries.
- In 2006, 70.0% of Alberta's exports consisted of energy products and 99.5% of these exports were destined for the United States. It might be argued that energy exports distort the true picture of Alberta's trade with FTA partners. Even excluding energy, however, exports to FTA partners from 1988 to 2006 grew in value by over 3½ times the exports to non-FTA countries, 492.0% versus 138.1%.
- The report compares unprocessed and manufactured exports to NAFTA countries within certain sectors and finds that value-added manufactured exports have generally increased in value by more than unprocessed exports, as shown in the table below.
- Alberta's most important trading relationship by far is with the United States. The report tracks the share of US global imports originating in Alberta since the inception of the NAFTA. Alberta's overall share of US imports has grown from 2.2% in 1993 to 3.5% in 2006. The share of the US's non-energy imports originating in Alberta grew from 0.6% in 1993 to 0.9% in 2006. Though the value of Alberta's energy exports to the US grew from \$12.2 billion in 1993 to \$58.0 billion in 2006, Alberta's share of US total energy imports declined from 17.0% to 15.3% in this time period.
- For the Western Canadian provinces, between 1993 and 2006, British Columbia's share of US total imports declined from 1.4% to 1.0%, Saskatchewan's share increased from 0.45% to 0.50%, and Manitoba's share increased from 0.36% to 0.41%.

• Despite the growth of Canadian exports to the US from \$143.1 billion in 1993 to \$344.1 billion in 2006, Canada's share of total US imports slipped from 19.1% to 16.4% during that period.

Alberta Exports to NAFTA 1993 – 2006 (\$CDN millions)

| Description | 1993 | 2006 | % Change |
|---|----------------------|--------------|-------------|
| AGRICULTURE | | | |
| Basic Agriculture | \$ 784.3 | 3 \$ 1,321.9 | 68.5 |
| Food Manufacturing | \$ 547. | 5 \$ 1,587.3 | 189.9 |
| FORESTRY | | | |
| Basic Forestry | \$ 2.6 | 6 \$ 1.2 | -52.7 |
| Wood Manufacturing | \$ 251.3 | 3 \$ 1,152.8 | 358.8 |
| Pulp and Paper Manufacturing | \$ 152. ⁻ | 1 \$ 889.9 | 485.0 |
| Furniture Manufacturing | \$ 63.0 | 302.2 | 379.6 |
| MANUFACTURING | | | |
| Chemicals and Plastics | \$ 2,336.7 | 1 \$ 8,379.0 | 258.7 |
| Metal Manufacturing | \$ 93.8 | 3 \$ 989.8 | 955.3 |
| Machinery and Vehicles | \$ 187.4 | 4 \$ 1,840.8 | 882.4 |
| Electrical and Electronic Manufacturing | \$ 341.6 | 6 \$ 1,525.4 | 346.6 |

Contents

This report examines the export performance of Alberta since the entry into force of the Canada-US Free Trade Agreement (FTA) in 1989, the North American Free Trade Agreement (NAFTA) in 1994, and free trade agreements with Chile, Israel and Costa Rica in 1997, 1997 and 2002 respectively. Exports are valued in Canadian dollars unless stated otherwise and are classified using the Harmonized System (HS) in the first two sections of the report and using the North American Industrial Classification (NAICS) in the third section. Data was compiled from Statistics Canada Trade Data.

1. Alberta's Global Export Performance

Table 1.1, below, presents the total values of Alberta exports to NAFTA and other FTA countries, as well as to non-FTA destinations, since the inception of these agreements. The total merchandise export value has increased 527%, a compounded annual growth rate of 10% since 1988. Almost all of this growth has come from increased exports to the FTA partners. The compounded annual growth rate to these countries was almost 12%. The total growth in Alberta exports to FTA partners was 708%. The US accounted for almost all of this increase: exports to the US increased by 700% with a compounded annual growth rate of almost 12%. Exports to Mexico since 1993 grew by 636% with a compounded annual growth rate of 15%.

| Year | | NAFTA | | Other FTA | | | | Total FTA | Non- FTA | Global | |
|------------------------------------|-----------|--------|-----------|-----------|--------|------------|--------|-----------|----------|-----------|--|
| Tear | US | Mexico | Total | Israel | Chile | Costa Rica | Total | TULAIFIA | NOIPFIA | exports | |
| 1988 | \$ 9,216 | - | \$ 9,216 | - | - | - | - | \$ 9,216 | \$ 4,062 | \$ 13,278 | |
| 1989 | \$ 10,037 | - | \$ 10,037 | - | - | - | - | \$ 10,037 | \$ 3,617 | \$ 13,654 | |
| 1990 | \$ 11,721 | - | \$ 11,721 | - | - | - | - | \$ 11,721 | \$ 3,764 | \$ 15,485 | |
| 1991 | \$ 12,163 | - | \$ 12,163 | - | - | - | - | \$ 12,163 | \$ 4,254 | \$ 16,417 | |
| 1992 | \$ 14,144 | - | \$ 14,144 | - | - | - | - | \$ 14,144 | \$ 4,093 | \$ 18,237 | |
| 1993 | \$ 16,398 | \$85 | \$ 16,398 | - | - | - | - | \$ 16,398 | \$ 3,770 | \$ 20,168 | |
| 1994 | \$ 18,674 | \$ 146 | \$ 18,821 | - | - | - | - | \$ 18,821 | \$ 4,686 | \$ 23,507 | |
| 1995 | \$ 21,528 | \$ 177 | \$ 21,705 | - | - | - | - | \$ 21,705 | \$ 6,075 | \$ 27,780 | |
| 1996 | \$ 25,597 | \$ 213 | \$ 25,810 | \$ 12 | \$72 | - | \$85 | \$ 25,810 | \$ 6,271 | \$ 32,081 | |
| 1997 | \$ 27,093 | \$ 224 | \$ 27,318 | \$ 17 | \$ 55 | - | \$73 | \$ 27,390 | \$ 6,296 | \$ 33,686 | |
| 1998 | \$ 25,435 | \$ 289 | \$ 25,724 | \$ 28 | \$ 33 | - | \$61 | \$ 25,785 | \$ 5,431 | \$ 31,216 | |
| 1999 | \$ 29,366 | \$ 250 | \$ 29,616 | \$ 17 | \$77 | - | \$ 94 | \$ 29,710 | \$ 5,256 | \$ 34,966 | |
| 2000 | \$ 49,193 | \$ 356 | \$ 49,549 | \$ 15 | \$ 116 | - | \$ 130 | \$ 49,679 | \$ 6,201 | \$ 55,880 | |
| 2001 | \$ 51,130 | \$ 484 | \$ 51,615 | \$13 | \$ 62 | \$ 1 | \$75 | \$ 51,689 | \$ 5,847 | \$ 57,536 | |
| 2002 | \$ 43,441 | \$ 458 | \$ 43,899 | \$6 | \$ 38 | \$ 1 | \$ 45 | \$ 43,944 | \$ 5,605 | \$ 49,549 | |
| 2003 | \$ 51,526 | \$ 383 | \$ 51,909 | \$7 | \$ 25 | \$ 5 | \$ 37 | \$ 51,946 | \$ 5,694 | \$ 57,640 | |
| 2004 | \$ 59,534 | \$ 707 | \$ 60,242 | \$ 34 | \$ 43 | \$8 | \$86 | \$ 60,327 | \$ 7,518 | \$ 67,845 | |
| 2005 | \$ 72,556 | \$ 547 | \$ 73,103 | \$ 30 | \$ 64 | \$ 9 | \$ 104 | \$ 73,207 | \$ 8,099 | \$ 81,306 | |
| 2006 | \$ 73,755 | \$ 629 | \$ 74,384 | \$ 29 | \$ 65 | \$8 | \$ 101 | \$ 74,485 | \$ 8,796 | \$ 83,281 | |
| % Growth* | 700 | 636 | 707 | 134 | -11 | 449 | 20 | 708 | 117 | 527 | |
| %Compound Annual Growth Rate | 11.6 | 15.3 | 11.6 | 8.0 | -1.0 | 32.8 | 1.7 | 11.6 | 4.2 | 10.1 | |

Table 1.1: Total Export Values to all FTA Partners and Non-FTA Countries from the Inception of the FTA Agreement to 2006 (\$CDN millions)

*Since inception of FTA

Table 1.1 illustrates that the growth in exports to the US has overshadowed that to non-FTA destinations. Exports to Mexico had a strong compounded annual growth rate at 15% albeit from a low base. Exports to other FTA partners, Israel, Chile and Costa Rica, show a mixed pattern of growth with relatively small export values.

Figures 1.1 and 1.2, below, provide a comparison of export growth to FTA partners and non-FTA partners. Figure 1.1 illustrates how the exports to FTA partners have grown 708% since 1988, whereas those to non-FTA partners have grown by only 116% or at a compounded annual growth rate of only 4.2%. Exports to FTA countries, for the most part, grew consistently except in 1997-1998, during the Asia-Pacific crisis, and in 2001 - 2002 when they declined from \$51.7 to \$44.0 billion, mainly because of a fall in the value of energy exports.

Figure 1.2 omits energy exports (HS chapter 27) and shows that non-energy exports have also increased consistently over the years. Non-energy exports include agri-food, lumber, aerospace, communications and information technology equipment, household furniture, and petrochemicals, to name a few. Non-energy exports to FTA partners grew from \$2.8 billion in 1988 to \$16.5 billion in 2006, a growth of 493%. Figure 1.2 demonstrates two things about Alberta's exports. First, that when energy exports, which by their nature are tied to the US market, are excluded, Alberta's export markets are more diversified than it seems. Whereas in 2006, 90% of Alberta's total exports went to the US, the US market accounted for only 63% of Alberta's non-energy exports. Second, that non-energy exports also grew more quickly to FTA partners than to non-FTA countries.

Export Value (\$ billions) ŝ Year Total FTA Exports Total Non FTA Exports

Figure 1.1: Alberta Exports to FTA Partners and Non-FTA Countries, 1988 - 2006

Figure 1.2: Alberta Exports to FTA Partners and Non-FTA Countries Excluding Energy Exports (HS 27), 1988 - 2006.



1.1 Alberta's Exports to NAFTA Partners

Figure 1.3, below, shows that since the implementation of the NAFTA, exports to NAFTA partners have grown 354%, from \$16.4 billion in 1993 to \$74.4 billion in 2006. In contrast, exports to non-FTA countries increased 133%, from \$3.8 billion to \$8.8 billion and the share of the total exports destined for non-FTA countries has declined from 18.7% in 1993 to 10.6% in 2006.

Figure 1.3: Alberta Exports to NAFTA Partners and Non-FTA Countries, 1993 - 2006



As shown in Figure 1.4, below, exports to the US have increased 700% since 1988 when the Canada-US FTA was signed. Since the signing of the NAFTA, exports to the US increased roughly 350% or by an average annual growth rate of 27%, while exports to Mexico grew by 635%. Only in 1998 and 2002 were there declines. In contrast, exports to non-FTA nations grew by 116% since 1988, an average annual growth rate of 6.4%. Declines occurred in seven of the 18 years.

In summary, exports to NAFTA- partners, have grown substantially faster than exports to non-FTA markets. While energy exports are significant, non-energy exports to FTA partners also grew faster than non-energy exports to other markets.

Figure 1.4: Change in Alberta Exports to NAFTA Partners and Non-FTA Countries, 1988 - 2006



1.2 Alberta's Exports to Israel and Chile

Figure 1.5, below, compares export growth rates for FTA partners Israel and Chile with those for non-FTA countries. The value of trade to Chile and Israel is low, fostering highly volatile growth rates. Since 1996, overall exports to Chile declined by 11% but exports to Israel grew by 134%. This contrasts with 40% growth for Alberta's exports to non-FTA countries. The recovery from the Asian crisis of 1997 helps explain the experience of Alberta exports to non-FTA countries such as South Korea, Thailand and others in that region.



Figure 1.5: Change in Alberta Exports to Israel, Chile and Non-FTA Countries, 1996 - 2006

1.3 Alberta's Exports to Costa Rica

Exports to Costa Rica grew consistently between the signing of the FTA in 2002 and 2005, as shown in Figure 1.6, below. Since 2001, overall export growth to Costa Rica was 449% compared to 50% to non-FTA countries.





Because total values of exports to FTA partners like Costa Rica, Chile and Israel are not large, one big consignment in any particular year affects the growth rates greatly. As well, the short time frame of these FTAs makes it difficult to draw conclusions about their effectiveness. By contrast, the longer time frame for free trade with US and Mexico, as well as the larger basis of trade, allows identification of the positive effects of these trade agreements.

Although energy products are the main Alberta export, the data show that free trade has led to an increase in exports of other products, such as agri-food, lumber, communications and information technology equipment, household furniture, and petrochemicals. A closer look at what products Alberta's businesses are successfully exporting follows.

2. Alberta's Top Exports: HS Categories

2.1 Alberta's Top 20 Exports to the World

Table 2.1, below, compares Alberta's top 20 HS 2-digit export categories in 2006 to the same product categories in 1993. Alberta's total exports have grown by 312%, from almost \$20.2 billion in 1993 to \$83.3 billion in 2006, an average (nominal) annual growth rate of 24%. Energy exports accounted for 64% of total exports in 1993. Due to higher volumes and prices, this rose to 70% in 2006.

The top 20 exports accounted for almost 97% of the total growth and this growth was concentrated in a few product categories: oil, plastics, machinery and organic chemicals. Since 1993, NAFTA's share of Alberta's total exports has increased from 82% to over 89%. NAFTA's share in Alberta's energy exports was practically 100% in 2006.

Most of the top 20 export categories have seen significant increases since 1993, although cereals, meat, and fertilizers show slower growth.

| Table 2.1: | Alberta's Top Twenty HS 2-Digit Export Categories in 2006 Compared to 1993, Total Exports |
|------------|---|
| | (\$CDN millions) |

| HS | HS Product Description | | 2006 | | 1993 | | | Export Growth (%) | Contribution to Total Export | NAFTA share (%) | |
|----|---------------------------------|----|---------------|---------------|-----------------|--------|---------------|-------------------------|------------------------------------|--------------------|-------|
| no | | | cport alue | % of Total | Export Value | | % of Total | (1993 - 2006) | Growth (%) (1993 -2006) | 2006 | 1993 |
| 27 | Energy | \$ | 58,282 | 70.0 | \$ | 12,891 | 63.9 | 352.1 | 71.9 | 99.5 | 94.9 |
| 39 | Plastics | \$ | 3,667 | 4.4 | \$ | 524 | 2.6 | 599.8 | 5.0 | 88.1 | 80.0 |
| 84 | Machinery | \$ | 2,871 | 3.4 | \$ | 482 | 2.4 | 495.6 | 3.8 | 59.3 | 35.2 |
| 29 | Organic Chemicals | \$ | 2,464 | 3.0 | \$ | 721 | 3.6 | 241.7 | 2.8 | 58.5 | 54.4 |
| 85 | Electrical/Electronic Machinery | \$ | 1,485 | 1.8 | \$ | 373 | 1.8 | 298.1 | 1.8 | 74.3 | 70.9 |
| 01 | Live Animals | \$ | 1,407 | 1.7 | \$ | 444 | 2.2 | 216.9 | 1.5 | 71.1 | 82.3 |
| 10 | Cereals | \$ | 1,333 | 1.6 | \$ | 885 | 4.4 | 50.6 | 0.7 | 18.0 | 17.3 |
| 47 | Woodpulp | \$ | 1,232 | 1.5 | \$ | 413 | 2.0 | 198.3 | 1.3 | 57.5 | 31.4 |
| 44 | Wood and Articles of Wood | \$ | 1,157 | 1.4 | \$ | 315 | 1.6 | 267.3 | 1.3 | 97.1 | 80.5 |
| 12 | Oil Seeds | \$ | 876 | 1.1 | \$ | 336 | 1.7 | 160.7 | 0.9 | 31.9 | 20.0 |
| 75 | Nickel and Articles Thereof | \$ | 870 | 1.0 | \$ | 57 | 0.3 | 1426.3 | 1.3 | 2.8 | 15.5 |
| 02 | Meat | \$ | 784 | 0.9 | \$ | 552 | 2.7 | 42.0 | 0.4 | 98.0 | 100.0 |
| 90 | Precision Instruments | \$ | 716 | 0.9 | \$ | 137 | 0.7 | 422.6 | 0.9 | 55.2 | 38.6 |
| 73 | Articles of Iron or Steel | \$ | 649 | 0.8 | \$ | 78 | 0.4 | 732.1 | 0.9 | 87.5 | 59.0 |
| 28 | Inorganic Chemicals | \$ | 487 | 0.6 | \$ | 136 | 0.7 | 258.1 | 0.6 | 88.9 | 83.2 |
| 31 | Fertilizers | \$ | 433 | 0.5 | \$ | 219 | 1.1 | 97.7 | 0.3 | 98.9 | 92.7 |
| 25 | Sulfur | \$ | 422 | 0.5 | \$ | 172 | 0.9 | 145.3 | 0.4 | 17.8 | 45.3 |
| 15 | Fats, Oils etc | \$ | 367 | 0.4 | \$ | 82 | 0.4 | 347.6 | 0.5 | 31.3 | 89.4 |
| 94 | Furniture and Bedding | \$ | 311 | 0.4 | \$ | 78 | 0.4 | 298.7 | 0.4 | 90.2 | 81.2 |
| 87 | Vehicles not Railways | \$ | 299 | 0.4 | \$ | 76 | 0.4 | 293.4 | 0.4 | 76.8 | 44.8 |
| | Total Top 20 | \$ | 80,112 | 96.2 | \$ | 18,969 | 94.1 | 322.3 | 96.9 | 90.0 | 82.6 |
| | Total Exports | \$ | 83,281 | 100 | \$ | 20,168 | 100 | 312.9 | 100 | 89.3 | 81.7 |

2.2 Alberta's Top 20 Exports to the US

Table 2.2, below, lists Alberta's top 20 exports to the US at the HS 4-digit level in 2006 and their value in 1988, the year prior to the entry into force of the FTA. Exports of almost all of these 20 products have increased several-fold. Crude oil, natural gas and liquefied petroleum, and ethylene polymers, the top exports, have shown strong growth. Other products, including iron and steel pipe, acyclic hydrocarbons, mechanical pumps, electronic data transmission parts and equipment, and beef cuts, have shown dramatic growth indicating the growth of new export industries in the province since the inception of the FTA.

| HS | Description | 2006 | 1988 | % Growth | |
|------|--|-----------|----------|----------|--|
| 2709 | Crude Oil | \$ 31,215 | \$ 3,077 | 915 | |
| 2711 | Natural Gas And Liquified Petroleum | \$ 25,785 | \$ 3,229 | 699 | |
| 3901 | Ethylene Polymers In Primary Forms | \$ 2,826 | \$ 359 | 687 | |
| 0102 | Live Cows | \$ 697 | \$ 219 | 218 | |
| 2710 | Refined Oil | \$ 667 | \$ 94 | 610 | |
| 0201 | Beef, Fresh Or Chilled | \$ 664 | \$ 37 | 1695 | |
| 4703 | Chemical Woodpulp | \$ 638 | \$ 362 | 76 | |
| 2901 | Acyclic Hydrocarbons | \$ 583 | \$ 13 | 4385 | |
| 4410 | Particle Board Of Wood | \$ 487 | \$65 | 649 | |
| 2902 | Cyclic Hydrocarbons | \$ 485 | \$ 122 | 298 | |
| 4407 | Softwood Lumber | \$ 468 | \$ 133 | 252 | |
| 3102 | Nitrogenous Fertilizer | \$ 419 | \$ 118 | 255 | |
| 2814 | Ammonia | \$ 356 | \$ 70 | 409 | |
| 8529 | Electronic Data Transmission Parts | \$ 325 | \$ 18 | 1706 | |
| 8431 | Machinery Parts | \$ 277 | \$ 29 | 855 | |
| 8525 | Electronic Data Transmission Equipment | \$ 276 | \$7 | 3843 | |
| 7305 | Large Diameter Iron Or Steel Pipes | \$ 228 | \$2 | 11300 | |
| 2905 | Alcohols And Derivatives | \$ 219 | \$ 168 | 30 | |
| 8517 | Telephones And Electronic Transmission Equipment | \$ 194 | \$31 | 526 | |
| 8413 | Pumps | \$ 189 | \$4 | 4625 | |
| | Total of Top 20 | \$ 66,998 | \$ 8,157 | 721 | |
| | Total Exports | \$ 73,755 | \$ 9,216 | 700 | |

Table 2.2: Alberta's Top 20 HS 4-Digit Level Exports to the US in 2006 Compared to 1988 (\$CDN millions)

2.3 Alberta's Top 20 Exports to Mexico

Table 2.3, below, shows how exports of the top 20 HS 4-digit level categories to Mexico have grown in value since signing the NAFTA in 1993. The main categories of exports to Mexico in 2006 were canola seeds, ethylene polymers and beef. Exports of many of the top 20 categories were either non-existent or very small prior to the NAFTA.

All the 20 categories had significant positive growth rates. In many cases there were very low or no exports of these categories in 1993, indicating the creation of new exports to the Mexican market since the inception of the NAFTA. Overall, the top 20 exports to Mexico grew by 877%, from \$59 million in 1993 to \$575 million in 2006.

Table 2.3: Alberta's Top 20 HS 4-Digit Level Exports to Mexico in 2006 Compared to 1993, (\$CDN millions)

| HS | Description | 20 | 006 | 19 | 93 | % Growth |
|------|--|----|-----|----|-----|----------|
| 1205 | Canola Seeds | \$ | 136 | \$ | 22 | 512 |
| 3901 | Ethylene Polymers In Primary Forms | \$ | 119 | \$ | 0.1 | 118800 |
| 0201 | Beef, Fresh Or Chilled | \$ | 116 | \$ | 0.2 | 58000 |
| 1001 | Wheat | \$ | 87 | \$ | 22 | 295 |
| 8517 | Telephone Sets | \$ | 16 | \$ | 5 | 234 |
| 0206 | Edible Offal - Fresh, Chilled Or Frozen | \$ | 13 | \$ | 2 | 579 |
| 2905 | Acyclic Alcohols And Derivatives | \$ | 12 | \$ | - | - |
| 0203 | Fresh Or Chilled Pork | \$ | 12 | \$ | 2 | 413 |
| 4703 | Chemical Woodpulp | \$ | 12 | \$ | 3 | 350 |
| 4705 | Semi-Chemical Wood Pulp | \$ | 10 | \$ | 2 | 371 |
| 8412 | Other Engines And Motors | \$ | 6 | \$ | 0.2 | 3050 |
| 2004 | Frozen Potatoes And Vegetables | \$ | 6 | \$ | - | - |
| 8479 | Misc. Machines And Mechanical Appliances | \$ | 6 | \$ | - | - |
| 0701 | Potatoes - Fresh Or Chilled | \$ | 5 | \$ | - | - |
| 8431 | Misc. Machinery Parts | \$ | 4 | \$ | 0.1 | 3800 |
| 0504 | Animal Parts | \$ | 4 | \$ | - | - |
| 2009 | Fruit And Vegetable Juices | \$ | 4 | \$ | - | - |
| 2503 | Sulfur | \$ | 3 | \$ | - | - |
| 9015 | Scientific Instruments | \$ | 3 | \$ | 0.2 | 1400 |
| 0202 | Beef, Frozen | \$ | 3 | \$ | - | - |
| | Total of Top 20 | \$ | 575 | \$ | 59 | 878 |
| | Total Exports | \$ | 629 | \$ | 85 | 636 |

2.4 Alberta's Top 10 Exports to Israel

Exports to Israel have more than doubled since signing the FTA. Many of the present top HS categories were not exported prior to the agreement. The three main products exported to Israel are ethylene polymers, electrical machinery and data transfer equipment, totalling \$19.5 million in 2006.

| HS | Description | 2006 | 1996 | % Growth |
|------|---|---------|---------|----------|
| 3901 | Ethylene Polymers in Primary Forms | \$ 7.9 | \$ 0.4 | 1,771 |
| 8543 | Misc. Electrical Machines and Apparatus | \$ 7.5 | \$- | - |
| 8471 | Magnetic/Optical Readers, Data Transfer Equipment | \$ 4.1 | \$- | - |
| 1205 | Canola Seeds | \$ 1.8 | \$- | - |
| 8411 | Turbo-Jets, Turbo-Propellers and Other Gas Turbines | \$ 1.5 | \$- | - |
| 8526 | Radar/Radio Navigational Apparatus/Radio Remote Control | \$ 1.1 | \$- | - |
| 9015 | Surveying/Hydrographic/Geophysical Instruments | \$ 0.7 | \$- | - |
| 8525 | Radio/TV Transmission Apparatus | \$ 0.6 | \$- | - |
| 0713 | Legumes - Dried and Shelled | \$ 0.6 | \$- | 1,499 |
| 8529 | Electronic Data Transmission Parts | \$ 0.6 | \$- | - |
| | Total of Top 10 | \$ 26.5 | \$ 0.5 | 5,656 |
| | Total Exports | \$ 28.9 | \$ 12.4 | 134 |

Table 2.4: Alberta's Top 10 HS 4-Digit Level Exports to Israel in 2006 Compared to 1996, (\$CDN millions)

2.5 Alberta's Top 10 Exports to Chile

Exports to Chile have declined by 14.7% since signing the FTA, mainly due to a fall in wheat exports from \$50.7 million in 1996 to \$9.4 million in 2006. Sulfur exports also declined. Growth was seen in the exports of coal, ethylene polymers and aircraft.

| HS | Descriptions 2006 | | 19 | 996 | % Growth | |
|------|--|----|------|-----|----------|--------|
| 2701 | Coal And Solid Fuels Manufactured From Coal | \$ | 18.3 | \$ | 1.2 | 1,416 |
| 1001 | Wheat | \$ | 9.4 | \$ | 50.7 | -81 |
| 3901 | Ethylene Polymers In Primary Forms | \$ | 5.9 | \$ | 0.4 | 1,411 |
| 8802 | Helicopters, Airplanes And Spacecraft | \$ | 5.1 | \$ | - | - |
| 2503 | Sulfur | \$ | 4.0 | \$ | 9.0 | -55 |
| 8411 | Turbo-Jets, Turbo-Propellers And Other Gas Turbines | \$ | 3.7 | \$ | - | - |
| 8419 | Non-Domestic Dryers And Temperature Changing Apparatus | \$ | 2.4 | \$ | - | 21,581 |
| 1107 | Malt | \$ | 1.5 | \$ | - | - |
| 8431 | Parts For Electronic Transmission | \$ | 1.4 | \$ | 0.6 | 150 |
| 7304 | Tubes, Pipes And Hollow Profiles Of Iron Or Steel | \$ | 1.0 | \$ | - | - |
| | Total of Top 10 | \$ | 52.8 | \$ | 61.8 | -15 |
| | Total Exports | \$ | 64.6 | \$ | 72.2 | -11 |

2.6 Alberta's Exports to Costa Rica

The total value of the top 10 categories of exports to Costa Rica has grown from only \$0.6 million prior to the FTA to \$7.0 million in 2006, a 1,060% increase. The main categories of exports are malt, potatoes and other vegetables, polymers, and cereal grains with \$6.61 million in exports in 2006. Cereal groats and telephone sets have declined by 37% and 46% respectively.

| Table 2.6 Alberta's Top 10 (4-digit HS code) Exports to Costa Rica in 2006 Compared to 2001, (\$ | CDN |
|--|-----|
| millions) | |

| HS | Descriptions | 2 | 006 | 2 | 2001 | % Growth | |
|------|---|----|-----|----|------|----------|--|
| 1107 | Malt | \$ | 3.2 | \$ | - | - | |
| 2004 | Potatoes And Other Vegetables - Frozen | \$ | 2.0 | \$ | - | 15,581 | |
| 3901 | Ethylene Polymers In Primary Forms | \$ | 0.9 | \$ | 0.1 | 1,319 | |
| 1104 | Cereal Grains | \$ | 0.5 | \$ | 0.1 | 306 | |
| 1103 | Cereal Groats, Meal And Pellets | \$ | 0.1 | \$ | 0.2 | -37 | |
| 8517 | Telephone Sets | \$ | 0.1 | \$ | 0.2 | -46 | |
| 1901 | Food Preparations Of Cereals, Flour, Starch, Malt Or Milk | \$ | 0.1 | \$ | - | - | |
| 9026 | Instruments For Measuring Or Checking Variables Of Liquids Or Gases | \$ | - | \$ | - | - | |
| 8703 | Motor Vehicles For Passenger Transport | \$ | - | \$ | - | - | |
| 8536 | Apparatus For Switching/Protecting/Connecting,<= 1,000 V | \$ | - | \$ | - | 48 | |
| | Total of Top 10 | \$ | 7.0 | \$ | 0.6 | 1,060 | |
| | Total Exports | \$ | 7.9 | \$ | 1.4 | 449 | |

3. Analysis of Alberta's Value-Added Exports to NAFTA Partners

While Alberta's exports have shown much stronger growth to the free trade partners, in particular NAFTA-markets, than to non-FTA destinations, the question remains whether the expansion of trade has occurred on a broad basis including manufactured and higher value-added products as well as raw materials and primary products. To answer the question, this section focuses on manufacturing exports during the period under review, on the assumption these exports represent a degree of value-added processes not found in basic products.

3.1 Alberta's Exports to NAFTA Partners by Industrial Classification

The data used in this section is based on the North American Industrial Classification System (NAICS) which focuses on industries rather than products. This approach allows concentration on the manufacturing industries to determine the extent to which manufactures have contributed to the overall export growth.

NAICS based data show that total exports to NAFTA partners have increased by 351% during the 1993 - 2006 period, and the top 20 NAICS 5-digit level export categories for 2006 mirror this growth rate at 361% over pre-FTA levels. The top 20 categories have contributed almost 94% of the total growth in exports to the US and Mexico after NAFTA was signed in 1993. This confirms the information adduced above using the HS-data.

Table 3.1, below, lists the top 20 NAICS 5 digit level export categories to NAFTA Partners.

| NAICS | Industry Description | | 2006 | 6 | | 1993 | 3 | Export Growth | Contribution to Total |
|-------|--|-----------------|--------|---------------|-----------------|--------|---------------|-------------------------|--------------------------------------|
| NAICS | Industry Description | Export Value | | % of Total | Export Value | | % of Total | (%) (1993 – 2006) | Export Growth (%) (1993 -2006) |
| 21111 | Oil and Gas Extraction | \$ | 55,199 | 74.2 | \$ | 11,042 | 67.0 | 399.9 | 76.3 |
| 32521 | Resin and Synthetic Rubber Manufacturing | \$ | 3,054 | 4.1 | \$ | 379 | 2.3 | 705.3 | 4.6 |
| 32411 | Petroleum Refineries | \$ | 2,566 | 3.4 | \$ | 1,142 | 6.9 | 124.7 | 2.5 |
| 32511 | Petrochemical Manufacturing | \$ | 1,067 | 1.4 | \$ | 1 | 0.0 | 98,242.2 | 1.8 |
| 31161 | Animal Slaughtering and Processing | \$ | 1,026 | 1.4 | \$ | 416 | 2.5 | 146.8 | 1.1 |
| 32531 | Fertilizer Manufacturing | \$ | 779 | 1.0 | \$ | 285 | 1.7 | 173.4 | 0.9 |
| 11211 | Beef Cattle Ranching and Farming | \$ | 697 | 0.9 | \$ | 529 | 3.2 | 31.9 | 0.3 |
| 32211 | Pulp Mills | \$ | 697 | 0.9 | \$ | 129 | 0.8 | 439.8 | 1.0 |
| 32121 | Veneer, Plywood Manufacturing | \$ | 582 | 0.8 | \$ | 150 | 0.9 | 287.6 | 0.7 |
| 32111 | Sawmills and Wood Preservation | \$ | 492 | 0.7 | \$ | 96 | 0.6 | 411.6 | 0.7 |
| 32519 | Basic Organic Chemical Manufacturing | \$ | 434 | 0.6 | \$ | 391 | 2.4 | 11.2 | 0.1 |
| 33422 | Radio/TV Broadcasting and Wireless Communications Equipment Manufacturing | \$ | 413 | 0.6 | \$ | 65 | 0.4 | 532.0 | 0.6 |
| 33451 | Navigational, Measuring, Medical and Control Instruments Manufacturing | \$ | 380 | 0.5 | \$ | 47 | 0.3 | 704.8 | 0.6 |
| 33313 | Mining and Oil and Gas Field Machinery Manufacturing | \$ | 376 | 0.5 | \$ | 24 | 0.1 | 1,491.4 | 0.6 |

Table 3.1: Alberta's Top 20 NAICS 5 Digit Level Export Categories to NAFTA Partners, 2006 and 1993 (\$CDN millions)

| | | | 2006 | 5 | | 1993 | 3 | Export Growth | Contribution to Total |
|-------|---|-----------------|--------|---------------|-----------------|--------|---------------|-------------------------|--------------------------------------|
| NAICS | Industry Description | Export Value | | % of Total | Export Value | | % of Total | (%) (1993 – 2006) | Export Growth (%) (1993 -2006) |
| 33121 | Iron and Steel Pipes and Tubes Manufacturing | \$ | 314 | 0.4 | \$ | 10 | 0.1 | 3,094.4 | 0.5 |
| 33391 | Pump and Compressor Manufacturing | \$ | 290 | 0.4 | \$ | 15 | 0.1 | 1,847.8 | 0.5 |
| 33421 | Telephone Apparatus Manufacturing | \$ | 262 | 0.4 | \$ | 150 | 0.9 | 75.3 | 0.2 |
| 33361 | Engine/Turbine/ Power Transmission Equipment Manufacturing | \$ | 251 | 0.3 | \$ | 24 | 0.1 | 949.8 | 0.4 |
| 31122 | Starch/ Vegetable/Oil Manufacturing | \$ | 231 | 0.3 | \$ | 48 | 0.3 | 376.2 | 0.3 |
| 31141 | Frozen Food Manufacturing | | 207 | 0.3 | \$ | 92 | 0.6 | 124.8 | 0.2 |
| | Total Top 20 | \$ | 69,317 | 93.2 | \$ | 15,034 | 91.2 | 361.1 | 93.8 |
| | Total Exports | \$ | 74,384 | 100 | \$ | 16,483 | 100 | 351.3 | 100 |

3.2 Comparison of NAFTA Export Growth in Primary and Value-Added Industries

Table 3.2, below, compares the export growth of primary industries and value-added industries. Overall, four key sectors have been identified: agriculture, forestry, mining and manufacturing. In both the agriculture and forestry sectors, value-added exports have grown at a faster rate than primary exports. The manufacturing sector as a whole has also shown strong growth over this period. The mining sector, which includes oil and gas extraction, dominates Alberta's export mix, but is difficult to separate this sector into basic and value-added elements given the nature of the NAICS classification system.

Primary agricultural exports to the NAFTA partners grew by only 68.5% beween 1993 and 2006, whereas the export value of food manufacturing grew by 190%, almost 3 times as fast.

The primary industry of forestry and logging has experienced a 53% decline in NAFTA exports from a very small base (reflecting in part restrictions on raw log exports). All the other value-added industries--wood manufacturing, pulp and paper manufacturing and furniture manufacturing--have experienced major increases in exports to NAFTA , with growth rates of 359%, 485% and 380%, respectively, since 1993.

Exports of oil and gas extraction and other mining industries grew by 400% and 87%, respectively, between 1993 and 2006.

NAICS data on manufacuring show very strong export growth to the NAFTA partners since 1993. There has been a three- to nine-fold growth of exports in the various manufacuring industries. The metal manufacturing industry had the highest growth, 955%. Also, the exports of the machinery and vehicle manufacturing industry grew dramatically by 882%, from \$187 million in 1993 to \$1,841 million in 2006. Other manufacturing industries, such as chemicals and plastics and electrical and electronics manufacturing, saw growth rates of 259% and 347%, respectively, from their 1993 levels.

| NAICS | Description | 2006 | 2003 | 1998 | 1993 | % Change (1993-2006) |
|---------------------------|---|--------------------------|--------------------------|------------------------|----------------------|-------------------------|
| | l l | AGRICULTURE | | | | |
| 1111 | Oilseed and Grain Farming | \$ 483.8 | \$ 188.6 | \$ 385.6 | \$ 207.8 | 132.8 |
| 3112 | Oilseed and Grain Milling | \$ 269.9 | \$ 300.0 | \$ 238.4 | \$ 103.4 | 161.1 |
| 112 | Animal Production | \$ 770.6 | \$ 269.0 | \$ 797.9 | \$ 552.8 | 39.4 |
| 3115, 3116 | Meat and Dairy Manufacturing | \$ 1,027.1 | \$ 1,108.7 | \$ 993.0 | \$ 422.7 | 143.0 |
| 111, 112 | Basic Agriculture | \$ 1,321.9 | \$ 502.8 | \$ 1,254.1 | \$ 784.3 | 68.5 |
| 311 | Food Manufacturing | \$ 1,587.3 | \$ 1,663.0 | \$ 1,300.9 | \$ 547.5 | 189.9 |
| | | FORESTRY | | | | |
| 113 | Forestry and Logging | \$ 1.2 | \$ 6.4 | \$ 8.9 | \$ 2.6 | -52.7 |
| 3211 | Sawmills (incl. Softwood Lumber) | \$ 492.0 | \$ 533.3 | \$ 612.6 | \$ 96.2 | 411.6 |
| 3212 | Veneer, Plywood Manufacturing | \$ 582.4 | \$ 672.0 | \$ 405.1 | \$ 150.3 | 287.6 |
| 3219 | Other Wood Product Manufacturing | \$ 78.4 | \$ 82.8 | \$ 46.4 | \$ 4.8 | 1,518.8 |
| 32211 | Pulp Mills | \$ 696.5 | \$ 469.1 | \$ 535.5 | \$ 129.0 | 439.8 |
| 32212 | Paper Mills | \$ 139.1 | \$ 126.2 | \$ 173.8 | \$ 8.3 | 1,575.7 |
| 32213 | Paperboard Mills | \$ 0.3 | \$ 0.4 | \$ 0.3 | \$ 1.6 | -83.3 |
| 3222 | Paper Product Manufacturing | \$ 54.0 | \$ 56.0 | \$ 40.5 | \$ 13.2 | 309.5 |
| 337 | Furniture Manufacturing | \$ 302.2 | \$ 349.5 | \$ 339.9 | \$ 63.0 | 379.6 |
| 113 | Basic Forestry | \$ 1.2 | \$ 6.4 | \$ 8.9 | \$ 2.6 | -52.7 |
| 321 | Wood Manufacturing | \$ 1,152.8 | \$ 1,288.1 | \$ 1,064.0 | \$ 251.3 | 358.8 |
| 322 | Pulp and Paper Manufacturing | \$ 889.9 | \$ 651.7 | \$ 750.0 | \$ 152.1 | 485.0 |
| 337 | Furniture Manufacturing | \$ 302.2 | \$ 349.5 | \$ 339.9 | \$ 63.0 | 379.6 |
| | | MINING | | | | |
| 211 | Oil and Gas Extraction | \$ 55,198.8 | \$ 38,047.7 | \$ 14,678.3 | \$ 11,042.0 | 399.9 |
| 212 | Mining (Except Oil and Gas) | \$ 170.1 | \$ 89.7 | \$ 84.2 | \$ 90.8 | 87.3 |
| | M | ANUFACTURIN | G | | | |
| 324 | Petroleum and Coal Products Mftg. | \$ 2,637.1 | \$ 1,948.7 | \$ 961.5 | \$ 1,163.3 | 126.7 |
| 325 | Chemical Manufacturing | \$ 5,545.3 | \$ 3,120.4 | \$ 1,795.0 | \$ 1,133.3 | 389.3 |
| 326 | Plastics and Rubber Products Mftg. | \$ 196.6 | \$ 228.9 | \$ 159.2 | \$ 39.5 | 398.4 |
| 331 | Primary Metal Manufacturing | \$ 487.5 | \$ 149.8 | \$ 87.3 | \$ 42.1 | 1,059.0 |
| 332 | Fabricated Metal Product Mftg. | \$ 502.4 | \$ 306.3 | \$ 189.3 | \$ 51.7 | 871.0 |
| 333 | Machinery Manufacturing | \$ 1,473.1 | \$ 847.7 | \$ 657.4 | \$ 144.8 | 917.4 |
| 334 | Computer and Electronic Product Mftg. | \$ 1,229.0 | \$ 1,143.1 | \$ 1,432.4 | \$ 314.4 | 290.9 |
| 335 | Electrical Equipment Manufacturing | \$ 187.9 | \$ 173.7 | \$ 86.6 | \$ 16.1 | 1,070.0 |
| 336 | Transportation Equipment Mftg. | \$ 367.7 | \$ 325.7 | \$ 184.5 | \$ 42.6 | 763.3 |
| 339 | Miscellaneous Manufacturing | \$ 108.5 | \$ 75.5 | \$ 33.8 | \$ 11.1 | 873.3 |
| 324, 325, 326 | Chemicals and Plastics | \$ 8,379.0 | \$ 5,297.9 | \$ 2,915.7 | \$ 2,336.0 | 258.7 |
| 331, 332 | Metal Manufacturing | \$ 989.8 | \$ 456.1 | \$ 276.6 | \$ 93.8 | 955.3 |
| 333, 336 334, 335, 339 | Machinery and Vehicle Manufacturing Electrical and Electronic Manufacturing | \$ 1,840.8 \$ 1,525.4 | \$ 1,173.4 \$ 1,392.3 | \$ 841.9 \$ 1,552.7 | \$ 187.4 \$ 341.6 | 882.4 346.6 |

Table 3.2: Alberta's Exports to NAFTA Partners: Selected Primary and Value-Added Export Industries in2006, 2003, 1998 and 1993 (\$CDN millions)

3.3 Agricultural Exports to NAFTA Partners

Figure 3.1 compares exports of basic agriculture (NAICS 111 and 112) and food manufacturing (NAICS 311) industries. Exports to NAFTA partners from Alberta's basic agriculture industries have increased by 69% from \$784 million in 1993 to \$1,322 million in 2006. However, the recent growth of these exports masks an overall flat or downward trend. Exports of basic agriculture were flat from 1993 to 2001, followed by a sharp decline from 2001 to 2003, largely attributable to the closure of international borders to Canadian beef and cattle due to Bovine Spongiform Encephalopathy (BSE), and to the continued effects of drought. Thereafter, these exports began to recover. In comparison, exports of the value-added food manufacturing industry have increased at a much higher rate, growing by 190% from \$548 million in 1993 to \$1,600 million in 2006. In general, over the last 13 years, the growth of exports in the food manufacturing industry has been higher and more consistent, although they too have been affected by the BSE crisis.

Figure 3.1: Alberta's Exports of Basic Agriculture (NAICS 111+112) and Value-Added Food Manufacturing (NAICS 311) to NAFTA Partners, 1993-2006 (\$CDN millions)



As shown in Figure 3.2, below, the overall growth rates for both the grains and oilseeds and the milled grains and oilseeds categories were about 150%; however, the pattern of growth since the inception of NAFTA has been very different for these two categories.

Exports of grains and oilseed rose sharply in 1994, after the inception of NAFTA. Exports have since fluctuated, reaching their highest level of \$484 million in 2006. Overall, however, the trend line for these exports has been flat. Exports of milled grains and oilseeds gradually increased from \$103 million in 2003 to \$270 in 2006 and have shown a higher rate of overall growth.

Figure 3.2 Alberta's Exports of Grains/Oilseeds (NAICS 1111) and of Milling (NAICS 3112) to NAFTA Partners, 1993 to 2006 (\$CDN millions)



Figure 3.3, below, shows exports of animal production (live animals) relative to those of the value-added meat and dairy manufacturing industry. Overall, the export of live animals has seen a growth of only 39% since 1993, whereas exports of the value-added meat and dairy manufacturing industry grew by 143%. Both have followed different growth trends as exports of animal production (live animals) have been almost flat for most of the period before falling during the BSE crisis and recovering again. Exports of the meat and dairy manufacturing industry grew at a steady rate until the BSE crisis.

During the BSE crisis, live cattle and beef exports were initially suspended, affecting both the live animal and meat processing industries. Exports of boneless meat cuts resumed long before exports of live cows were allowed again. This resulted in an increase in exports of meat (and indeed in overall value of beef products) and there was hope that the value-added meat processing industry in the province would continue to increase its exports. However, once the border reopened to live cattle, Alberta cattle producers resumed exporting live cows for slaughter and processing in the US, and exports of meat declined to pre-BSE levels. Thus, we see a drop in exports for the last two years to \$1.03 billion in 2006 from a high of \$1.68 billion in 2004. By contrast, there has been high growth in exports of live animals in 2005 and 2006.





3.4 Forestry Exports to NAFTA Partners

As mentioned earlier, in the basic forestry and logging sub industry (NAICS 113) exports of raw logs are subject to restrictions and, therefore, are minor. Figure 3.4, below, shows that Alberta's forestry sector has concentrated on value-added exports. Exports of wood-manufacturing (NAICS 321) rose by 359%, from \$251 million in 1993 to \$1.9 billion in 2004, before falling to \$1.2 billion in 2006.

Alberta's exports of paper manufacturing products (NAICS 322) increased by 485%, growing from \$152 million in 1993 to \$890 million in 2006. Exports from Alberta's furniture manufacturing industry (NAICS 337) increased in value from \$63 million in 1993 to \$302 million in 2006, an increase of 380%. At the peak, in 2000, this industry exported goods valued at \$464 million.

Figure 3.4: Alberta's Forestry Industry Exports: Logging (NAICS 113), Wood (NAICS 321), Paper (NAICS 322), and Furniture (NAICS 337) to NAFTA Partners, 1993-2006 (\$CDN millions)



Figure 3.5, below, shows a more detailed breakdown of exports from Alberta's value-added wood manufacturing industries. These industries have experienced steady export growth. The sawmill industry (e.g., softwood lumber production) had a 412% increase in export values between 1993 and 2006; plywood and other engineered wood product manufacturing grew by 288%, while furniture manufacturing and other wood products exports grew by 380% and 1519%, respectively. The sawmill industry experienced huge export growth in 1996, to \$560 million from \$138 million in 1995, and stayed strong until recently, largely due to a booming housing industry in the US.

Exports of plywood and other engineered wood products manufacturing grew in value consistently until 2004, with a dramatic increase in 2004 to \$1,083 million from \$672 million in 2003. Since then the exports have declined to \$582 million in 2006. The value-added sub-industry of furniture manufacturing achieved NAFTA exports of \$464 million in 2000, with declines after that. Exports of other manufactured wood products grew from a value of \$5 million to \$78 between 1993 and 2006. The recent stagnation in value-added wood exports to NAFTA partners has been the result of several factors, including stiffer competition in international markets, production overcapacity in the industry, the imposition of anti-dumping and countervailing duties on lumber exports to the United States, and the rise of the Canadian dollar.

Figure 3.5 Alberta's Exports of Sawmills (NAICS 3211), Engineered Wood Product Manufacturing (NAICS 3212), Furniture (NAICS 337) and Other Wood Manufacturing (NAICS 3219) to NAFTA Partners, 1993-2006 (\$CDN millions)



Figure 3.6, below, takes a more detailed look at exports from Alberta's pulp and paper manufacturing industries. Value-added pulp and paper industries showed overall growth during this period. While pulp mills increased NAFTA exports by 440% from 1993 to 2006, the paper mills and other paper product manufacturing industries increased theirs by 1,576% and 310%, respectively, during that same period. The export value of paper mills has grown from \$8.3 million in 1993 to \$139 million in 2006.

All the three value-added sub-categories in this industry exhibit different growth patterns. While the exports of pulp are still growing, the exports for paper mills and other paper industries have leveled off in the last few years after reaching their peak in 2001.

Figure 3.6 Alberta's Exports of Pulp (NAICS 32211), Paper (NAICS 32212), and Paper Product (NAICS 3222) to NAFTA Partners, 1992-2006 (\$CDN millions)



3.5. Other Exports

Figure 3.7, below, shows strong growth in export values of other industries since the inception of NAFTA.

The exports of the chemicals and plastics industry have grown by 259%, from \$2.3 billion in 1993 to \$8.4 billion in 2006. A drop in these exports in 1996 and 1997 was mainly due to the effects of the Asian market financial crisis. The machinery and vehicles manufacturing industry and metal industry saw phenomenal growth of 882% and 955%, respectively, from their 1993 export values. Exports of the electrical and electronics industry to NAFTA partners grew by 377% during the same period. The growth in this industry between 1999 and 2002 can be attributed to the global information technology boom and to Nortel's manufacturing base in Calgary. The subsequent decline in this category mirrors the end of the boom and Nortel's decline.

Figure 3.7 Alberta's Exports of Chemicals/Plastics (NAICS 324 + 325 + 326), Metal Manufacturing (NAICS 331 + 332), Machines/Vehicle (NAICS 333 + 336), and Electrical/Electronics (NAICS 334 + 335 + 339) to NAFTA partners, 1993-2006 (\$CDN millions)



4. Alberta's Exports: Market Share in the US

This section analyses how Alberta's exports to the US have developed relative to the exports of Canada as a whole and relative to exports of other countries to that important market. The focus is on Alberta's market share among total US imports.

Table 4.1, below, details the total value of US-imports and those originating in Alberta, starting in 1993, the year before NAFTA was in effect. US imports from Alberta grew steadily over the last 13 years, increasing from \$16.4 billion in 1993 to \$73.8 billion in 2006, in large measure because of the rise in volumes and prices of energy products.

Table 4.1 Alberta's Exports to the US (\$CDN billions) and Alberta's Market Share (% of Total US Imports)

| Year | Exports from Alberta | Other US Imports | Total US Imports | Share of Alberta's Exports in US Total Imports |
|------|-------------------------|---------------------|---------------------|--|
| 1993 | \$ 16.4 | \$ 732.3 | \$ 748.7 | 2.2 |
| 1998 | \$ 25.4 | \$ 1,327.0 | \$ 1,352.4 | 1.9 |
| 2003 | \$ 51.5 | \$ 1,710.3 | \$ 1,761.9 | 2.9 |
| 2006 | \$ 73.8 | \$ 2,030.1 | \$ 2,103.9 | 3.5 |

Figure 4.1, below, shows that the market share of Alberta's exports has increased from 2.2% in 1993 to 3.5% in 2006. During this time there were two periods of decline: 1996 - 1998 reaching a low of 1.8%, and 2001 - 2002. Alberta's market share reached a high of 3.6% in 2005, but slipped a little to 3.5% in 2006. The total value of exports to the US, however, has increased steadily over the years with a strong 350% growth in total exports since the inception of NAFTA.

Figure 4.1 Alberta's Percentage Share Total US Imports



Table 4.2 and Figures 4.2 and 4.3, below, illustrate how the exports from Alberta to the US are heavily skewed towards energy exports which have grown by 375%, from \$12.2 billion in 1993 to \$58.0 billion in 2006. Non-energy exports have grown by 278% from \$4.2 billion to \$15.8 billion during the same period.

Table 4.2 Alberta Energy (HS 27) and Non-Energy Exports to the US, 1993 to 2006 (\$CDN millions)

| | | | EN | NERGY | | NON-ENERGY | | | | | | |
|------|----------------------------------|----------------|----------|-------|---|---|--------------------|-------------------------|-----|--|--|--|
| Year | Ener Exports Alberta US | to the Imports | | rgy | Share of Alberta Energy Exports in US Total Energy Imports | Non-Energy Exports from Alberta to US | | Exports from Non-Energy | | | | |
| 1993 | \$ | 12.2 | \$ | 71.9 | 17.0 | \$ | 4.2 | \$ 676.8 | 0.6 | | | |
| 1998 | \$ | 15.7 | \$ | 85.2 | 18.4 | \$ | 9.8 | \$ 1,267.3 | 0.8 | | | |
| 2003 | \$ | 40.0 | \$ 214.9 | | 18.6 | \$ | \$ 11.5 \$ 1,547.0 | | 0.7 | | | |
| 2006 | \$ | 58.0 | \$ | 378.3 | 15.3 | \$ | 15.8 | \$ 1,725.6 | 0.9 | | | |

Figure 4.2. Alberta's Energy Exports to the US: Total Value (\$CDN billions) and Percentage Share of US Imports



Alberta's share of US energy imports has varied from 17.0% in 1993 to a high of 19.4% in 2001, falling to 15.3% in 2006. Non-energy exports from Alberta to the US constituted only 0.6% of total US non-energy imports in 1993 but grew to 0.9% in 2006. Although energy constitutes a large share of Alberta exports to the US, the increased market share and value of non-energy products, even during the period 2003 - 2006 when the value of the Canadian dollar rose, attests to the export success of Alberta's businesses.

Figure 4.3 Alberta's Non-Energy Exports to the US: Total Value (\$CDN millions) and Percentage Share of US Imports



Table 4.3, below, shows the US market share of Alberta's top 20 export categories (at the HS 4 digit level) for 2006 and 1995. Among the big winners, not surprisingly, are acyclic hydrocarbons, tubes and pipes, polymers of ethylene and chemical wood pulp. Among top Alberta exports losing market share are liquefied petroleum or hydrocarbon gases (e.g., natural gas). As well, fertilizers and acyclic alcohols were found to have lost market share in the US during that period. However, both these categories greatly increased in export value.

| | | | | 2 | 006 | | | | 1 | 993 | | Share |
|------|--|--------------------|---------|------------|-----------|-------------------------|-----|----------------|----|--------------|-------------------------|-------------------|
| HS | Description | Alberta Exports | | US Imports | | Alberta Share (%) | | berta ports | Ir | US nports | Alberta Share (%) | Difference (%) |
| 2709 | Crude Petroleum | \$ 3′ | 1,214.9 | \$ 2 | 255,770.8 | 12.2 | \$5 | 5,599.3 | \$ | 49,576.8 | 11.3 | 0.9 |
| 2711 | Liquefied Petroleum/ Hydrocarbon Gases | \$ 25 | 5,785.2 | \$ | 38,521.7 | 66.9 | \$6 | 6,321.4 | \$ | 6,091.0 | 103.8* | -36.8 |
| 3901 | Ethylene Polymers In Primary Forms | \$ 2 | 2,825.7 | \$ | 4,230.1 | 66.8 | \$ | 361.4 | \$ | 738.6 | 48.9 | 17.9 |
| 0102 | Live Cows | \$ | 697.2 | \$ | 1,765.6 | 39.5 | \$ | 527.4 | \$ | 1,730.0 | 30.5 | 9.0 |
| 2710 | Refined Petroleum | \$ | 666.7 | \$ | 75,034.0 | 0.9 | \$ | 218.9 | \$ | 14,219.7 | 1.5 | -0.7 |
| 0201 | Beef Fresh Or Chilled | \$ | 663.8 | \$ | 1,405.6 | 47.2 | \$ | 238.5 | \$ | 510.3 | 46.7 | 0.5 |
| 4703 | Chemical Woodpulp | \$ | 638.4 | \$ | 3,158.7 | 20.2 | \$ | 69.7 | \$ | 2,010.1 | 3.5 | 16.7 |
| 2901 | Acyclic Hydrocarbons | \$ | 583.0 | \$ | 2,009.4 | 29.0 | \$ | 0.3 | \$ | 201.9 | 0.2 | 28.9 |
| 4410 | Particle Board Of Wood | \$ | 487.1 | \$ | 2,459.3 | 19.8 | \$ | 139.5 | \$ | 646.6 | 21.6 | -1.8 |
| 2902 | Cyclic Hydrocarbons | \$ | 485.4 | \$ | 3,174.1 | 15.3 | \$ | 0.9 | \$ | 603.6 | 0.1 | 15.1 |
| 4407 | Lumber | \$ | 467.8 | \$ | 9,438.4 | 5.0 | \$ | 89.3 | \$ | 6,491.0 | 1.4 | 3.6 |
| 3102 | Mineral/ Chemical Fertilizers, Nitrogenous | \$ | 419.5 | \$ | 2,184.4 | 19.2 | \$ | 199.4 | \$ | 632.5 | 31.5 | -12.3 |
| 2814 | Ammonia | \$ | 355.8 | \$ | 2,418.7 | 14.7 | \$ | 82.2 | \$ | 441.4 | 18.6 | -3.9 |
| 8529 | Electronic Data Transmission Parts | \$ | 325.3 | \$ | 7,399.4 | 4.4 | \$ | 3.9 | \$ | 2,892.2 | 0.1 | 4.3 |
| 8431 | Machinery Parts | \$ | 277.3 | \$ | 8,020.7 | 3.5 | \$ | 27.8 | \$ | 1,824.6 | 1.5 | 1.9 |
| 8525 | Electronic Data Transmission Apparatus | \$ | 275.7 | \$ | 42,848.8 | 0.6 | \$ | 89.4 | \$ | 6,704.2 | 1.3 | -0.7 |
| 7305 | Tubes And Pipes | \$ | 227.6 | \$ | 1,054.6 | 21.6 | \$ | 0.3 | \$ | 144.0 | 0.2 | 21.4 |
| 2905 | Acyclic Alcohols | \$ | 218.7 | \$ | 2,800.6 | 7.8 | \$ | 95.7 | \$ | 510.5 | 18.7 | -10.9 |
| 8517 | Telephone Sets | \$ | 194.3 | \$ | 24,846.3 | 0.8 | \$ | 111.9 | \$ | 5,543.2 | 2.0 | -1.2 |

Table 4.3 US Market Share for Alberta's Top 20 HS 4-Digit Level in 1992 and 2006 (\$CDN millions)

* Maximum is 100%; data inconsistency, exchange rate translation or re-routing of exports to other markets may explain AB share of 103.8% in 1993.

5. Canada's Share of the US Import Market

This section examines Canada's market share relative to the market shares of other key exporters into the US market, especially China. It also examines Western Canadian exports into the US market.

Table 5.1 and Figure 5.1, below, illustrate how China and Mexico have increased their share of the US import market from 1993 - 2006. Canada's share has fallen from 19.1% in 1993 to 16.4% in 2006, although the total value of imports from Canada to the US continued to increase. During this period, China has seen the largest gain in market share, increasing its share from 5.4% in 1993 to 15.5% in 2006. The market share of the EU rose, and then fell slightly, from 18.5% in 1993 to 20.2% in 2003 and 17.9% in 2006. The market share of Mexico increased from 6.9% to 11% between 1993 and 2003 but then fell to 10.7% in 2006. The market share of other countries fell from 50% in 1993 to 39.5% in 2006.

Table 5.1 US Imports from Canada, EU, China, Mexico and Others, 1993 to 2006 (\$CDN billions)

| Year | Canada | Imports From Canada as % of Total | EU | Imports From EU as % of Total | China | Imports From China as % of Total | Mexico | Imports From Mexico as % of Total | Others | Imports From Others as % of Total | Total US imports |
|------|----------|---|---------|--|---------|--|---------|---|---------|---|---------------------|
| 1993 | \$ 143.1 | 19.1 | \$138.5 | 18.5 | \$ 40.7 | 5.4 | \$ 51.5 | 6.9 | \$374.9 | 50.1 | \$ 748.7 |
| 1998 | \$ 257.0 | 19.0 | \$268.7 | 19.9 | \$105.6 | 7.8 | \$140.3 | 10.4 | \$580.9 | 43.0 | \$ 1,352.4 |
| 2003 | \$ 310.6 | 17.6 | \$356.3 | 20.2 | \$213.6 | 12.1 | \$193.5 | 11.0 | \$687.9 | 39.0 | \$ 1,761.9 |
| 2006 | \$ 344.1 | 16.4 | \$376.7 | 17.9 | \$326.4 | 15.5 | \$224.8 | 10.7 | \$831.9 | 39.5 | \$ 2,103.9 |

Figure 5.1 Market Share of Total US Imports of Canada, EU, China and Mexico and Others, 1993-2006, Percentage Growth



Table 5.2 and Figure 5.2, below, the value of exports to the US from the four Western Canadian provinces from 1993 to 2006. Alberta exports to the US have grown from \$16.40 billion to \$73.76 billion; BC exports to the US grew from \$10.72 billion in 1993 to \$21.30 billion in 2006; Saskatchewan and Manitoba US exports grew, respectively, from \$3.41 billion and \$2.69 billion in 1993 to \$10.43 billion and \$8.69 billion in 2006.

Alberta, unlike the other three Western provinces, saw substantial growth of its market share under NAFTA, rising from 2.2% in 1993 to 3.5% in 2006. During this period, Saskatchewan saw slight growth from 0.45% to 0.50% while Manitoba saw growth from 0.36% to 0.41%. The share of BC fell from 1.43% to 1.01%.

Table 5.2 Exports from Western Canada to the US, 1993 to 2006 (\$CDN billions)

| Yea | Alberta Exports to US | Alberta's share as % of total | BC Exports to US | BC's share as % of total | Sask. Exports to US | Sask.'s share as % of total | Manitoba Exports to US | Manitoba's share as % of total | Total US Imports |
|------|-----------------------------|--|------------------------|-----------------------------------|---------------------------|--------------------------------------|------------------------------|--------------------------------------|---------------------|
| 1993 | \$ 16.4 | 2.19 | \$ 10.7 | 1.43 | \$ 3.4 | 0.45 | \$ 2.7 | 0.36 | \$ 748.7 |
| 1998 | \$ 25.4 | 1.88 | \$ 17.1 | 1.26 | \$ 5.4 | 0.40 | \$ 6.1 | 0.45 | \$ 1,352.4 |
| 2003 | \$ 51.5 | 2.92 | \$ 19.5 | 1.11 | \$ 6.6 | 0.37 | \$ 7.1 | 0.40 | \$ 1,761.9 |
| 2006 | \$ 73.8 | 3.51 | \$ 21.3 | 1.01 | \$ 10.4 | 0.50 | \$ 8.7 | 0.41 | \$ 2,103.9 |

Figure 5.2 Market Share of Total US Imports of Western Canadian Provinces, 1993-2006, Percentage Growth



6. Conclusion

Alberta's exports to the US have grown by 700% since the beginning of the Free Trade Agreement in 1989. Alberta's exports to Mexico have grown by 636% since NAFTA was inaugurated in 1994. Overall, Alberta's exports to FTA partners have grown much faster than exports to non-FTA markets.

Value-added exports and manufactured exports from Alberta have shown continued positive development. In addition, a market share analysis revealed that Alberta's non-energy exports have improved their relative position in the all important US market.

Overall, during 2006, Alberta's exporters have maintained their leading export position among Western Canadian provinces.