
Economic Impact of the Diamond Industry in the NWT

Outline

1. Review diamond pipeline in the NWT and identify where the opportunities referring to experience of Australia
2. Look at what opportunities have been realized in the NWT

The Australian Experience

As part of a project for the Dogrib we reviewed experience of the Argyle Mine in Australia

- Australia very similar to Canada – far from markets with similar labour and other costs
- In Australia expectations by both the government and the public was that a secondary industry would develop
- The State government put legislation in place with penalties to require efforts to develop a secondary industry

The Diamond Pipeline

The World Diamond Pipeline in 2001 - Value Added by Activity		
Activity/Sector	\$Billion CAN	Percent
Jewelry manufacturing/retail sector	43.3	52.7%
Wholesale value of diamond jewellery	19.4	23.6%
Wholesale value of diamonds	3.0	3.6%
Value of polished from local production	3.0	3.6%
Net rough for local production	2.2	2.7%
Mine production	11.2	13.6%
Total	82.1	100.0%

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The Diamond Pipeline

- Value added doesn't tell the whole story as you need to know the cost structure for each component to determine profitability
- But the chain demonstrates that most of the value added is at either end – i.e. mining and jewellery
- An important development in the chain is the move by producers to “capture” more of the value added activity related to the production of rough
- Producers have been moving towards greater vertical integration by for strategic alliances
- This allows producers to bypass portions of the pipeline

The Diamond Pipeline

- In the next few years it is likely that traders and wholesalers will be forced out of the business
- Mines will deal directly with manufacturers who will likely also both process rough and manufacture jewellery – must contribute to value added or be phased out
- The manufacturers will also generally have direct alliances with retail chains

The NWT Experience

- In the NWT Impact Benefit Agreements (IBA) and Socio-Economic Agreements (SEA) have been negotiated with the mines
- Act a bridge until all land claims are settled and new instruments are in place
- These agreements contain targets for employment and business procurement as well as training and other commitments and establish monitoring committees to report on success
- These agreements have been very important in securing benefits for the north

The NWT Diamond Pipeline

1. Primary production (mining)
2. Sorting for royalty valuation
3. Sorting for marketing
4. Cutting and polishing
5. Jewellery manufacturing
6. Jewellery sales

Primary Production

Within the primary (mine) activity there are three main opportunities:

1. Employment
2. Business opportunities
3. Equity participation

Primary Production

Employment

Constraints to Northern and Aboriginal Involvement in Employment

- Inadequate education levels
- Insufficient training
- Inadequate work experience

Employment Mitigations

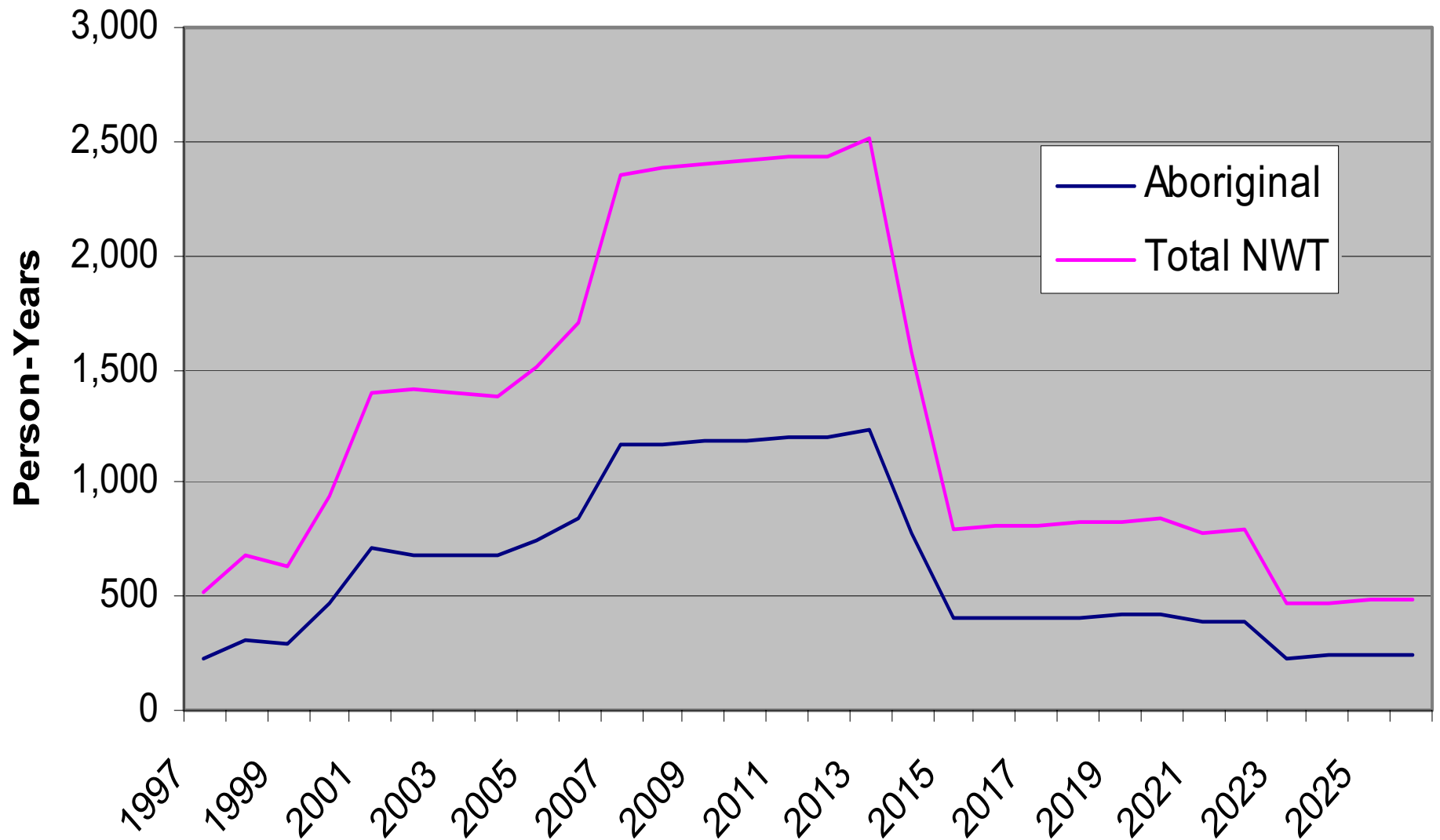
- IBA's and SEA have set targets for employment and training
- Mines in partnership with government and other agencies have developed innovative training programs
- They have included on-site literacy training and hands on training in the communities
- Mines have established scholarship programs to encourage young people to stay in school and prepare for advanced positions

Employment

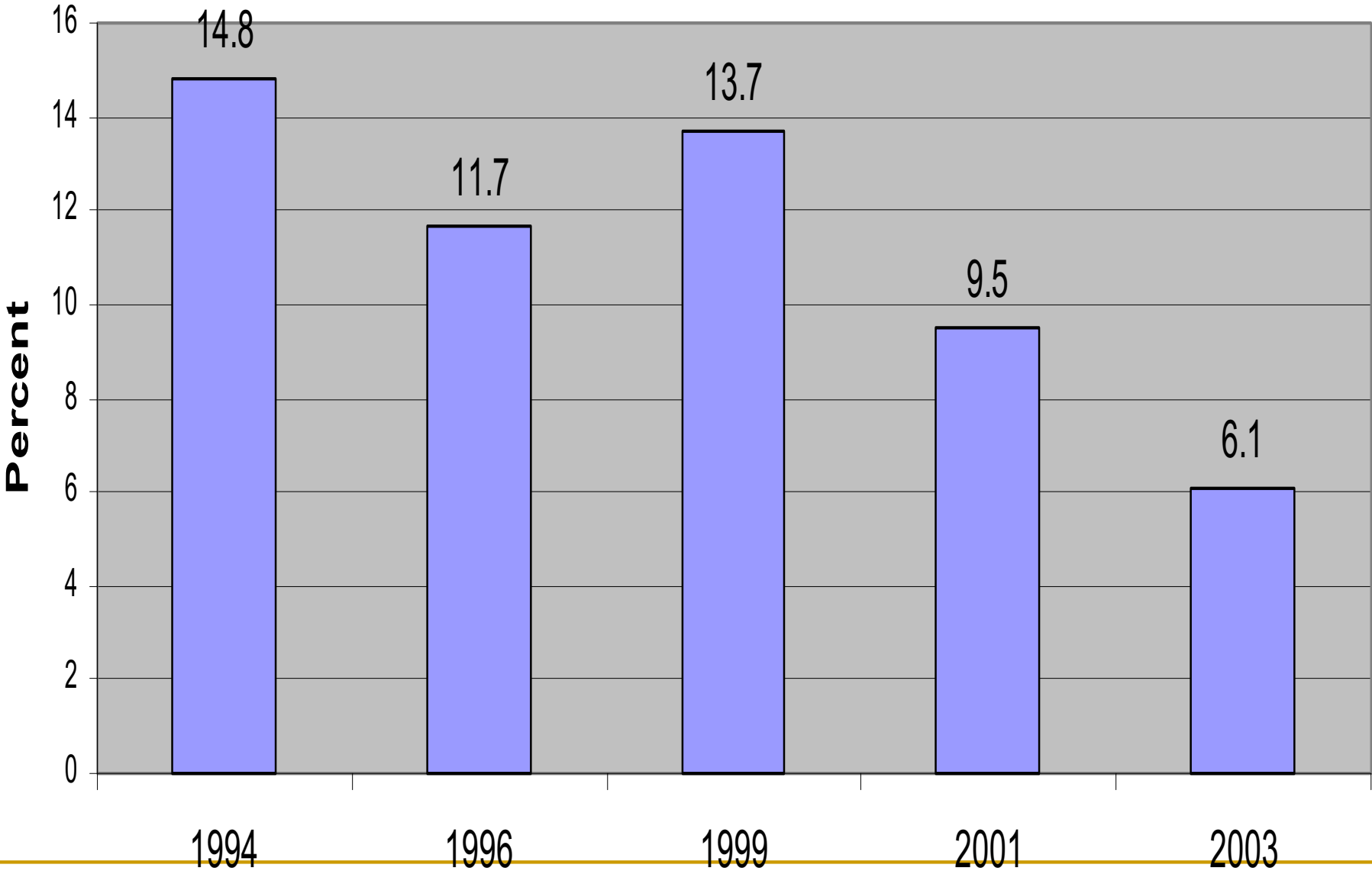
Impact on the Economy

- In 2002 it is estimated that over 1,400 NWT residents including just under 700 Aboriginal northerners worked directly in diamond mine construction and operation
- Including the indirect and induced employment spin-offs would more than double these estimates to over 3,000 jobs
- About one in seven employed persons in the NWT was working directly or indirectly as a result of the diamond industry in 2002
- Incomes are up and social assistance payments are down

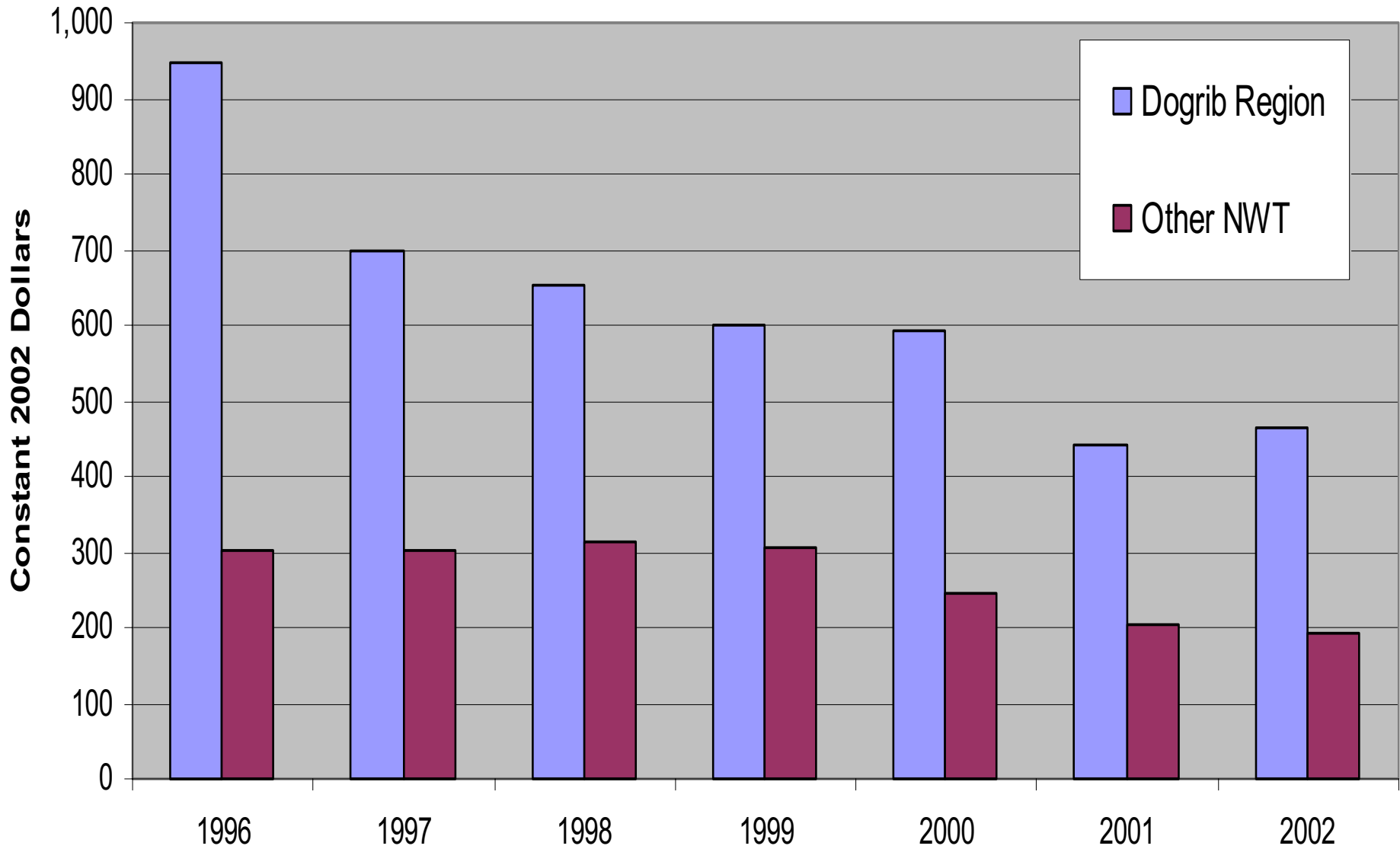
NWT Residents Employed Directly in Constructing or Operations Diamond Mines



NWT Unemployment Rate



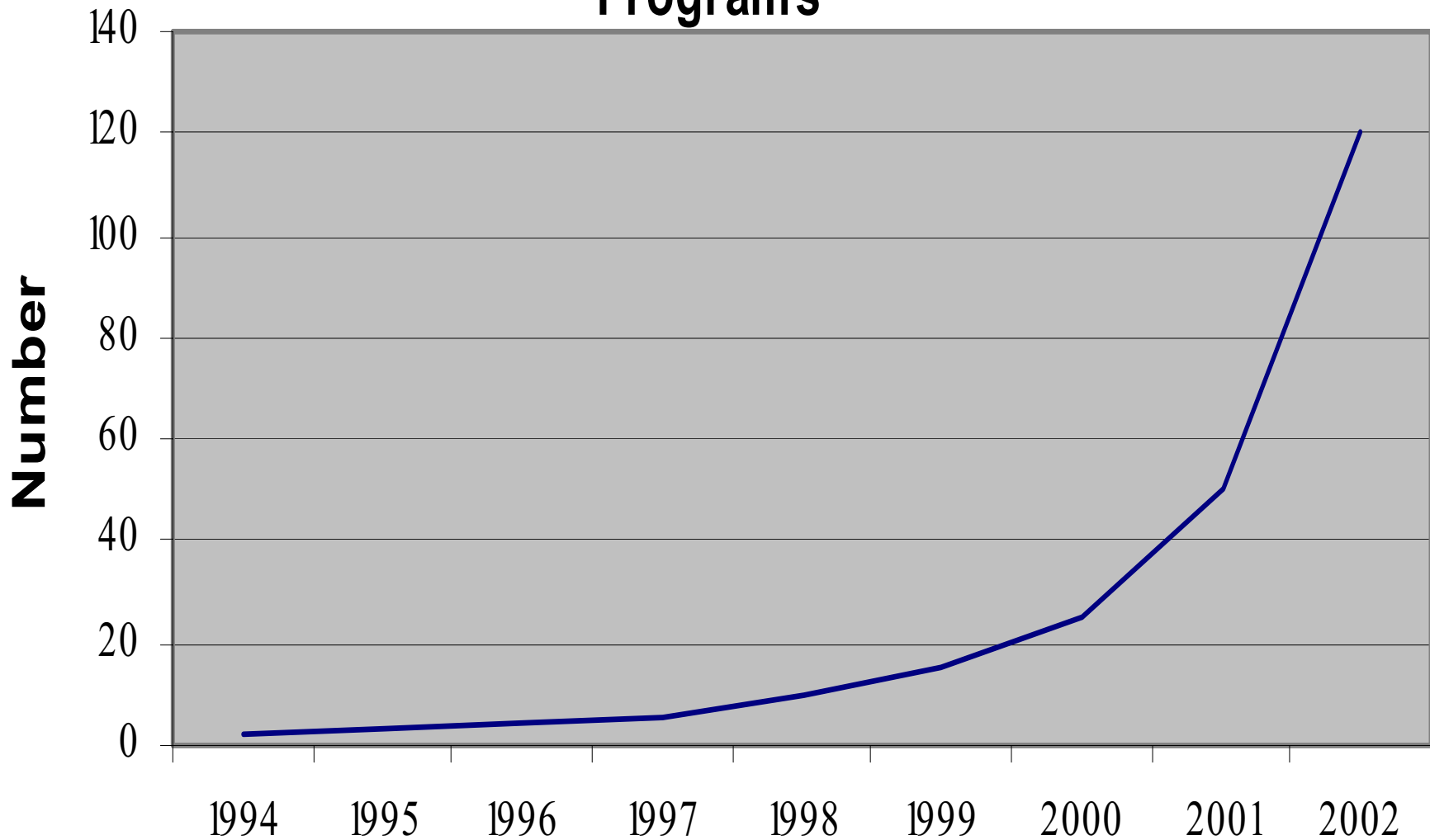
Social Assistance Payments per Person Constant 2002 Dollars



Challenges for Future Participation in the Labour Force

- Real likelihood that the Aboriginal labour force will become exhausted
- Participation rates will become maximized
- Aboriginals are already fully represented in diamond mining based on their proportion of the population
- Challenge is to move more Aboriginals and other northerners into management and professional positions to maximize value added
- Increased education is the key and there are signs that there are significant improvements being made

Dogribs Enrolled in Post-Secondary Education Programs



Primary Production

Business Opportunities

Constraints to Involvement by Aboriginal Businesses

- Lack of Capital
- Management Capacity
- Minimal Business Base
- Competition from Established Northern Businesses

Business Involvement

Impact on the NWT Economy

- Substantial growth and success
- Not all Aboriginal groups have had the same level of involvement
- Depends on Band objectives and ultimately on the band members and leadership
- Dogrib Rae Band and the Yellowknives have been very successful and is building a strong business base

Business Opportunities

- Participate in wealth creating activities to build an economic base
- Use Impact Benefit Agreement provisions as a catalyst
- Overcome capital needs and by forming joint ventures
- Some assistance from governments
- Need to develop exit strategies to in the future wholly own enterprises

Dogrib Rae Band Business

Interests Growth from 1994 to 2002

(Million Dollars)	1994	2002
Assets under control	\$1.0	\$14.0
Revenues	\$1.0	\$30.0

- In 2002 this represents about \$30,000 in assets per household in Rae-Edzo
- Wealth is being created and will lead to a more sustainable economy

Primary Production

Equity Opportunities

Equity Position

- Equity position requires purchase price plus capital contribution
- Like any ownership option it carries an element of risk
- If successful will provide a source of long-term cash flow that can be used to build wealth a business capacity
- This is an area that must be exploited if Aboriginal and other northerners are to fully share in the wealth being created in the Diamond industry

Sorting for Royalty Valuation

- Federal Government policy is that all diamonds will be valued for royalty purposes in the NWT
- Highly skilled and offers only a handful of opportunities for employment

Sorting for Royalty Valuation

Impact on the NWT Economy

- Only about 15 sorters are required for each mine sorting facility
- If northerners supply all employment requirements it will mean about 50 jobs
- Will have an important but small impact on the economy

Secondary Market for Selling Diamonds

- NWT mines have agreements with the GNWT to make available a selection of diamonds to the local cutting & polishing industry
- The mines make available only what can reasonably be cut therefore there are no surplus diamonds and no requirement for a secondary market to dispose of them
- This portion of the pipeline is gradually being eliminated in any event

Sorting for Marketing and Secondary Distribution

- None of the mines are planning large scale sorting operations for marketing purposes
- The NWT is far from the major diamond markets and has a high cost structure and no comparative advantage
- Requires a highly skilled labour force
- Argyle found that only one or two persons out of one hundred applicants had the necessary attributes to last
- NWT labour force far too small to support large scale operations

Sorting for Marketing

Impact on the NWT Economy

- High labour and other overhead costs and therefore no comparative advantage for major sorting activities
- Current marketing policy to the local cutting and polishing industry does not create a need for secondary distribution
- Unlikely any potential to develop as an industry in the NWT

Cutting and Polishing

- No advantage to being located next to mine – “footloose” industry
- Margins are relative low and risks are high
- NWT has high labour and other overhead costs and has no comparative advantage over other cutting centres
- In Australia, Argyle found that it was only profitable to cut & polish the very “high end” of white and pink diamonds

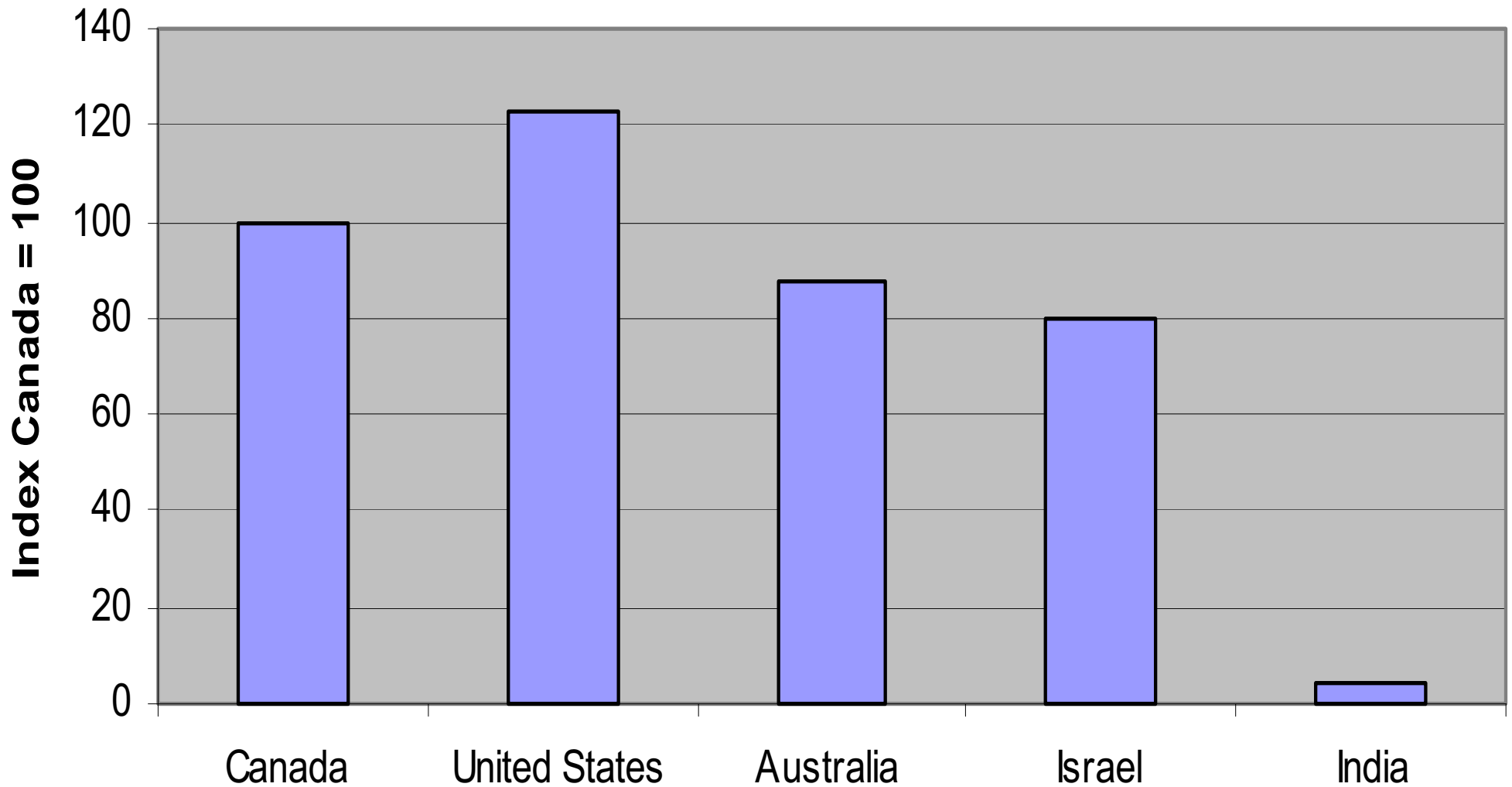
Cutting and Polishing

- Argyle has a significant competitive advantage in this area because it is the only mine with regular production and of consistent high intensity

Argyle Sales of Large White Diamonds Polished In Western Australia (000's of Australian Dollars)

	1994	1995	1996	1997	1998	Average
Sales Revenue	4,734	4,119	5,560	2,940	2,618	3,994
Less:						
Cost of Rough	3,708	3,158	4,096	1,796	2,173	2,986
Other Direct Costs	611	520	607	558	497	559
Subtotal Costs	4,319	3,677	4,703	2,354	2,670	3,545
Gross Margin	415	442	858	586	-53	450
Less:						
Corporate Costs	110	94	109	207	185	141
Profit before Tax	305	348	748	378	-237	309
	Percentage of Total Sales					
Cost of Rough	78%	77%	74%	61%	83%	75%
Other Direct Costs	13%	13%	11%	19%	19%	14%
Gross Margin	9%	11%	15%	20%	-2%	11%
Pre-Tax Profit	6%	8%	13%	13%	-9%	8%

Hourly Compensation Costs for Production Workers in Manufacturing in 2000



Cutting & Polishing

Impact on the NWT Economy

- To date there are three operations that have started (one has shut down but has recently reopened) and another one is on the way
- Only a very small number of northerners are working in the operations – almost workers are foreign nationals
- In total if all employees were NWT residents it would reach about 120 – potential to double if all operations were at peak capacity

Cutting & Polishing

Impact on the NWT Economy

- All operations are currently receiving financial support from the government in the form of training funds and loan guarantees
- All have the advantage of buying diamonds directly from the mines and therefore avoiding dealer mark-ups that would normally be faced by small operations
- Because of limited involvement of local labour force the impact on the NWT economy has been small

Cutting and Polishing

Impact on the NWT Economy

- Because of our high cost structure the NWT Industry has to both buy and sell at a “premium” to survive
- Premiums can be achieved if NWT Diamonds – the “boy scout” diamonds – can be sold for more than competing product – i.e. certification, branding, etc.
- Unsure if there is a long term sustainable market and how big the market might be
- Unlikely to see a large secondary industry develop in the NWT
- Current cutting operations are there to get access to rough and testing the market

Jewellery Manufacturing

- The margins are the highest in jewellery
- There is a wealth of artistic talent and skills in the Aboriginal community that could be used to create a distinctive range of northern jewellery
- Production of jewellery is very labour intensive and often labour cost is higher than the gem cost
- Joint venture model can be used to help develop skills and capacity to study and develop market
- Dogrib have signed a MOU with Tiffany's to investigate downstream business opportunities

Summary

- There has been significant economic development in the NWT as a result of the diamond industry
- GDP has risen dramatically, unemployment and social assistance payments fallen, and personal incomes are higher both in Yellowknife and the communities
- Almost all of the benefit has resulted from the employment and business activity on the production side

Conclusion

- The production side has and will likely continue to provide the greatest opportunities for Aboriginal and other northerners
- Opportunity to develop a large secondary processing industry are limited by high labour costs and distance from markets
- Area of equity participation is an area which has not yet been taken advantage of and has great promise
- Jewellery design and manufacturing probably holds the most opportunity because of higher margins and the ability to cash in on “northern” and “native” image

Conclusion

- Aboriginal groups and other northerners have succeeded by concentrating on the portions of the pipeline that have the most potential for value
- The businesses base they are creating is diversifying and is contributing to the building of a sustainable economy
- There has been significant wealth creation and more that will be created in the future as barriers are overcome