



# **GROWTH INDUSTRIES LOCALIZED ECONOMIC EFFECTS**

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# AN OPEN QUESTION

Would you start a family in for:

Silicon Valley (120K USD) ?

Fort MacMurray (120K CAD) ?

Shenzhen (40K RMB)?

# CONTENTS

1. On Industry Hubs
2. Three Examples
  - Alberta Oil Sands
  - Silicon Valley
  - Shenzhen
3. Commonalities

# ON INDUSTRY HUBS

Why Do Similar Firms Cluster?

Convenience?

Necessity?

# ON INDUSTRY HUBS

Who Benefits?

Firms?

Local Government?

Residences?

Workers?

...And Who Loses?

# CASE 1: ALBERTA OIL SANDS

167.2 Billion Barrels  
97% of Canada's Reserves

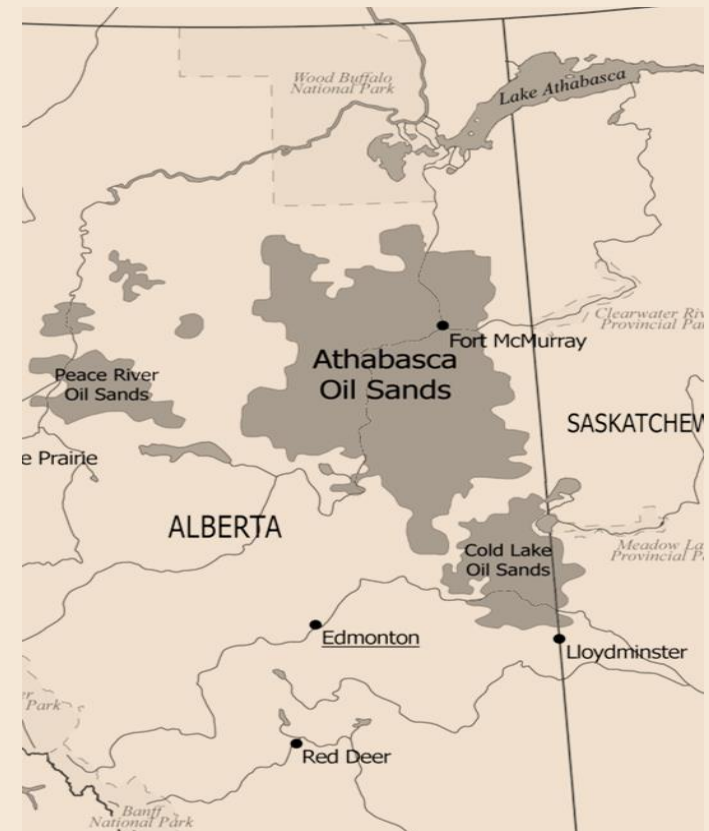
1980's – Two Projects  
2010's – 127 Projects



# CASE 1: ALBERTA OIL SANDS

Innovation in Oil Sands  
Processing

Necessity of Location  
Relative Isolation



# CASE 2: SILICON VALLEY

1970's – Computers In Academia

1980's – Widespread Adoption

1990's – Advent of Internet

Major players

Stanford

Caltech

Fairchild Semiconductor

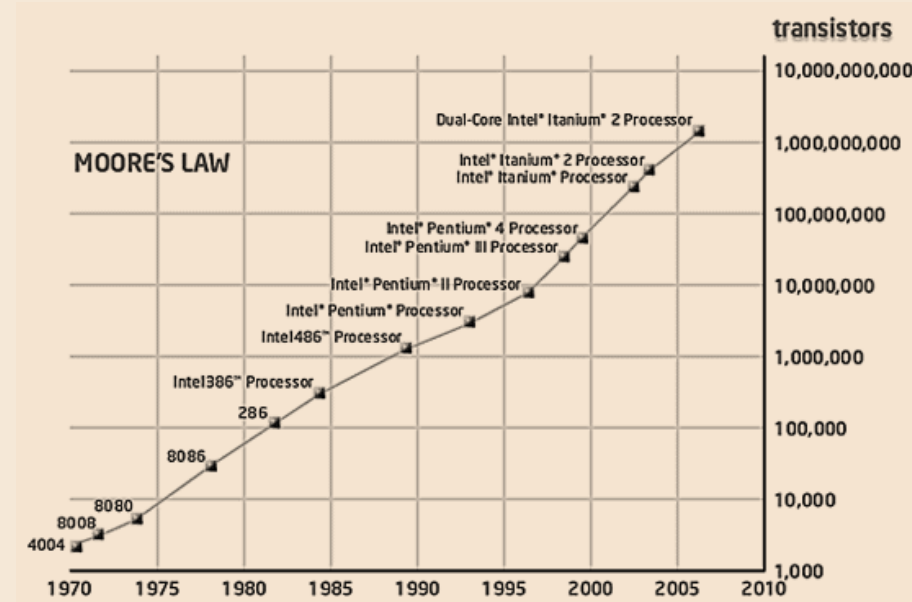
ARPA





# CASE 2: SILICON VALLEY

What's Common To:  
Google  
Microsoft  
Facebook?



“Being in Hardware Simply Wasn’t Profitable” ...Software 1980s

# CASE 3: SHENZHEN

1970's – Rural Fishing Village  
300K Pop.

1980's – Shenzhen SEZ Formed

2010's – IoT

2016's – 11.91 Million Pop.



# CASE 3: SHENZHEN

“Being in Software Simply Wasn’t Profitable”  
...Hardware 2010s

Foreign Investment  
Western Capitalism  
Urbanization  
New Generation



# COMMONALITIES

Rising Incomes  
Population Migration  
Rising Costs Of Living  
Local Economy Strain  
Economic Risk

# Rising Incomes

Schumpeter's Creative Destruction

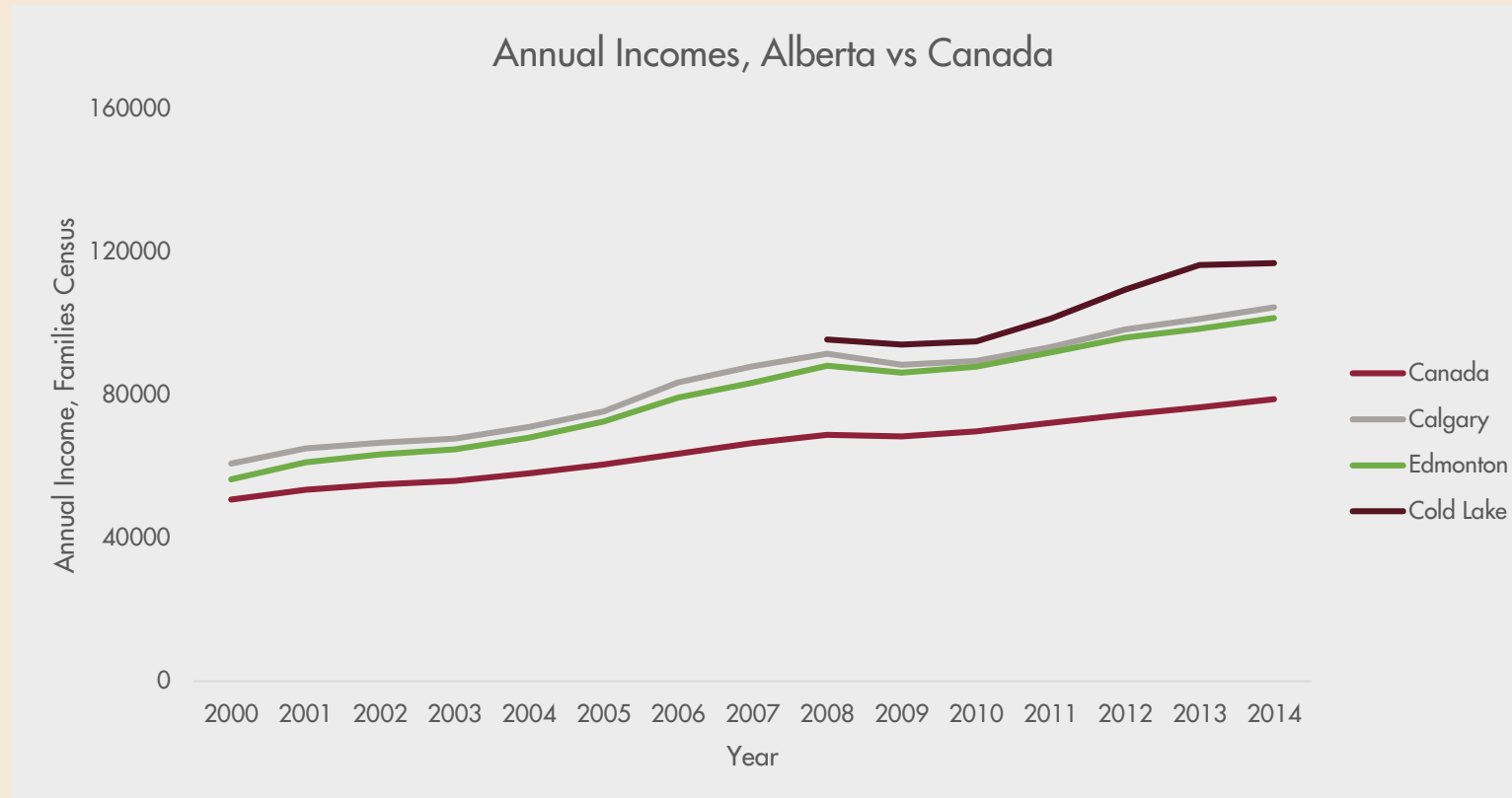
Labour Scarcity...

Trades Alberta

Programmers SF Bay Area

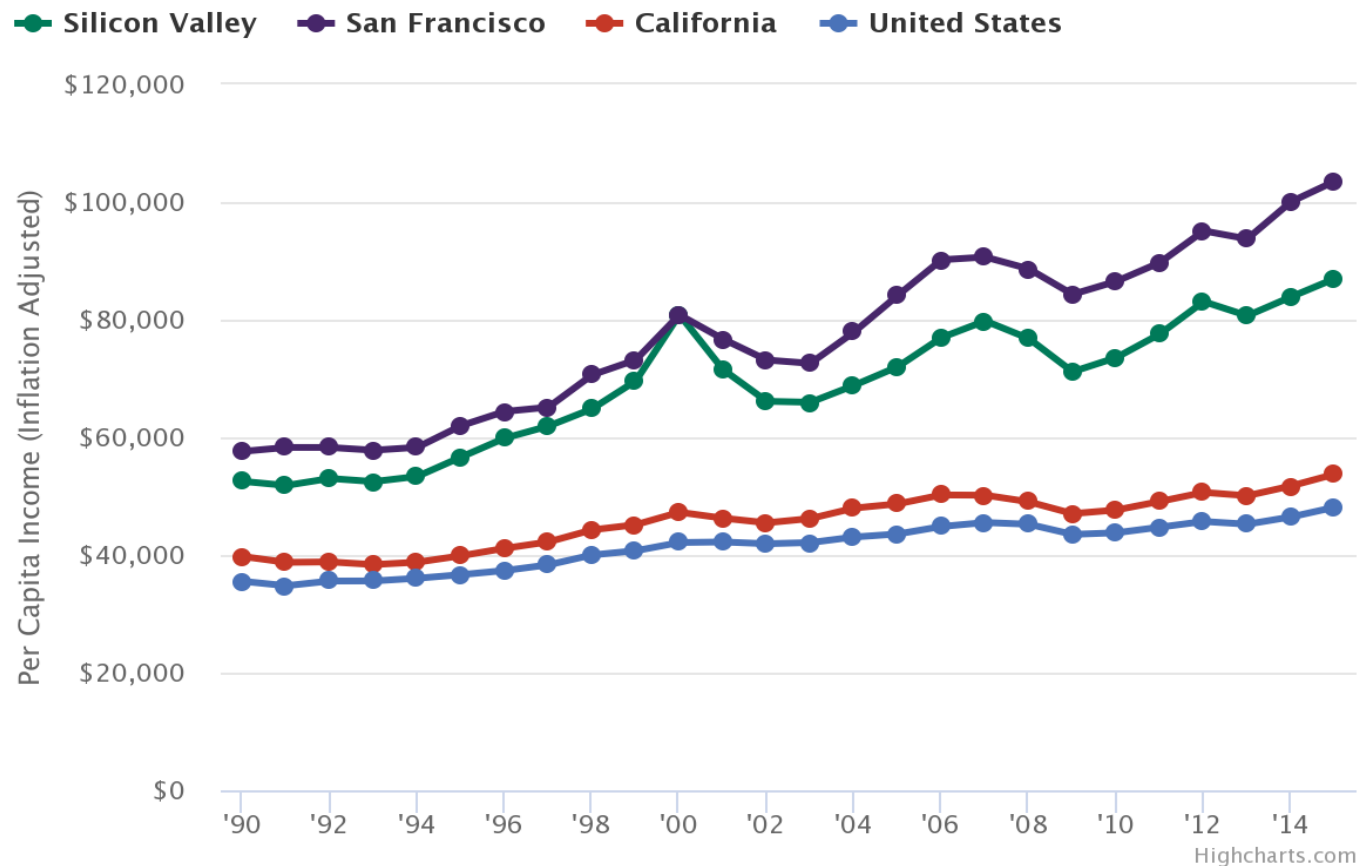
Labourers Shenzhen

# Rising Incomes



# Rising Incomes

Employer Name	Early Career Median Pay	Mid-Career Median Pay
SpaceX	\$ 78,500	NA
LinkedIn	\$ 110,800	\$ 159,600
Salesforce	\$ 84,800	\$ 154,600
Google	\$ 106,900	\$ 151,600
Facebook	\$ 116,800	\$ 149,300
Apple	\$ 91,300	\$ 145,400
Samsung	\$ 65,900	\$ 143,000
Adobe	\$ 91,900	\$ 141,900
Microsoft	\$ 102,500	\$ 139,700
eBay	\$ 88,900	\$ 136,000
Cisco	\$ 83,800	\$ 134,700
Qualcomm	\$ 94,400	\$ 132,500
Amazon	\$ 81,900	\$ 130,400
Intel	\$ 85,800	\$ 129,400
Oracle	\$ 71,400	\$ 126,400
Tesla	\$ 81,400	\$ 118,500
IBM	\$ 72,700	\$ 112,700
HP	\$ 65,400	\$ 104,200



# Population Migration

Income Seekers?

Community Seeking?

Risk Diversification?

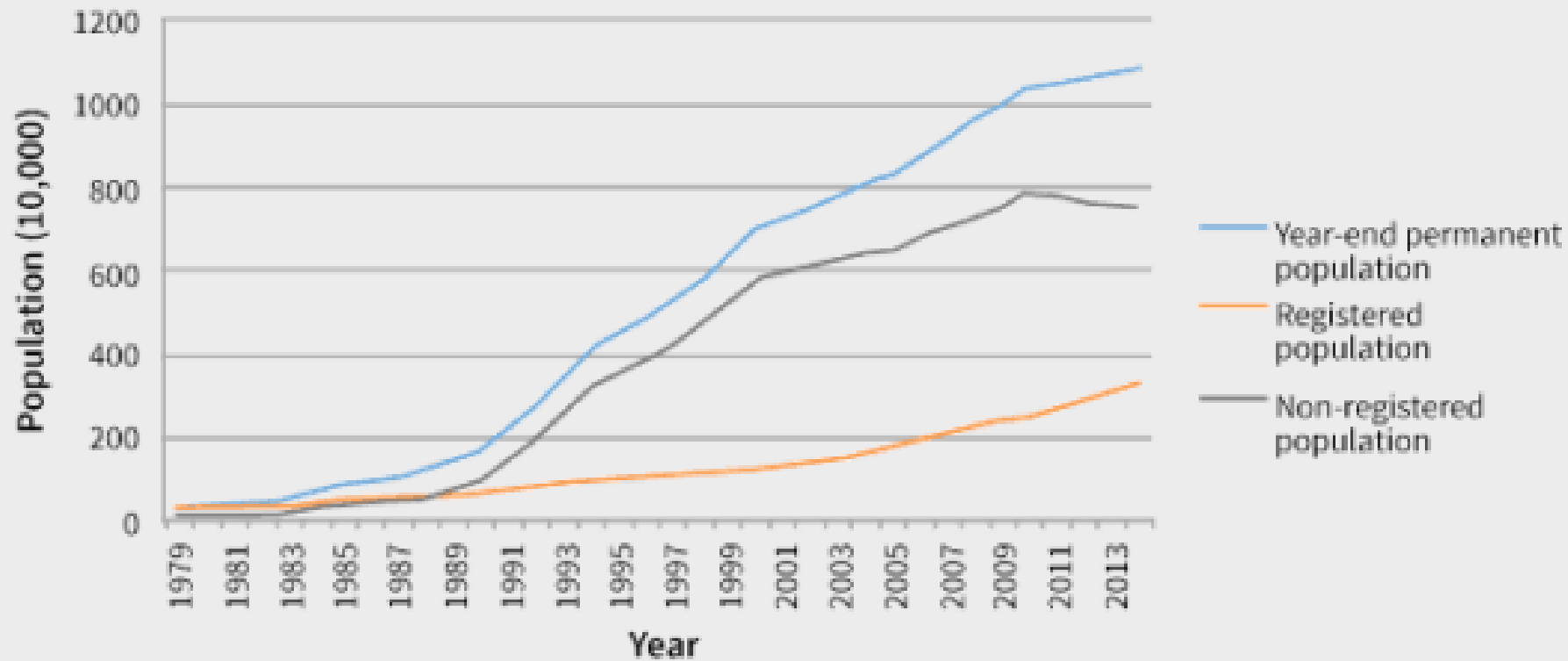


# Population Migration

*“By 2012, there were 68,000 temporary foreign workers in Alberta, 20 per cent of the Canadian total.”*

# Population Migration

FIGURE 1. Shenzhen's Population Growth, 1979-2014



Source: Graphed from various Shenzhen Statistical Yearbooks

# **Rising Costs Of Living**

Income Effect?

Housing?

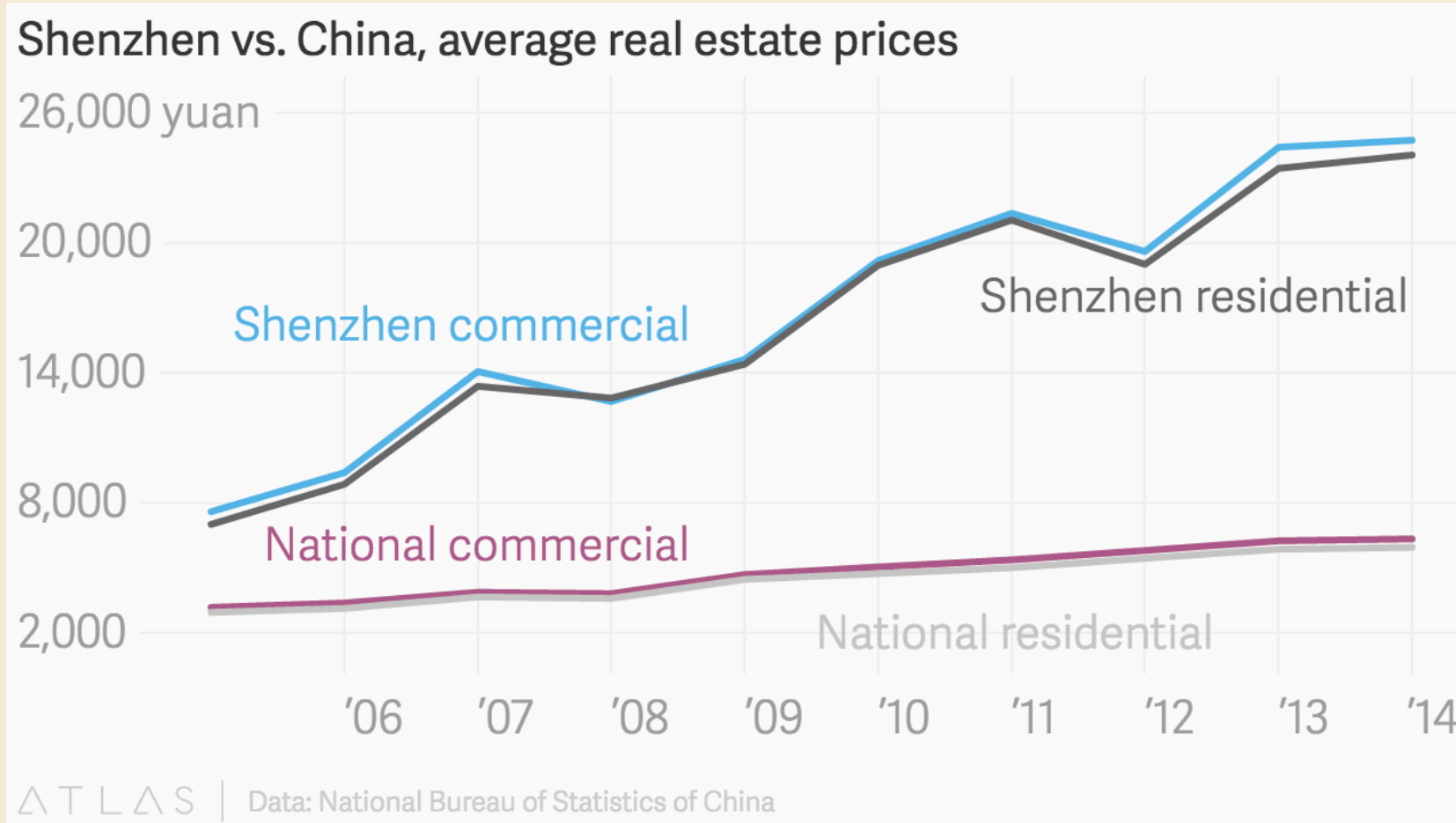
Finer Tastes?

Competition?

# Rising Costs Of Living

# ▼▲	City ▼▲	Rental Cost Per Sq. Ft. ▼▲	Monthly Rental for a Single Person ▼▲	Annual Income Needed for Single Person ▼▲	Monthly Rental for a Family ▼▲	Annual Income Needed for Family ▼▲
1	San Francisco, CA	\$4.95	\$2,077.96	\$85,985.38	\$3,942.82	\$163,151.17
2	New York City, NY	\$4.75	\$1,994.00	\$82,511.17	\$3,783.51	\$156,559.03
3	Boston, MA	\$4.10	\$1,721.14	\$71,220.00	\$3,265.77	\$135,135.31
4	Washington, D.C.	\$3.33	\$1,397.90	\$57,670.76	\$2,652.44	\$109,756.14
5	Seattle, WA	\$3.07	\$1,288.76	\$53,328.00	\$2,445.34	\$101,186.48

# Rising Costs Of Living



# Rising Costs Of Living

Quartz on Shenzhen:

60-80 sq. ft. apartment  
880,000 yuan (\$131,957)  
20x Average Salary



# Local Economy Strain

Locals versus Foreigners?

Infrastructure?

Culture?

Governance?

Ecology?

# Local Economy Strain

*One of the more unusual results has been the effect on the high-school dropout rate. These young people are well aware that, in the current economic climate, they can make as much or more money than they would if they learned a trade or earned a degree. - CBC*



# Local Economy Strain



## Fort McMurray's new airport terminal a gateway to Alberta's oil sands

KELLY CRYDERMAN

CALGARY — The Globe and Mail

Published Tuesday, May 27, 2014 7:29PM EDT

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27 Comments



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Canada's boomtown is about to get an airport to match.

Fort McMurray, Alta., is home to Canada's fastest-growing airport, but its small, three-decade-old terminal is bursting at the seams amid the oil industry's years of rapid expansion. Now it's about to get some much-needed breathing room.

On June 9, a brand new \$258-million terminal, five times larger than the current building, will open to serve as the gateway to the oil sands.



Oil sands workers heading back home will no longer be crowded into standing-room-only waiting lounges. Instead, they'll get valet parking, new sit-down restaurants, and convenient access to popular destinations such as Mexico, Hawaii

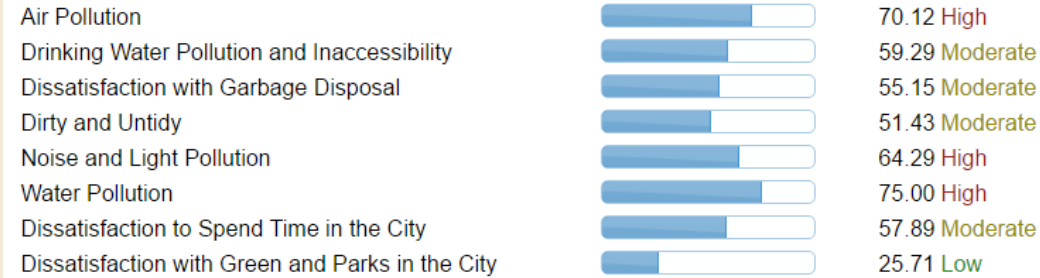
# Local Economy Strain

Remarkably, slightly more than one-third of students – or 1,147 children – are defined as homeless here, mostly sharing homes with other families because their parents cannot afford one of their own, and also living in RVs and shelters. The district is being squeezed from every side: teachers, administrative staff and even principals have housing woes of their own. – The Guardian

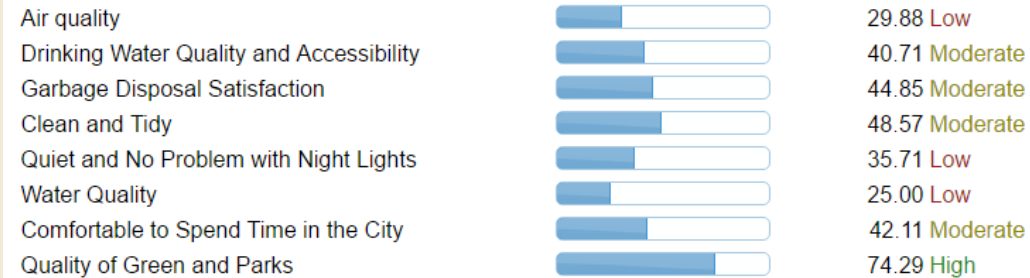


# Local Economy Strain

## Pollution in Shenzhen, China



## Purity and Cleanliness in Shenzhen, China

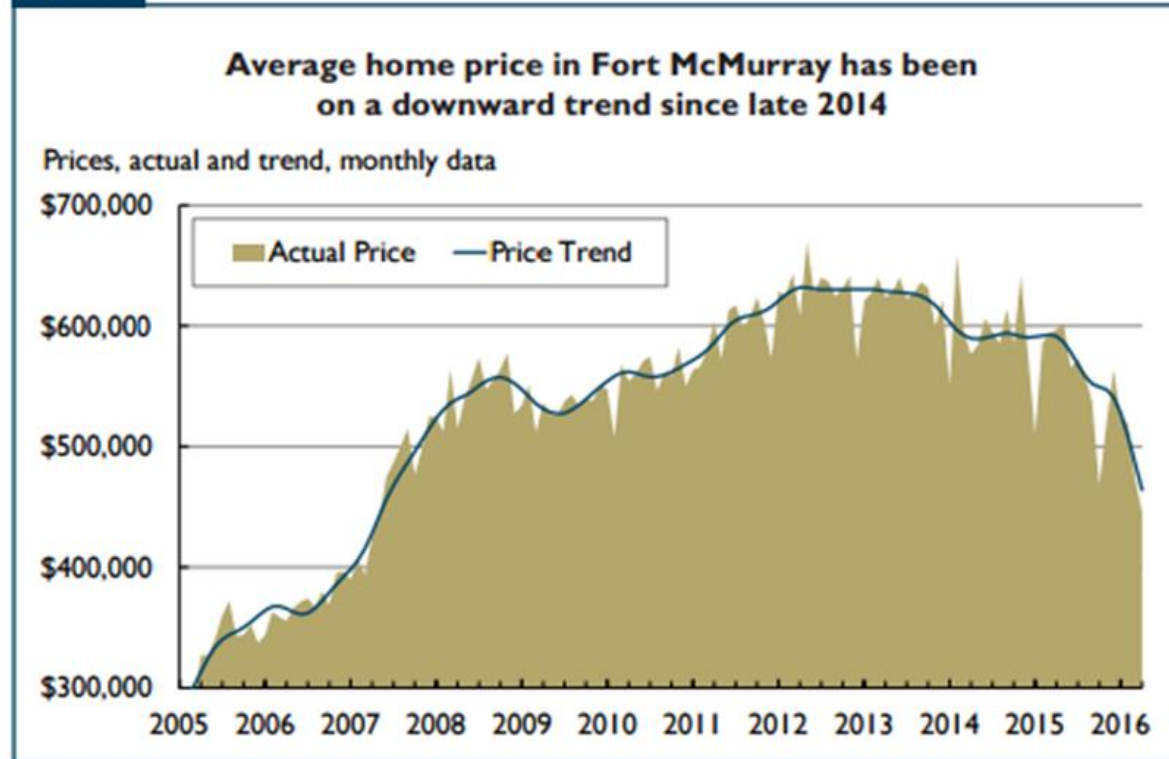


Contributors: 41

Last update: April, 2017

# Economic Risk

Figure 4



Sources: Canadian Real Estate Association and CMHC calculations, Last observation: April 2016

Note: Trend data created using the Census X12 Seasonal adjustment method to retrieve a trend component, MLS is a registered trademark of the Canadian Real Estate Association

# Title

B1

B2

B3