

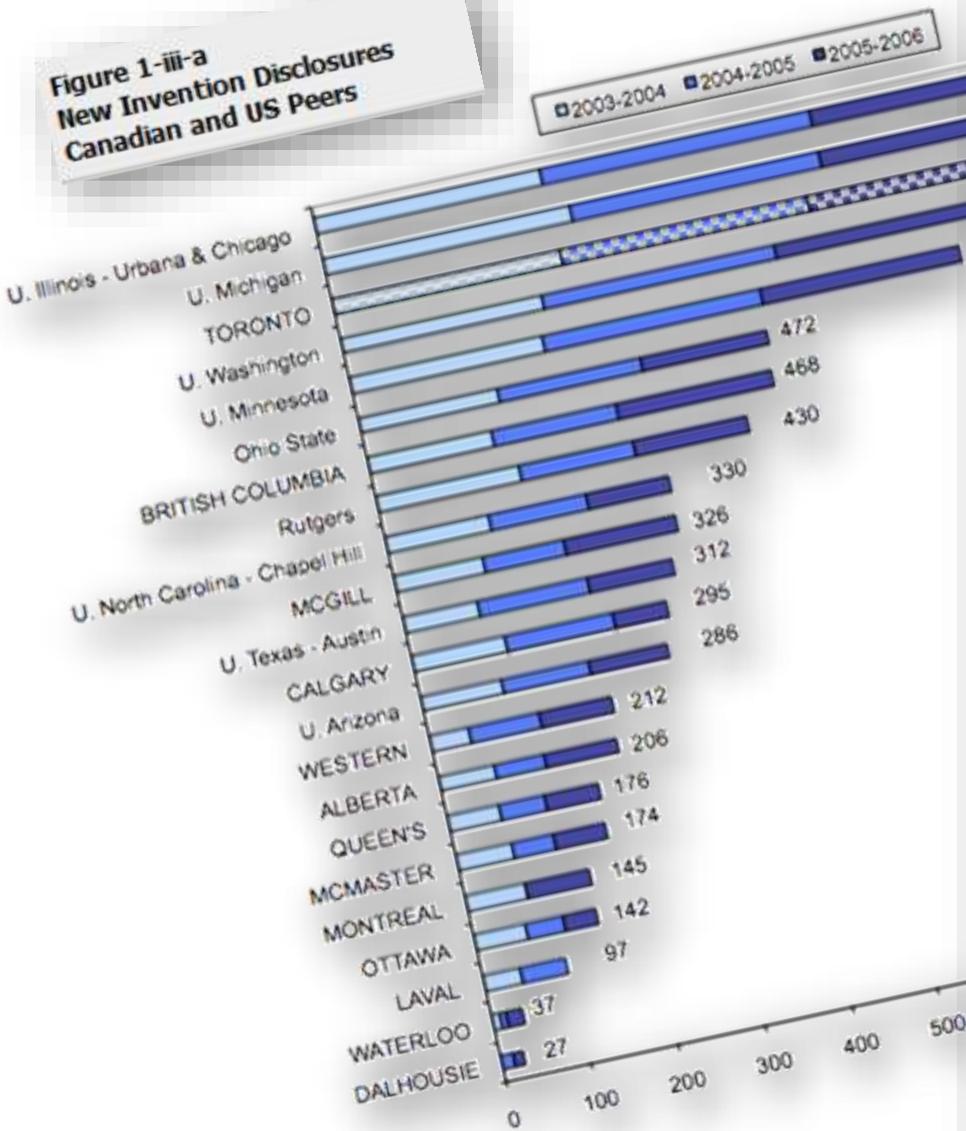
A wooden canoe is shown from a side profile, floating on a calm body of water. The canoe is dark brown with a lighter interior. The water is still, reflecting the sky and the boat. In the background, there is a distant shoreline with green trees under a cloudy sky.

The First Step in Catching a Boat is ... A Canadian Tale.

Bill Buxton

Microsoft Research

Figure 1-iii-a
New Invention Disclosures
Canadian and US Peers



Times Higher Education-QS World University Rankings 2009 ENGINEERING AND INFORMATION TECHNOLOGY

RANK	2008 RANK	INSTITUTION	SCORE
1	1	Massachusetts Institute of Technology	100.0
2	2	University of California, Berkeley	86.3
3	3	Stanford University	81.5
4	5	University of Cambridge	77.0
5	4	California Institute of Technology	76.2
6=	9	University of Tokyo	69.1
6=	7	Imperial College London	69.1
8	10	University of Toronto	63.3
9	6	Carnegie Mellon University	63.2
10	13	ETH Zurich (Swiss Federal Institute of Technology)	60.8
11	14	University of Oxford	59.8
12	8	Georgia Institute of Technology	59.3
13	12	Tsinghua University	59.2
14	11	National University of Singapore	57.5
15	17	Delft University of Technology	55.4
16	22=	Kyoto University	54.2
17	22=	University of British Columbia	53.2
18	16	University of California, Los Angeles	53.1
19	21	Tokyo Institute of Technology	51.4
20	18	McGill University	51.2
21	34	Korea Advanced Inst of Science and Technology	50.7
22	19	Harvard University	50.5
23	15	Princeton University	50.3
24	24=	Cornell University	50.0
25	20	University of Illinois, Urbana-Champaign	49.5
26	24=	Hong Kong University of Science and Technology	49.1
27=	43	Seoul National University	47.5
27=	30	University of Waterloo	47.5

Of Peers & Data Analysis

The Conference Board of Canada
Insights You Can Count On



Report *June 2007*

How Canada Performs A Report Card on Canada



Economy
Innovation
Environment
Education and
Health
Society



Benchmarks Canada's socioeconomic performance against the performance of 16 other top Organization for Economic Cooperation and Development countries across six domains.

- Edu

REPORT CARD

Innovation in Canada

	1980s	1990s	2000s
Overall	D	D	D
Scientific articles	D	B	C
Technology exchange	D	D	D
Patents by population	n.a.	D	D
Share of world patents	D	D	D
High- and medium-high-technology manufacturing	D	D	D
Knowledge-intensive services	C	C	D
Export market share: Aerospace	C	C	C
Export market share: Electronics and computers	D	C	C
Export market share: Office machinery	D	D	D
Export market share: Pharmaceuticals	D	D	D
Export market share: Instruments	D	D	D
Trademarks	D	D	D

Source: The Conference Board of Canada.

From: Expand in Ontario Canada

[mailto:info@investinontario.com]

Sent: February-26-10 7:06 AM

To: Bill Buxton

Subject: Economist Intelligence Unit keys

Dear Bill,

The Economist Intelligence Unit – a trusted source of country, industry and management analysis for smart businesses – recently published a study that demonstrates the critical link between innovation and talent management in a company’s ability to prosper.

The study, [Fertile Ground: Cultivating a talent for innovation](#), emphasizes the critical importance of talent, along with developing “clusters of excellence,” open innovation and access to capital as the main elements necessary for successful business innovation.

- Ontario has the most educated workforce in the G7. In fact, 61% of Ontario’s population between 25 and 64 years of age has completed their post-secondary education.

- Ontario’s Technology Triangle is home to three universities, the headquarters of Research In Motion (makers of the BlackBerry® device) and one of Google’s first Canadian offices.

The world works here. Find out why at www.investinontario.com



Ontario stakes its recovery on education

Facing a record deficit, McGuinty hopes to turn education into an export industry by boosting enrolment of international students by 50% over five years

March 9, 2010

By KAREN HOWLETT

TORONTO -- Ontario's road to economic recovery leads through the classroom, with a new strategy to turn education into an export industry.

The province plans to create another 20,000 spaces this year in its universities and colleges - and hopes to fill many of them by boosting enrolment of international students by 50 per cent over five years.

The classroom is the centrepiece of Premier Dalton McGuinty's five-year plan to return Canada's one-time economic engine to prosperity, unveiled in yesterday's Speech from the Throne.

The global economic recession has left Ontario with a battered manufacturing heartland and a record deficit of \$24.7-billion. Mr. McGuinty acknowledged that he is not sure when exactly the recession will "relax its grip" on the province.

The Throne Speech all but ignores the province's more pressing fiscal challenges, preferring instead to present an optimistic vision of the future.

It will be left to Finance Minister Dwight Duncan to handle the grim task of planning how to dig the province out of multiyear deficits when he presents the budget later this month.

But Mr. McGuinty suggested the province will go slow: "We don't want to compromise our future by moving to balance the budget too quickly," he told reporters after the speech.

And the "Logic?"

- a) Educate others so they catch up, or
- b) Economic benefit of universities is in tuition fees.

A tacit admission of failure of policy!

POLICY COMMITTEES

International Open

Women's International

**HOCKEY CANADA
BOARD OF DIRECTORS**

STANDING COMMITTEES

Finance

Management



Officers (8)

Branch
Presidents (1)

Council Represen
and Directors

Special Advis
Council (5)

Female Council
(13)

Minor Council
(15)

**HOCKEY DEVELOPMENT
COUNCIL (24)**

Junior Council
(16)

Senior/
Recreational
Council (15)

Coaching
Committee

Athlete
Committee

Officiating
Committee

Safety
Committee

Risk & Safety
Committee

Parent Advisory
Committee



Having the right playground

The new ColorQube™ MFP series saves up to 62% on colour prints.

[Get Specs](#) [FinallyColourIsLess.com](#)



Home / News

Canadian wins Nobel Prize for physics

Canwest News Service/Reuters
Published: Monday, October 05, 2009



Alcatel-Lucent Bell Labs/AFP/Getty Images

Willard Boyle (L) and George Smith with their charge-coupled device, which transforms patterns of light into digital information and is the basis for many forms of imaging, including camcorders and ...

A Canadian man has been awarded the 2009 Nobel Prize in physics.

Willard Boyle, 85, of Halifax, and George Smith of the United States shared one half of the prize for inventing the first successful imaging technology using a digital sensor.

Canada wins Nobel Prize

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Bell Labs
Murray Hill, NJ

Pittsburgh wins Stanley Cup

June 12, 2009 10:25 PM | [7 Comments](#) | [UPDATED STORY](#)

DETROIT -- The second time was the charm for the Pittsburgh Penguins.

A year after watching the Detroit Red Wings celebrate winning the Stanley Cup, the Penguins were denied them a replay Friday night with a 2-1 victory.

Read more [HERE](#) on the Pittsburgh Penguins.

Canada wins Stanley Cup



Pittsburgh Penguins players hoist the Stanley Cup. (AP / Paul Sancya)

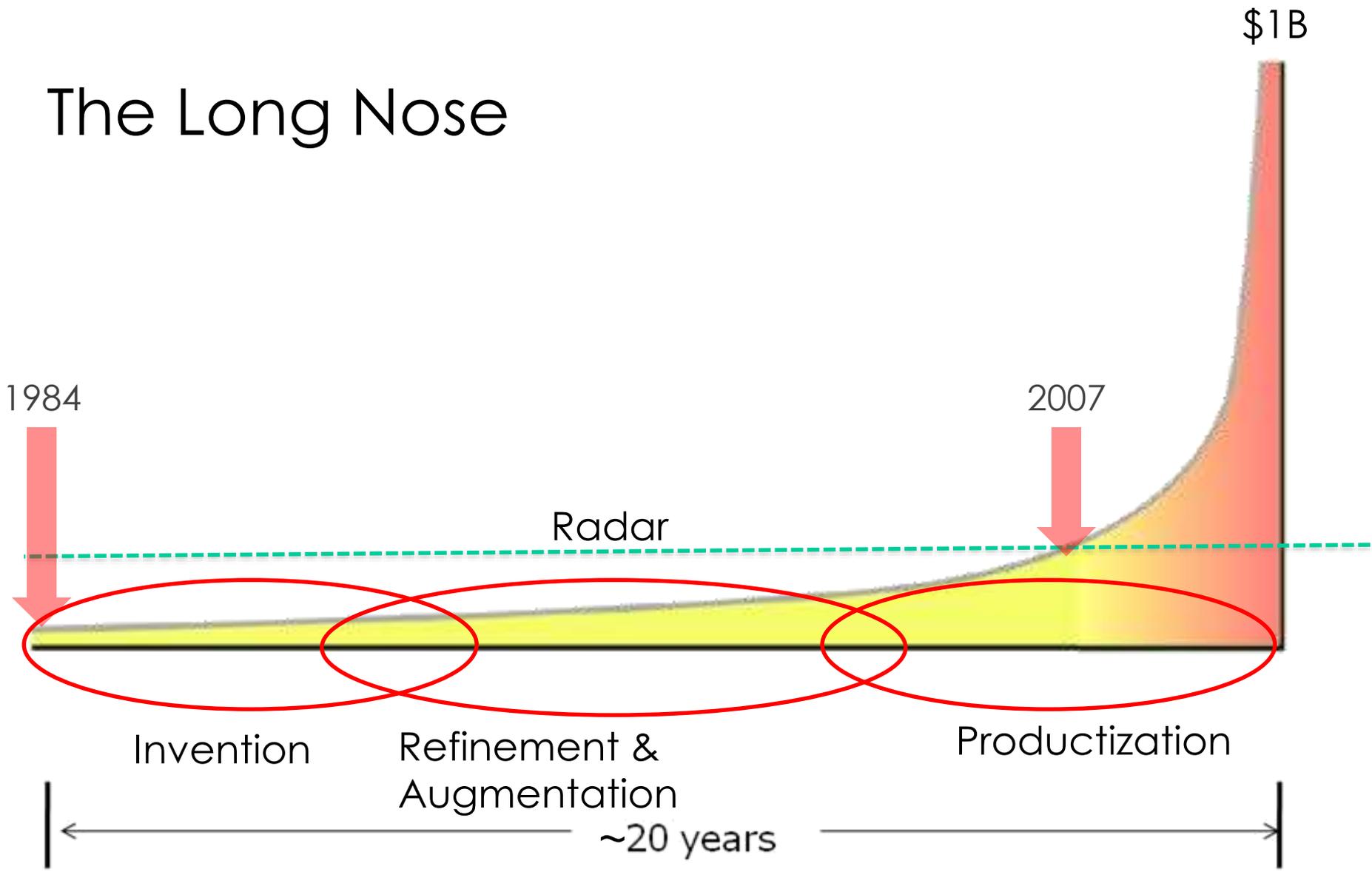
The most dangerous course
of action is to take no risk.

On Playing it Safe

It leads to certain death by
slow atrophy.

On Policy

The Long Nose





Arrasta Dardanell Mine Wild Horse Creek 189





Science, invention & innovation
do *not* fit into 5 year terms

On Data Informed or Misinformed Policy?

What's Missing but Relevant?

How many PhDs doing basic research in Canada today vs 1980?

- In public sector?
- In private sector?

R&D & the OECD

Bad Data and Analysis => Bad Policy

“... creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, *and the use of this stock of knowledge to devise new applications*[italics mine].”

(OECD 2007, p.24)

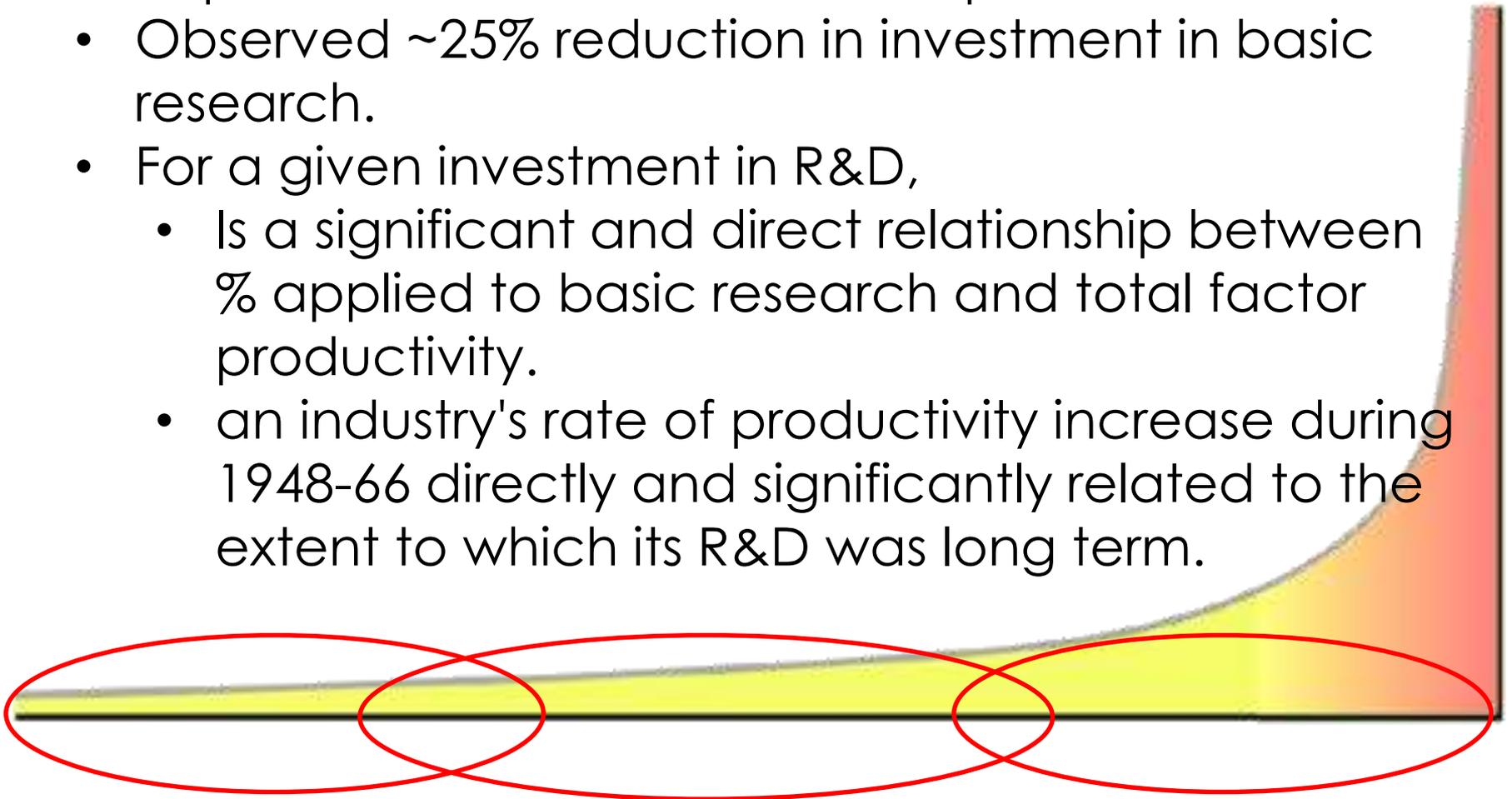


Does basic research, as contrasted with applied research and development, make a significant contribution to an industry's or firm's rate of technological in-novation and productivity change?

Mansfield, Edwin (1980). Basic Research and Productivity Increase in Manufacturing. *The American Economic Review*, 70(5), 863-873.

Study:

- Surveyed R&D spending of 119 firms between 1967 and 1977
- Represented ~50% of US R&D expenditures.
- Observed ~25% reduction in investment in basic research.
- For a given investment in R&D,
 - Is a significant and direct relationship between % applied to basic research and total factor productivity.
 - an industry's rate of productivity increase during 1948-66 directly and significantly related to the extent to which its R&D was long term.



Policy Failure vs Business Success

#8 821*

ABOUT US
Bringing together leaders in research and business

Founded in professional expertise – developed over the last 20 years. Over the last 20 years, we have developed better ideas. Information the best to our other products. understand business process company, the inventions.

Federal government, Ontario agree on \$3.3B auto bailout package
 Deficit now 'likely,' finance minister acknowledges

The federal government and Ontario have reached a deal to offer proportional funds to Canada's auto industry if a proposed \$14-billion US aid package is approved in Washington, Industry Minister Tony Clement said Friday.

Speaking to reporters in Toronto, Clement said the proposed aid to Canada's ailing auto sector would amount to approximately 20 per cent of the U.S. proposal, or about \$3.3 billion Cdn.

The U.S. bailout appeared to have died late Thursday night after hours of heated negotiations between lawmakers, representatives from automakers and unions. But lawmakers said they still hope an agreement on the Democratic- and White House-backed plan could be reached.

The Canadian subsidiaries of the Detroit Big Three automakers had asked Ottawa and Ontario for financial aid that could total as much as \$6 billion.



Mike Lazaridis,
 founder and Co-
 CEO of Research In
 Motion (RIM)



Perimeter Institute (1999)

*Times Eng & IT Rating / Invention Disclosures 2003-2006

Alias Research



- Established 1994
- Revenue ~\$80M USD
- ~500 employees
- 4 different owners
- 6 different presidents
- Employees: $\div 3$
- Research: $\times 3$

The Rule of Unintended Consequences



Culture: What have we

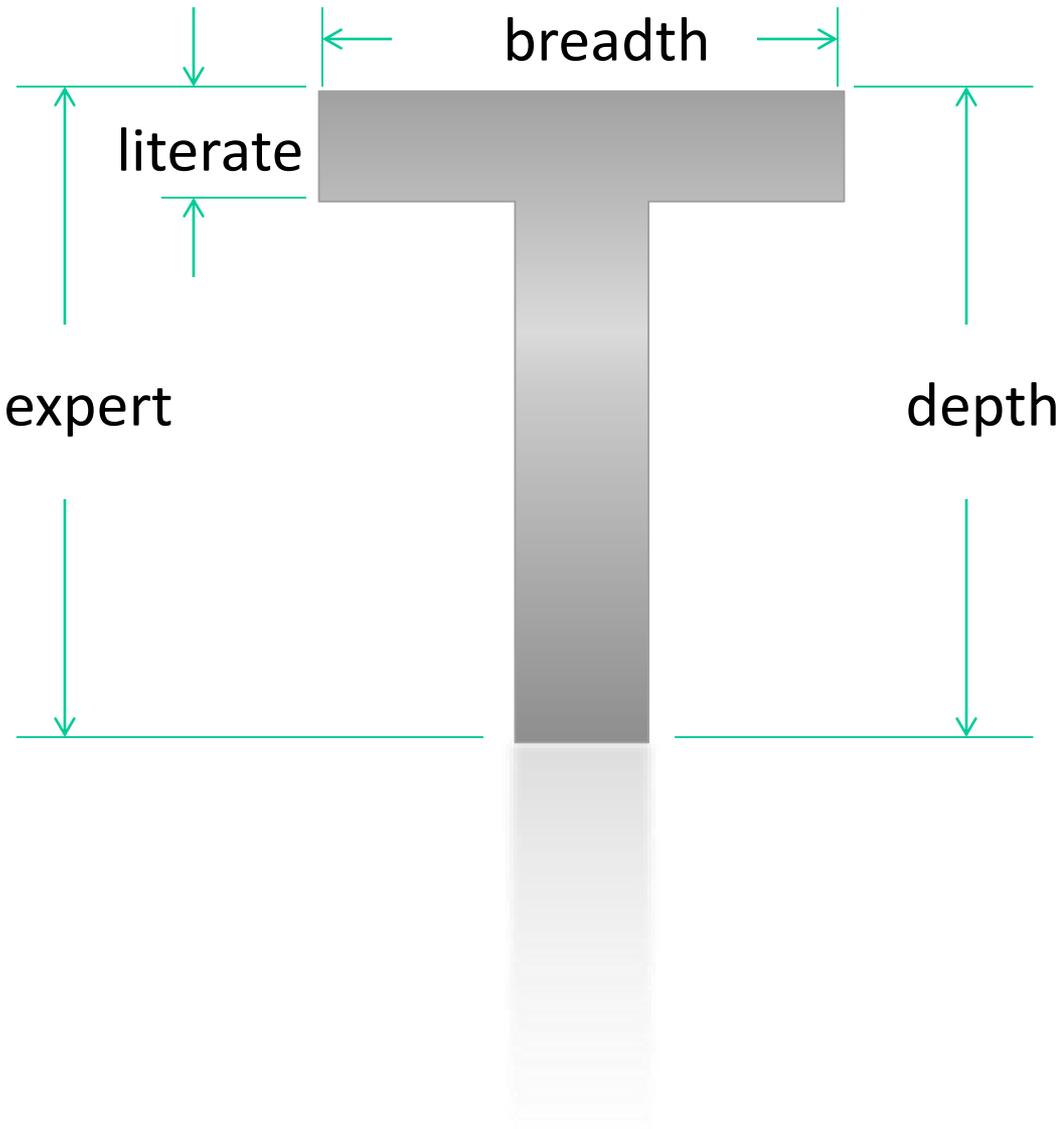


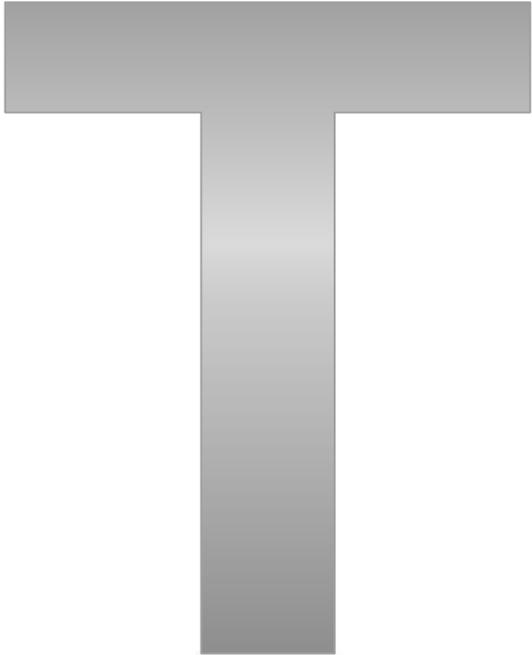
Frederick Grant

AKA:

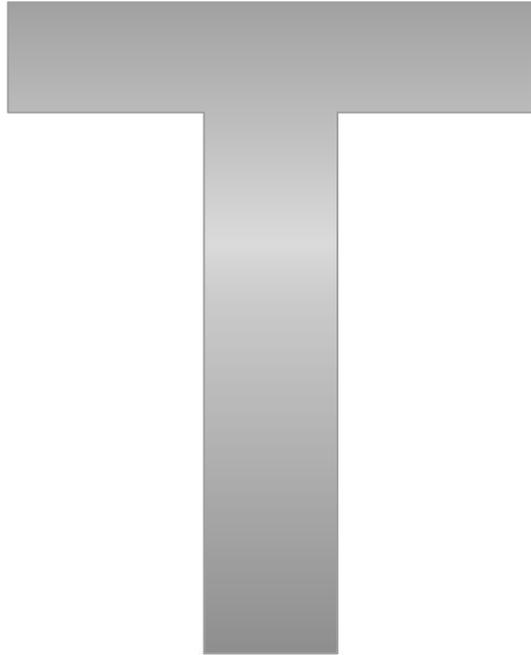
Sir Frederick Banting,
Nobel Medicine 1923
For Discovering Insulin,



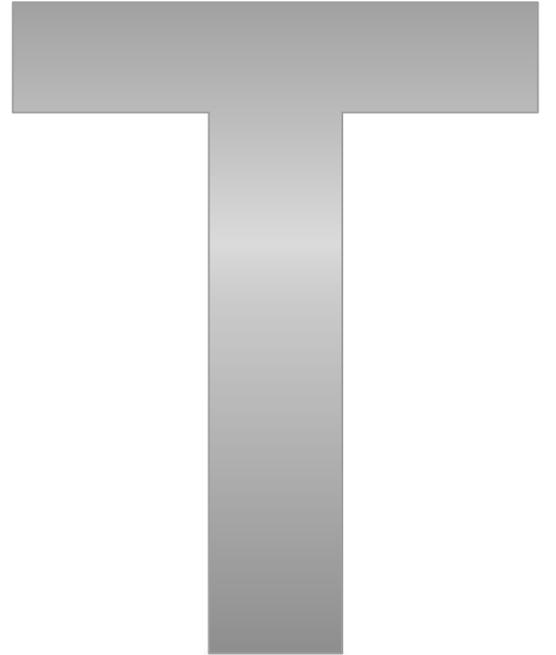




Business



Technology



Design

In Summary:

- Academic industry-relevant research is neither.
- Shifting from basic to applied research -> decrease in productivity
- Demonstrating industry relevance should be cue to *stop* academic funding. Consequences
- Historically, nearly all great sustainable breakthroughs came as unexpected results
- A 20 year horizon is already too short sighted
- Science cannot thrive in a cultural vacuum
- Risk aversion is the most dangerous course of action

Can We Change Our Culture?

By-law
736-92



Please pick up
after your pet



Questions?

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