

Encouraging business leaders to communicate with gov't  
in support of Naylor Report

Industry depends heavily on fundamental research in academic labs  
Grist for the innovation mill (research output, long time frame)  
Workforce at all levels (training)

Gross imbalance in resources

Not enough “gas/crew” for the “cars” and “drivers” (=\$485M)  
Return to 2007 levels (constant dollars)      NO BRAINER

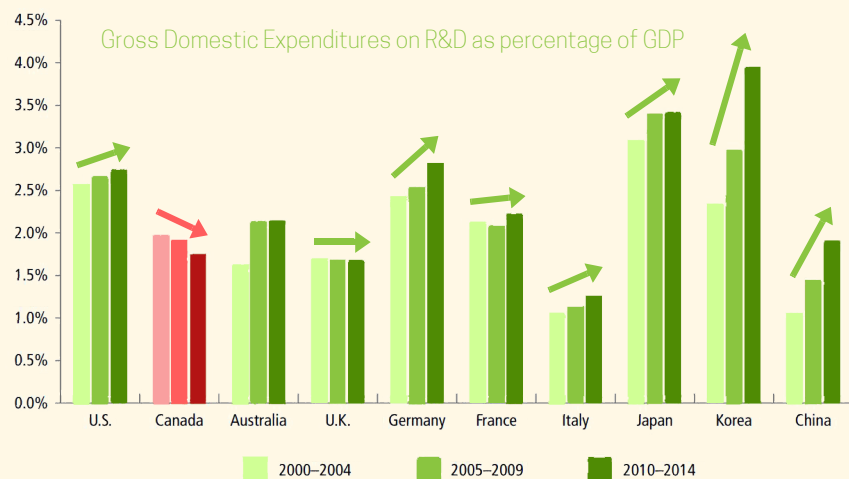
Canadian federal funding levels are not internationally competitive  
Therefore, Naylor is modest- could argue for balanced expansion.

Would you be interested in submitting a letter to the latest pre-budget  
consultation **“YourBudget2018”**  
See template letter, briefing document



# DIRECT PROJECT FUNDING - PRESSURES

Canada is falling behind other countries on funding for research and development.

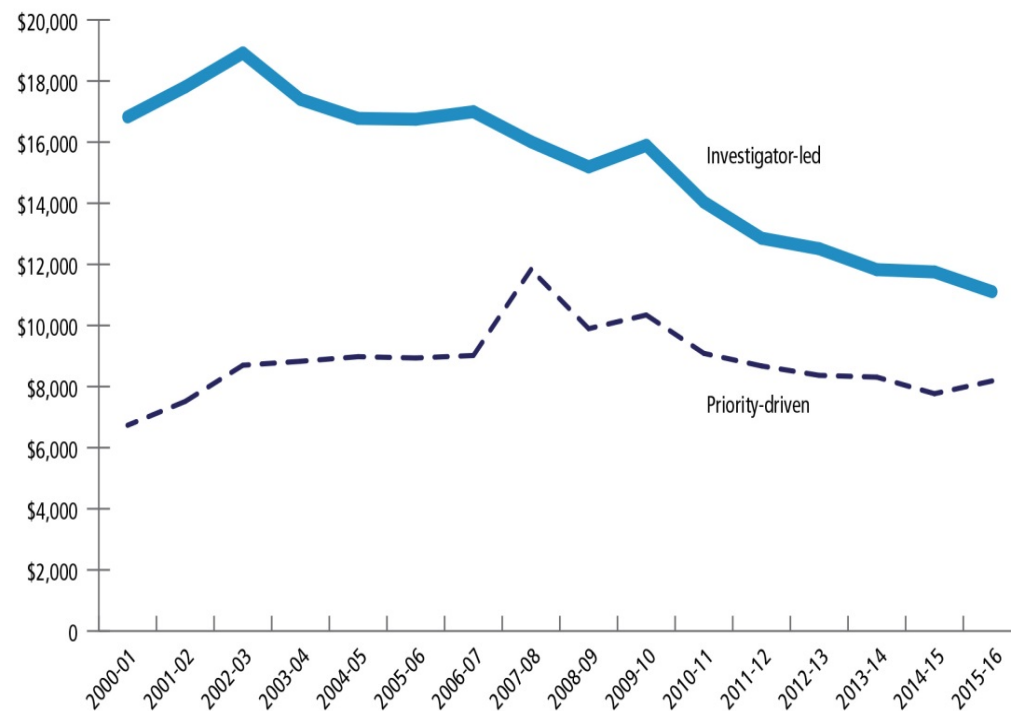


Strong science.  
Strong democracy.



Source: Canada's Fundamental Science Review

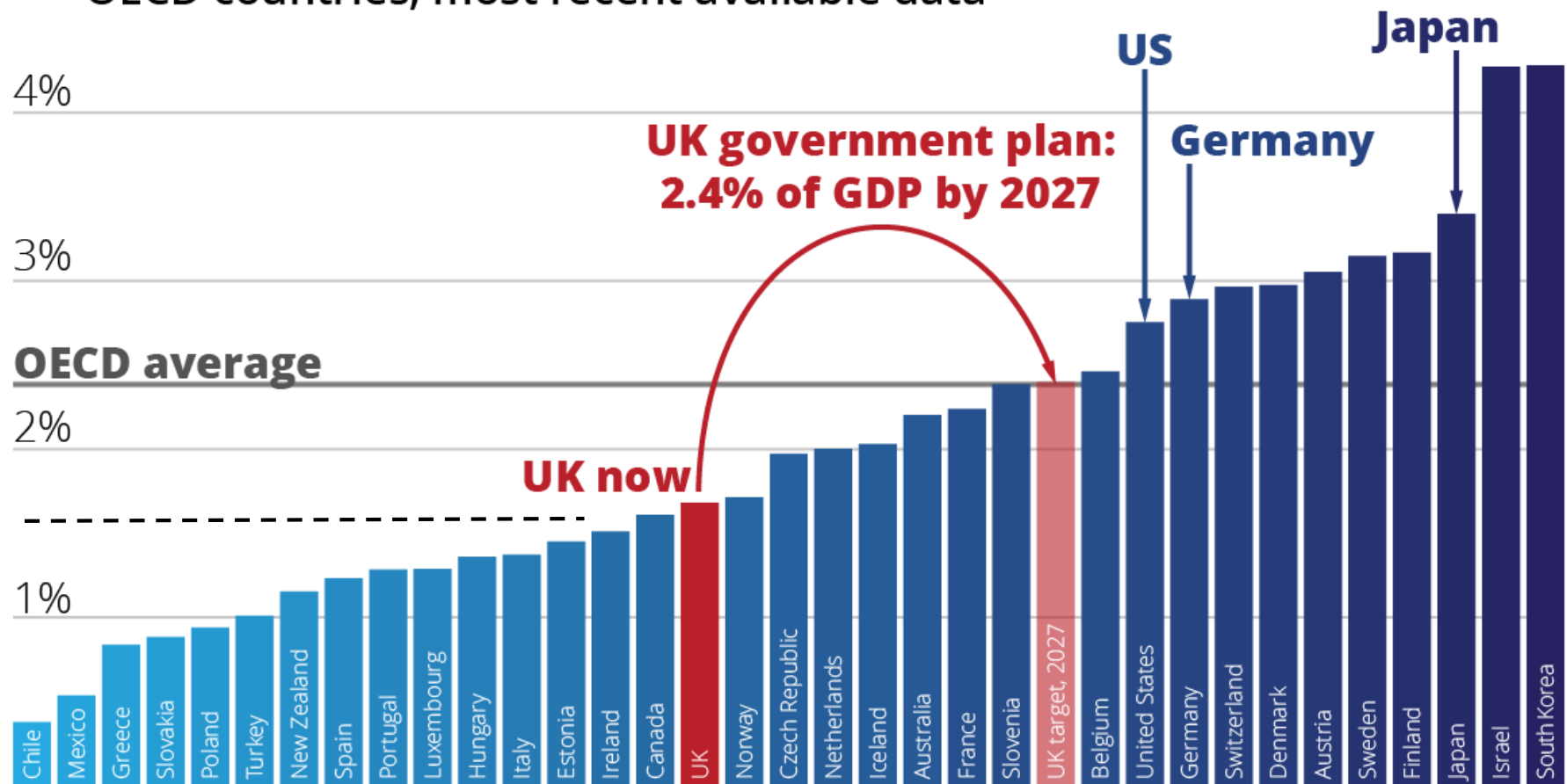
Exhibit 6.2: Granting Council Funding per Researcher for Investigator-led and Priority-driven Research (Constant 2000 Dollars)



Source: Compilations from the secretariat based on data provided by the granting councils. The number of researchers for 2014 to 2016 was extrapolated from prior year growth trends.



# Spending on research and development as a fraction of GDP, OECD countries, most recent available data



"It's great to see the government following through on its manifesto commitment to increase research funding as a fraction of GDP. However, we need to put this increase in context. If successful, this will put us at the current OECD average of 2.4% of GDP by 2027, behind what countries like the US and Germany are already investing today."

– Dr Andrew Steele, Chair, Science is Vital

# Basic Science, eh?

Funding fundamental research in Canada



## FUNDAMENTAL

RESEARCH:

BASIC

DISCOVERY

is the endeavor to understand humanity and the natural world, and it is conducted without specific consideration of an end product.

&

## APPLIED

RESEARCH:

seeks to develop practical solutions to specific challenges.

INNOVATION

APPLICATION

### LOSS OF FUNDAMENTAL RESEARCH SUPPORT

Decline in expenditures on fundamental research between 2005 and 2015, taking into account growth in number of researchers



**-36%**  
LOSS IN NATURAL  
SCIENCES &  
ENGINEERING



**-31%**  
LOSS IN SOCIAL  
SCIENCES &  
HUMANITIES

INCREASING NUMBERS OF CANADIAN RESEARCHERS NOW RECEIVE NO FEDERAL RESEARCH FUNDING



**“If we don't take the lead on answering the big questions, then we will be the ones buying technology, not selling it.”**

*Cathleen Crudden, president of the Canadian Society for Chemistry  
Chemistry World May 14 2013*

### THE FUNDING GAP

Restoring fundamental research funding availability for Canadian researchers to 2005 levels would require investments to NSERC, SSHRC and CIHR totalling:

**\$459 MILLION IN UNREALIZED RESEARCH EXCELLENCE**



SOLUTIONS

1. Link fundamental research funding to number of active Canadian researchers
2. Reinvest in fundamental research to close the accumulated funding gap

### IMPACTS ON THE CANADIAN RESEARCH COMMUNITY

The proportion of researchers who reported that they only conducted fundamental research plummeted from

**24%** for 2006-2010 to **1.6%** for 2011-2015

We asked researchers who previously performed ONLY fundamental research (>10 years ago) why their research is now partly applied:



**80%**

INDICATED THE CHANGE WAS FUNDING RELATED

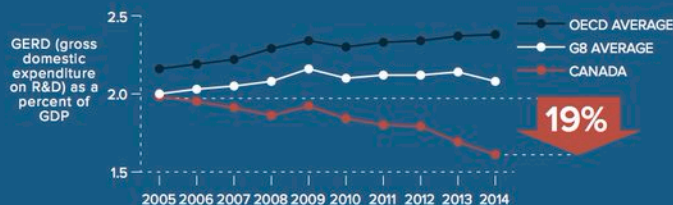
### FEWER CANADIANS WILL PURSUE CAREERS IN RESEARCH



**56%**

of surveyed Canadian researchers believe that changes to research funding reduce the likelihood that young Canadians will pursue research careers.

### CANADA IS LOSING THE R&D RACE



### RESTORING CANADA'S COMPETITIVENESS IN FUNDAMENTAL RESEARCH:

The View from the Bench

Authors: Baum, J.K., Dodd, M., Tietjen, K., and Kerr, J.

ISBN: 978-3-8047-3760-0

Available from:

<https://globalyoungacademy.net/gyafun1>



GLOBAL  
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DESIGN BY: KATE CAMPBELL, C.A.

Google: Your Budget 2018

[Your Budget 2018 - Canada.ca](https://www.budget.gc.ca/2018/prebudget-prebudgetaire/index-en.html)

<https://www.budget.gc.ca/2018/prebudget-prebudgetaire/index-en.html>

# #YOUR BUDGET 2018

Released  
Nov 15, 2017

Take all four surveys and share your ideas for Budget 2018



Take all four Surveys | ▲

- |   |                               |
|---|-------------------------------|
| 1 | Progress for the Middle Class |
| 2 | Economy of Tomorrow           |
| 3 | Lifelong Learning             |
| 4 | Gender Equality               |

Federal governments uniquely have the responsibility to fund internationally competitive fundamental research in many (small) academic laboratories across the country.

Key point: Fund broadly, fund adequately, fund stably across grant cycles as a national priority.

This fuels innovation in the long term (>10 year timeframes), and trains the next generation of innovators.

In the process, it provides middle class jobs to staff, graduate students, and postdoctoral fellows, who are...

...the young creative minds that drive research progress and productivity, that develop skills and ambitions, that become the science leaders of the future, and that populate the Canadian workforce broadly.