

# Innovation Connections

Quarterly updates on science, technology, trade and policy

## ECONOMIC IMPACT OF INTERNATIONAL STUDENTS

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Education is increasingly globalised, with growing number of students going abroad for studies. Canadian universities and colleges attract a significant number of international students every year. While the money spent by international students and their visitors is an important source of export earnings, it also contributes to national GDP and tax revenues. International students also generate significant spillover benefits including addressing skill shortages, increased tourism and adding cultural values to local communities.

Canada is currently one of the top four destinations for international students, along with the United States, the United Kingdom, and Australia.

The purpose of this briefing is twofold: First, to provide a brief overview of the size and scale of Canada's education exports and their importance to the economy; and Second, for comparative purposes, we examine the economic impacts of education exports for three OECD economies - USA, the UK and Australia.



## THE ECONOMIC BENEFITS OF INTERNATIONAL STUDENTS TO THE CANADIAN ECONOMY

International students make up a significant proportion of Canadian university population. A recent OECD study noted Canada was the 6th most popular destination for international higher education students with about 5% of the total global share among OECD countries in 2012. Statistics Canada data shows that international students constituted 11% of students at Canadian post-secondary institutions in 2013-14, up from 7% in 2004-05. Between 2004 and 2015, the international student population more than doubled, from 169,000 to 355,000.

In 2015, there were around 355,000 international students in Canada - a growth rate of 8.1% from 2014. Over 200,000 of these students came from Asia, with China as the top source country followed by India. The number of students from India increased six fold during the 2007-2015 period, at an average annual rate of 27% per year. The data for 2016 shows that the number of international students reached nearly 415,000 in 2016, up from 355,000 a year earlier and significantly higher than double of 172,000 in 2007. A large number of these international students studying in Canada in 2016 came from China and India - 132,000 from China and 80,000 from India.

Chinese students in 2016 accounted for nearly 32% of all international students in Canada and represented a three-fold increase from a decade ago. The number of students from India in 2016 accounted for little over 19% - a ten-fold increase over the decade. Much of the remaining increase reflects an inflow of students from France, Nigeria, Brazil, Saudi Arabia and Vietnam. (Contd. on page 6)

# ECONOMY & INNOVATION

## INDIA OUTPERFORMS INDEX

Key findings of the Global Innovation Index 2017 show that India had a noticeable rise and is considered an emerging innovation centre in Asia. The Global Innovation Index surveys over 130 economies using a series of metrics to capture economic and social growth. This year's study highlights that middle and lower-income economies are performing significantly better on innovation than higher-income economies.



Innovation is booming around the world, partly due to the efforts to bridge the innovation divide and better understanding of countries' strengths and weaknesses vis-a-vis their innovation performances.

Canada is ranked 18th globally with sophisticated financial markets and intense venture capital activity that help stimulate private sector economic activity. Canada excels in entrepreneurial industries and has seen improvement in ratings of its education system. India, on

the other hand, is ranked 60th globally, but is the top-ranked economy in Central and Southern Asia. Areas such as infrastructure and business sophistication have showed significant improvements over last year. India and Canada both placed importance on science-related industries.

## INDIA'S APPROACH TO GST IS SIMILAR TO CANADA'S

India, being a union of states, implemented a dual GST structure at the federal and state levels. Canada and Brazil are the only two countries currently that have the dual GST model in place. The Indian GST structure follows the Canadian model but with some major differences. The primary difference with the Indian GST is that not all taxes are being unified - this includes liquor, diesel, and adds onto other taxes. Additionally, under the Indian GST law, the tax rules apply differently for goods compared to services, whereas globally, the tax laws are homogeneous. The tax laws for digital and e-commerce transactions are also globally different. Indian GST marks a symbolic transformation from the existing tax regime, and consists of many principles that are different globally so no other country would be able to replicate this. The goal of this dual GST structure is to allow change to the existing tax structure to eventually benefit both businesses and consumers in the long run.





## CANADIAN ENGINEERS INVENT WATERLESS TOILET FOR INDIA

Safe sanitation is scarce in some parts of the world with India being one of the worst affected. A team of Canadian engineers has devised a prototype that provides areas with poor sanitation facilities the ability to have a sustainable toilet. The idea of this toilet is to run without running-water or access to plumbing. To overcome the infrastructure issues, the technology uses a combination of solar power, steam, and hand-cranked mechanisms for excreta which is separated into liquid and solid wastes. The wastes are then safely discharged through filtering systems and can be used for agricultural purposes.



This project is supported by the Bill and Melinda Gates Foundation as part of its initiative to help over 2.5 billion people globally (including millions in India) who do not have access to safe sanitation. It tackles

two major problems: the issue of hygienically disposing waste water and avoid transmitting diseases with improper care.

## The World's Biggest Telescope Set to be Built in India

India's Science and Technology Minister, Harsh Vardhan, launched Indian scientists' contribution to the world's biggest telescope - a multi million dollar project that would enable astronomers to observe the intricacies of the universe from Earth. With this project, India is collaborating with the U.S., Canada, Japan and China.

The project is set to be released by 2020 and is led by the Indian Institute of Astrophysics (IIA) from the Indian side with help of other astronomy and research institutes.



## Paytm Forays into the International Market, Launching an App in Canada

India's largest mobile wallet company, Paytm, has launched in Canada. The company's service allows users to pay for their bills for hydro, cell phone, cable and water. Users can also pay taxes through the company's app. This is Paytm's first foray in international markets. Paytm has had great success in India and is currently valued between \$5.7-\$5.9 billion. The company decided to make Canada its first international market because of Canada's smart-phone penetration rate as well as its business culture of promoting innovation - which makes it a perfect place to launch its services.

## NEW INVENTION USES BACTERIA TO PURIFY WATER



A project led by a civil engineering professor from the University of British Columbia uses bacteria to turn non-potable water into drinking water. The project has received funding from the federally funded IC-IMPACTS. The project involves membrane treatment that can remove over 99.99% of contaminants, making this approach ideal for treating water for drinking purposes. It's low maintenance and is expected to have significant savings in time and money over its lifetime.

As clean drinking water is difficult to access in some places, the goal of this project is to provide low-cost, and effective water treatment for communities and help locals operate the technology on their own (with some initial training). The project team hopes to install this technology in scores communities where clean drinking water may be the most difficult to access.

## INDIAN BANKS' BAD DEBT IS RISING

There are companies owing more than \$125 billion of bad debt, and India's central bank is drafting top bankers onto a special panel to discuss which of these companies need to be liquidated.

In fact, there are 12 companies that have debts of over US\$31 billion, and this contributes to the lack of private sector investments that India currently requires to achieve the level economic growth required to lift significant number of people out of poverty.

Many of the defaulting companies are in the steel, textile, and construction sectors. The International Monetary Fund (IMF) has said that India's banks have some of the highest levels of bad debt and not enough action is taken to fix it. Due to this large debt and the inability to invest in the industry, many projects are left unfinished, leading to a negative impact on the economic growth and employment creation.

## FOREIGNERS WILL HAVE TO PAY UP TO 50% MORE FOR INDIAN VISAS



The Indian visa fee is increasing by up to 50% across the board for foreign nationals visiting India. The increase is an attempt by the Indian government to rationalize entry fee charges while syncing it with what most other countries charge for visas.

Tourist visa fees remain relatively the same with just an increase of \$53 for a 1 year visa. However, for UK nationals, fee for a 5-year tourist visa will go up \$741 from the current \$484. For short-term work visas, Israeli citizens will now pay \$1,714 instead of \$1,120.



# WHAT DOES INDIA'S GROWING ECONOMY MEAN?

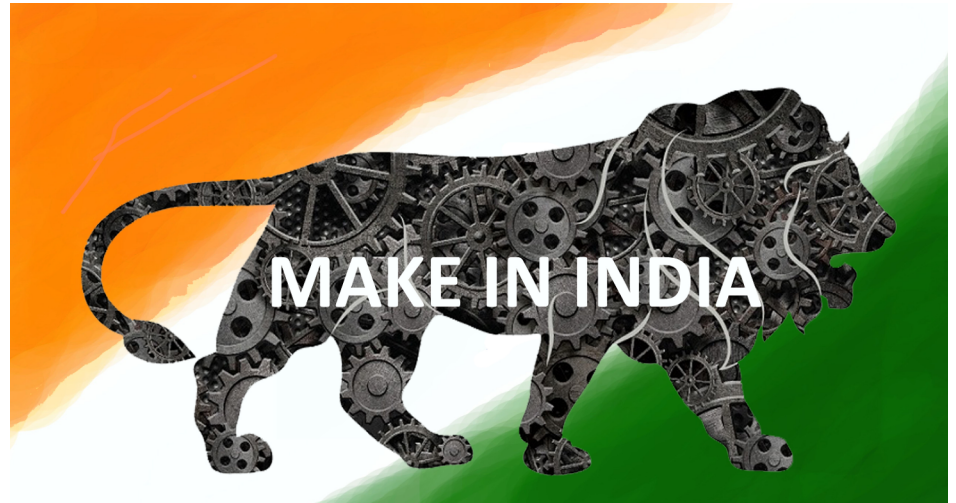
## INDIA'S GROWING ECONOMY BENEFITS CANADIAN INVESTORS

As India's economy grows at a higher rate than any other country in the world, it is proving to be a very attractive market for large Canadian investor groups, including Brookfield Asset Management Inc. and Canada Pension Plan Investment Board. The two Canadian giants are among the top institutional investors who have signed deals for real-estate and mobile towers in India. According to Bloomberg, Canadians have, so far, invested approximately US\$20 billion in Indian market opportunities.



### Government of India

*Make in India* is a national initiative designed to: facilitate investment; foster innovation; enhance skill development; protect intellectual property; and build best-in-class manufacturing infrastructure.  
[www.makeinindia.com](http://www.makeinindia.com)



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including the new goods and service tax (GST), doing business in India is a lot easier. However, India continues to have its fair share of challenges including complex labour laws, poor return rates on loans, and complex business processes.

Despite the challenges, Canadian investors see opportunities in India. Canadian investors want to engage in partnerships to work alongside Indian companies in a battle for market share to help boost Canadian investments.

## CANADA-INDIA TRADE DEAL NEEDS TO HAPPEN NOW

Given India's current and projected economic growth rates, and the size of its population, it's time for Canada to prioritize (and expedite) a trade deal with India. If done in a timely fashion, the deal will provide Canadian businesses easier access to one of the largest consumer markets in the world. India is poised to have a 500 million strong middle

class by 2025.

Despite the fact that negotiations started in 2010 on a trade deal between the two countries, the two countries are reported to be struggling to close the deal. Traditionally, Canadian business leaders have placed a stronger focus on the US, Europe, China, and Japan markets. However, given recent political development in the US and Europe, a trade deal with India can offer an alternative to the underlying domestic and regional issues that might arise with the uncertainty with Canada's

traditional trading partners. Vikas Swarup, India's new High Commissioner to Canada, is keen to help educate and inform Canadian business leaders about the opportunities available between the two countries as well as the barriers they need to overcome. Canada and India share the fundamentals, such as business language, democratic principles and financial systems, of a mutually beneficial partnership.

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# ECONOMIC IMPACT OF INTERNATIONAL STUDENTS (CONTD.)

Recent high rate of growth in the number of international students in Canada has contributed significantly to the Canadian economy. Roslyn Kunin and Associates have prepared 4 economic impact studies in 2009, 2012, 2014, and 2016 for the Global Affairs Canada. We have focussed on the last two studies to understand the trends over the recent years. The study completed in 2012 based on 2010 data estimated that international students (both long-term and short-term) spent 8 billion dollars in 2010 (equivalent to a \$4.9 billion contribution to GDP). Nearly 37% Of that revenue came from two countries – China and South Korea. They supported 86,570 jobs nationally and also generated \$455 million in tax revenues.

Recent update of this study last year, based on 2014 data by Roslyn Kunin & Associates Shows a much higher contribution by the international students to the Canadian economy.

- This study shows a significant increase in spending by international students. In 2014, international students in Canada spent around \$11.4 billion on tuition, accommodation, and discretionary spending – equivalent to a \$9.3 billion contribution to GDP.
- Canada's international education services (\$11.4 billion) amount to 11% of Canada's total service exports to the world (equivalent to 2.2% of Canada's total merchandise exports).
- In 2014, spending by international students supported 122,700 jobs in the Canadian economy.
- The data shows that in 2014, around 38,900 students from India chose Canada as their study destination. Based on this data, one can say, that roughly \$2.2 billion of the total expenditure of \$11.4 billion is by the students from India.

The large number of students from emerging-market economies suggests that both - the government's International Education Strategy and Immigration, Refugees, and Citizenship Canada (IRCC) policies in regard to study permits are yielding results. The government's Focus on key countries like China, India, Brazil, Mexico, North Africa, the Middle East and Vietnam have helped to attract students from these countries. A number of other factors that may also have contributed to significant growth in international

students in Canada include: the quality of Canadian education; rising middle class in emerging markets; relatively lower tuition fees and cost of living; Canadian government and institutions' promotional efforts abroad; and recent changes to Department of Immigration, Refugees and Citizenship, Canada (IRCC)'s policies with respect to study and work permits. It is possible that recent shift in the UK policies, Brexit, and recent US elections have influenced the 2016 exceptional growth in international students.

Competition with other OECD countries is tough. In line with its competitors, Canada will have to continue its efforts to promote itself as the best destination for studies. Should the future increase in international students continue at the rates similar to 2016, Canada and its education institutions will need to assess their capacity to deliver quality services to a significantly greater number of students. Over the longer term, the key will be Canada's ability to retain talent. Tapping into the talent produced

by our institutions will be an important part of securing Canada's current and future prosperity.

To read more on about the experience of three other OECD countries, please visit:  
[carleton.ca/india/policybriefs](http://carleton.ca/india/policybriefs)



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# CANADA-INDIA CENTRE FOR EXCELLENCE (CICE)

## Carleton University

### About Us

Located in Ottawa, the capital of Canada, the centre was established in 2010 by Carleton University and leaders from the Indo-Canadian community.

The centre brings together scholars and practitioners in different fields to contribute to policy initiatives that benefit both countries. Faculties including the School of Public Policy and Administration, the Sprott School of Business, the School of Engineering, Azrieli School of Architecture and Urbanism and the Faculty of Science work collaboratively to research and address pressing issues facing India and Canada.

### Current Programs

#### **India Study Tour**

All-inclusive tours of India for Canadian undergraduate and graduate students with in-class sessions and experiential learning opportunities in leading Indian cities.

#### **Professional Development Courses**

Short study programs to gain practical and hands-on experience on the latest technologies, sectors and trends.

#### **Startup Acceleration Program**

Identify and explore market opportunities, and get help from experts on how to expand globally.



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### Key Objectives

#### **Support Policy-Relevant Research**

The centre brings together stakeholders to look at critical issues impacting the Canada-India partnership and explores opportunities and challenges. Currently, the centre is working on projects related to infrastructure, emissions and clean water technologies for remote and rural communities, and the *Make in India* initiative review for Canadian businesses.

#### **Capacity Building**

CICE offers workshops and professional development courses to businesses, public officials and academic administrators for more effective engagement.

#### **Public Awareness**

CICE promotes better understanding of key policy issues between the two countries through publications and events. CICE's quarterly publication, *Innovation Connections*, offers a unique perspective on innovation-related initiatives in Canada and India. CICE's signature events are its Innovation Conference and the prestigious annual Dhahan Lecture series. CICE also hosts regular events to highlight relevant initiatives.

### Current Research Priorities

#### **Water and Sanitation**

Find sustainable solutions to water and sanitation related challenges faced by remote and/or rural communities in India and Canada.

#### **Urban Infrastructure**

Help identify opportunities, and plan for effective and sustainable solutions, to meet challenges with urban infrastructure development and renewal.

