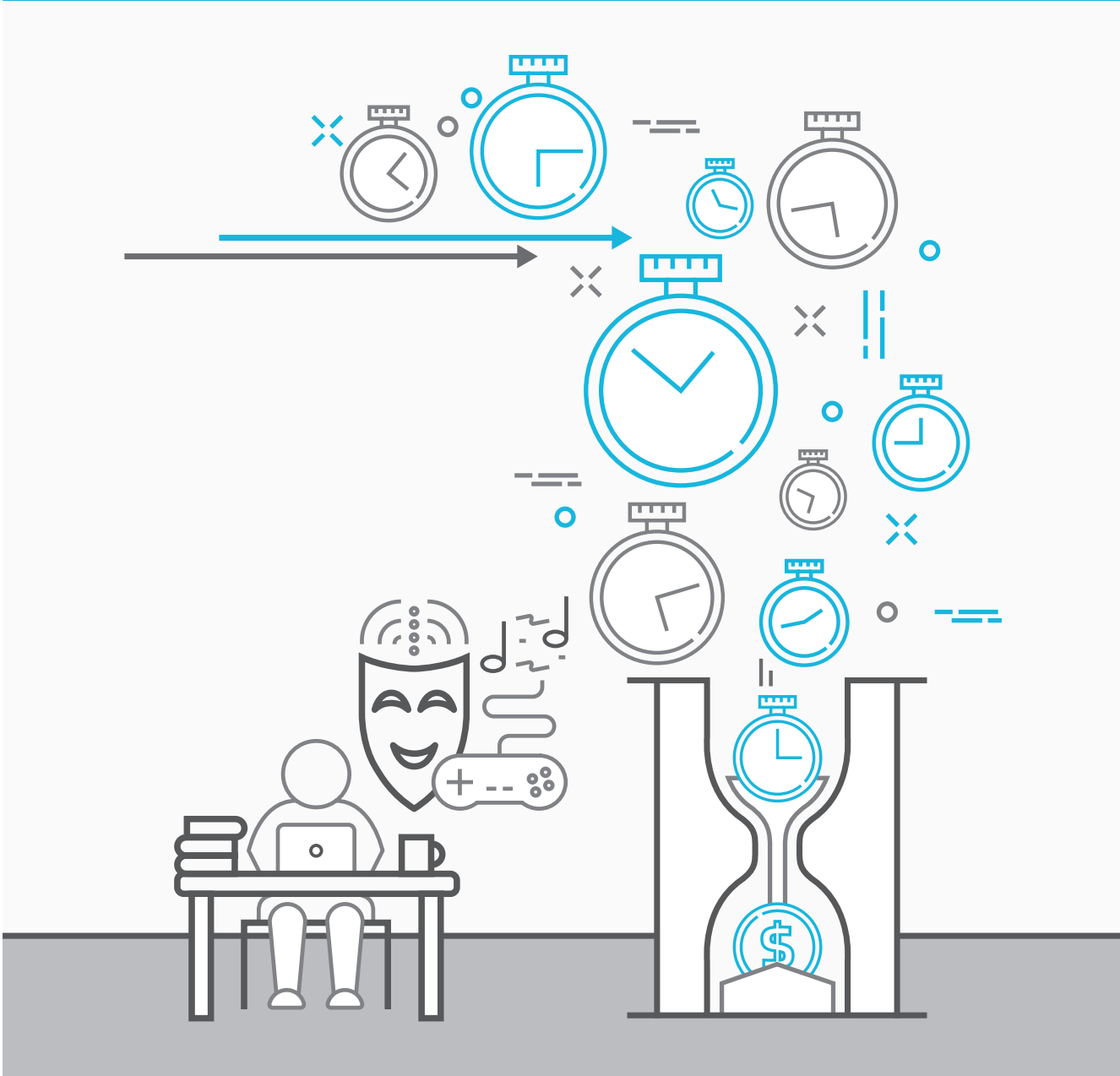


THE COMPETITION FOR OUR TIME BETWEEN ENTERTAINMENT AND LABOUR





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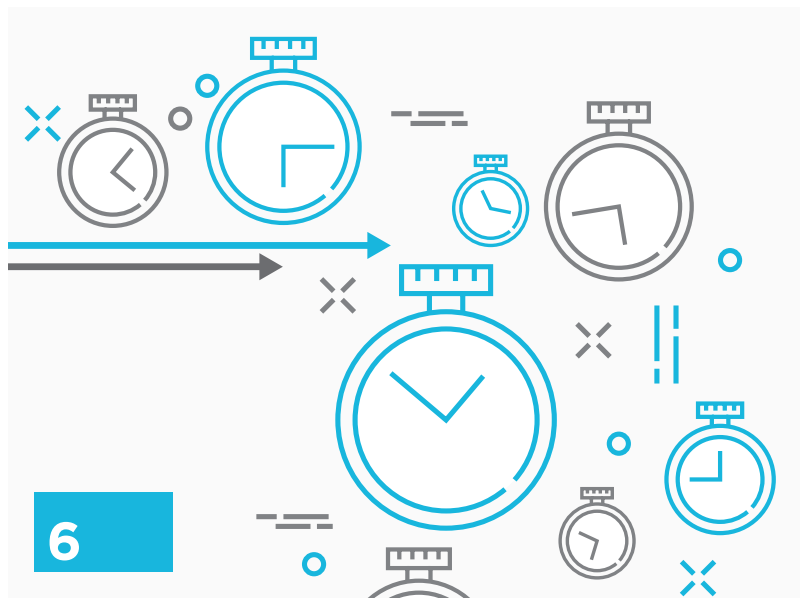
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Ryan Hill

WELCOME

Dear Readers,

Welcome!

After a very long winter, the snow is finally melting in most of the country and we are headed into the spring.

This edition of the *Canadian Student Review* covers a variety of timely topics. In his fascinating article, Brennan Sorge, our student contributor, discusses the competition for our time between work and entertainment. Meanwhile, senior fellows Livio Di Matteo and Kristina Acri each offer fascinating insights into two separate Canadian public policy issues.

We are also highlighting a video from the Fraser Institute's newest project, womenandprogress.org, which highlights the impact of economic freedom on the general well-being of women.

We wish you all the best as you begin to wrap up your school year and encourage you to stay connected with us in the months ahead by liking our Education Programs Facebook page (www.facebook.com/EducationPrograms).

Best,

Ryan



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THE COMPETITION FOR OUR TIME BETWEEN ENTERTAINMENT AND LABOUR

BRENNAN SORGE

In most cases, we think of resources in terms of money and materials. But if we want to have a more complete view of our economic circumstance, it is helpful to consider some other forms of resources. An excellent example of this is time. Throughout history and to the present, time is a resource that all of us possess, albeit in limited amounts. Time is also a resource that comes with opportunity costs. Much like money, time spent doing one thing cannot be spent doing something else.

MUCH LIKE MONEY, TIME SPENT DOING ONE THING CANNOT BE SPENT DOING SOMETHING ELSE

When considering time as a resource, there are generally a few ways that it can be spent. Primarily we spend our time either on labour (working) or entertainment. Put differently, labour and entertainment compete for our

time. Using a broader definition, labour is the exchange of one's time for material benefit, usually wages. Entertainment is the exchange of one's time for enjoyable experiences. Further, while time is being spent on labour, entertainment, or leisure, other costs will also be present: for labour, that might be money spent on education and training; for entertainment, it might be the cost of an activity or hobby. In that sense, we can think of labour as being an exchange: time and other resources (such as knowledge or skills), in exchange for material benefit. Entertainment is also an exchange: time and often money in exchange for enjoyable experiences.

This leads to an important question: is our time growing more or less valuable? In the realm of entertainment,

entertainment is growing more advanced and more specialized, giving consumers a greater value for their time. More specifically, digital entertainment is improving rapidly. Through the internet, most people now have access to nearly unlimited digital entertainment, with low, and continually diminishing additional cost beyond the time it takes to consume the entertainment. Services such as YouTube and SoundCloud offer free access to staggering amounts of audio and video entertainment, while games like *League of Legends* and *Dota2* do the same for online gaming. What these services provide is a wide variety of digital entertainment, and at trivial cost beyond the time it takes to consume it. Due to this low additional cost, and the wide variety of entertainment available, consumers are likely to find a digital entertainment that fits their demands (gives the most enjoyment), and does so without costing much beyond the time they spend. This means that the exchange rate for entertainment is excellent, and as digital services improve, this exchange rate will likely grow even more attractive.

When it comes to the exchange rate for labour, the results are significantly different. For labour, the most essential part of the exchange is the level of material benefit received in exchange for time. Hourly wages are the most common example, and according to Statistics Canada, median hourly wages (measured in 2011 dollars) increased from \$18.83 in 1981, to \$20.82 by 2011 (Statistics Canada, 2015a). While this is an improvement, it seems quite modest, especially when compared to the large increases in high quality, low cost entertainment that has occurred over an even shorter period. Another aspect to consider is the additional costs of labour, such as education and training. In 1999, 39 percent of working-age adults (age 25–64) in Canada had some form of post-

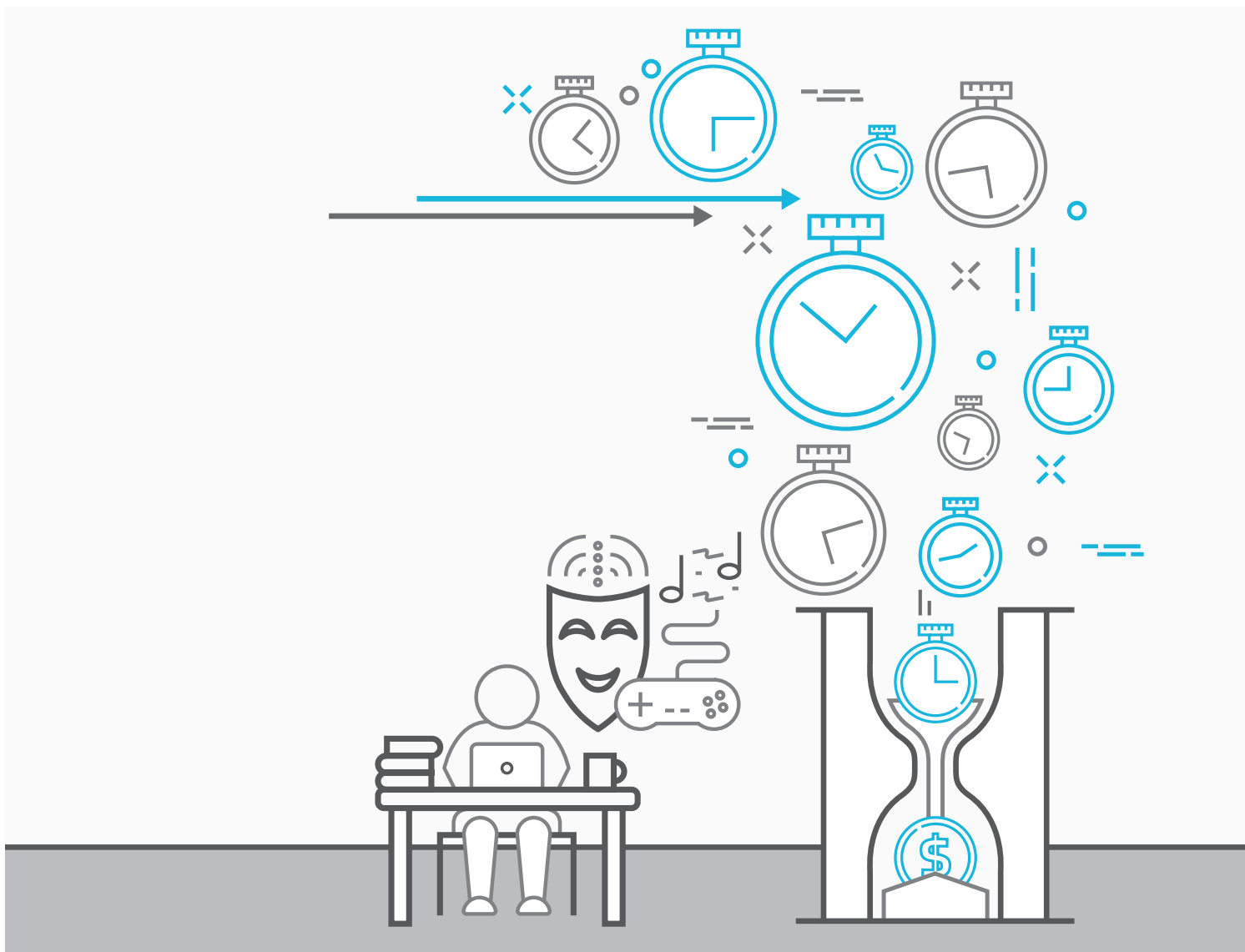
secondary qualification (Statistics Canada, 2015b). By 2017, that percentage had grown to about 57 percent (OECD, 2017a). This means that while there has been

IS OUR TIME GROWING MORE OR LESS VALUABLE?

a large increase in the amount of education in which Canadians have invested their time and money, they have not, on average, seen similarly large increases in wages as a result. Overall, the conclusion is that it is ambiguous whether or not the labour exchange rate has been improving. Wages have

grown slowly, and an increasing number of Canadians are accepting additional costs in the form of education to gain access to higher wages.

When we consider that both labour and entertainment compete for our time, an interesting trend emerges. While the entertainment exchange rate has improved rapidly over the last two decades, the labour exchange rate has made only minimal progress. Since these two exchange rates are *competing for the same amount of time*, we should expect that, given the changes in these exchange rates, people may allocate more time towards entertainment and less towards labour. Although this trend is not yet particularly obvious, a few indicators show that it is occurring. One indicator



is the labour force participation rate, which has fallen by two percent since 2008 (Trading Economics, 2017). Another is the average number of hours worked by Canadian workers, which has fallen from 1,779 hours per year in 2000, to 1,703 today (OECD, 2017b). While neither of these changes are extraordinary, and while they are affected by a wide array of other factors, both are consistent with what would be expected given an improving entertainment exchange rate.

If this is a worrying trend—and it very well may not be—two broad approaches could be taken to counteract it. One would be to make the entertainment exchange rate less attractive, likely by regulating the various entertainment industries. This approach is impractical, and would surely generate public outcry. The second would be to improve the labour exchange rate. Doing so is difficult, but ultimately, is more likely to succeed. Policies that encourage employment, entrepreneurship, and higher wages seem to be a suitable place to start at halting or reversing this trend ♦



Brennan Sorge is currently an economics and business student at Thompson Rivers

University. His interests centre on the effects of law and policy on the economy, and he hopes to act on these interests in further study of both economics and law.

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WOMEN AND PROGRESS: THE IMPACT OF ECONOMIC FREEDOM AND WOMEN'S WELL-BEING

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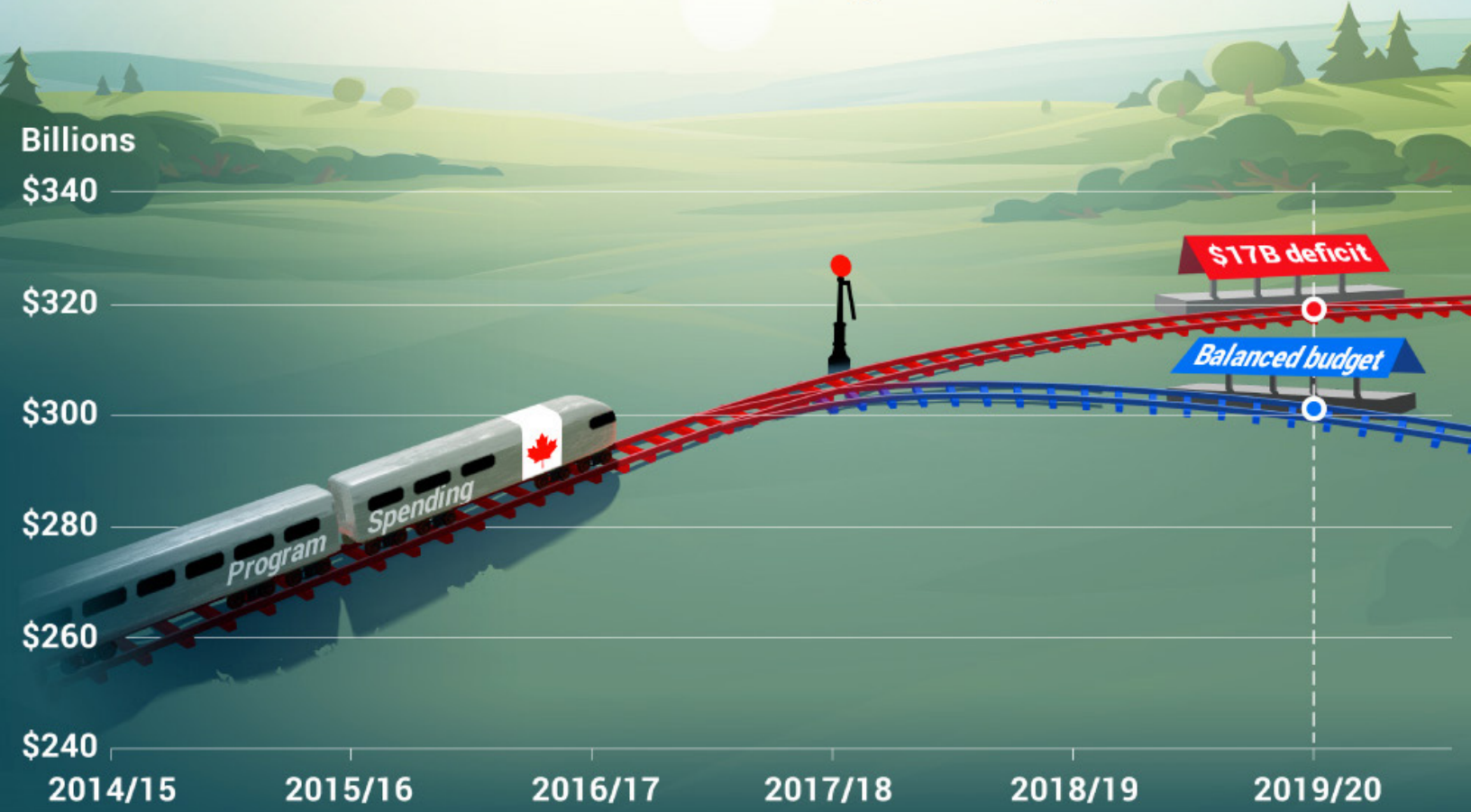
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BACK ON TRACK: HOW THE FEDERAL LIBERALS CAN DELIVER THEIR PROMISED BALANCED BUDGET BY 2019/20

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1% spending reduction over two years would balance the federal budget as promised



COUNTERFEIT DRUG TRADE POSES INCREASING DANGER TO CANADIAN PATIENTS

KRISTINA M.L. ACRI, NÉE LYBECKER

The threat of counterfeit pharmaceutical drugs is on the rise in Canada. From April 2016 to March 2017, Health Canada seized close to 5,500 packages of counterfeit drugs, mainly sexual enhancement drugs such as Viagra, on their way to patient hands.

Moreover, in a single week last year, officials from Health Canada seized \$2.5 million worth of bogus pharmaceuticals at the border. And in December, companies controlled by the online pharmacy Canada Drugs pled guilty to selling counterfeit and misbranded pharmaceuticals in the United States and agreed to

COUNTERFEIT PHARMACEUTICAL DRUGS ARE ON THE RISE IN CANADA

forfeit \$29 million, equal to their sales of illegal drug proceeds from 2009 to 2012.

Clearly, counterfeit drugs, which may

be name-brand or generic, put patients at risk. They may contain no active ingredient, harmful ingredients, the wrong drug, the wrong concentration, the wrong dose, or drugs past their expiry dates, resulting in reduced treatment effectiveness, unexpected side-effects, and potentially death.

Moreover, counterfeit pharmaceuticals containing a greatly reduced dose of the active component contribute to global microbial resistance and more virulent forms of disease, undermining the fight against infectious diseases. Counterfeit medicines contribute to antibiotic-resistant forms of shigella, cholera, salmonella, and tuberculosis.

While reports of counterfeit drugs in Canada's licensed pharmaceutical supply chain are rare, there have

been cases when brick-and-mortar pharmacies have dispensed counterfeit drugs by mistake.

But Canadians, including young Canadians, mainly obtain counterfeits via the illegal drug trade, which includes illegal Internet pharmacies. Prescription drugs are now the third most common substance misused by Canadian youth, following alcohol and cannabis. Tragically, in spring 2017, several middle-schoolers in British Columbia and Ontario died from fentanyl poisoning after taking counterfeit pills.

While the human toll is obviously most important, there's also the cost to legitimate drug manufacturers and distributors, including the neighbourhood pharmacy. Precise calculations of lost sales and revenues are difficult to obtain, but the World Health Organization estimates counterfeiting costs the global pharma industry \$75 billion a year. And Criminal Intelligence Service Canada says that "[m]ost estimates range in the billions annually for global losses."

In addition to lost revenue, counterfeiting imposes other costs on legitimate players including increased costs to secure the supply chain, investments in anti-counterfeiting technologies, and potential reputational damage and risk of liability. And crucially, with fewer resources, there's less money for research and development of potentially life-improving or life-saving drugs.

A recent Fraser Institute study, *Pharmaceutical Counterfeiting: Endangering Public Health, Society, and the Economy* details the magnitude of the problem. According to a 2015 report, worldwide pharmaceutical sales reached US\$1.1 trillion in 2015. The OECD estimates that counterfeit goods accounted for 2.5 percent (or approximately \$200 billion) of the global

pharmaceutical drug trade in 2013, which means the counterfeit trade is worth only slightly less than the \$246 billion illicit drug trade. And experts estimate that the sale of counterfeit drugs is growing at twice the rate of legitimate pharmaceuticals and is expected to grow by 20 percent annually in coming years. Remarkably, the counterfeit medicine market is more lucrative than the narcotics business because counterfeit drugs are worth more than illicit drugs.

THE SALE OF COUNTERFEIT DRUGS IS EXPECTED TO GROW BY 20 PERCENT ANNUALLY

So what can be done to combat the counterfeit drug trade and protect patients, providers and manufacturers?

According to the Fraser Institute study, possible actions include raising public awareness, improving regulatory oversight, regulating pharmaceutical transshipment, increasing criminal sanctions, harmonizing regulations among countries, and pursuing an international treaty. Although history highlights the difficulties of defeating counterfeiters, policymakers must take the threat seriously and move to protect patients.

At the same time, it's important to continue examining the extent of the problem including counterfeit production and distribution, links to organized crime, and appropriate policy responses. As the trade in counterfeit drugs grows, so do the risks to Canadian patients and the costs to legitimate manufacturers ♦



Kristina M.L. Acri, née Lybecker, is a senior fellow at the Fraser Institute and an associate professor of economics at Colorado College in Colorado Springs. Her research focuses largely on issues related to intellectual property (IP) rights protection with a particular focus on pharmaceutical-related IP. Her recent publications include an evaluation of Canada's IP protection for pharmaceutical products based on international best practices, as well as examinations of alternatives to the existing patent system and the balance between pharmaceutical patent protection and access to essential medicines.

**ONE OF THE GREAT MISTAKES
IS TO JUDGE POLICIES AND
PROGRAMS BY THEIR INTENTIONS
RATHER THAN THEIR RESULTS.**

— MILTON FRIEDMAN



CRIME RATES AND POLICE NUMBERS IN CANADA HAVE BOTH DROPPED

LIVIO DI MATTEO

A recent article in the *New York Times* noted that crime in the United States in 2017 was down in the 30 largest cities and this decline was on the heels of nearly two decades of declining American crime rates and subsequently safer cities.

Yet it made note of the fact that declining crime rates have not resulted in fewer police officers in the US, and that in 2016 there were actually slightly more police officers per capita than in 1991 when violent crime was at a peak.

The Canadian evidence suggests a story that's both similar and different from the United States. Figure 1 presents data from Statistics Canada on police and crime rates from 1986 to 2016.

First, it shows that as in the US, Canadian crime rates have declined, with the number of criminal code incidents per police officer in Canada peaking in 1991 and declining quite steadily ever since.

In fact, between 1991 and 2015, the crime rate declined from 51.1 to 27.1 criminal code incidents per police officer—for a decline of 47 percent. Moreover, the number of police officers per 100,000 people today is also below the number of officers in 1991 (6.4 percent less), with most of the decline following a peak reached in the 2010 to 2012 period.

In 1991 there were 202.5 officers per 100,000 people in Canada, which fell to 181.6 per 100,000 in 1998, before a rebound that saw a new peak reached of 203.1 officers per 100,000 in 2010. The numbers stayed relatively stable until about 2012 before a decline began, and by 2016 the number of officers in Canada per 100,000 people had fallen to 189.5.

From 2013 to 2016, the number of police officers per 100,000 in Canada fell by nearly 4 percent. Moreover, this drop occurred in most of Canada's major urban centres, as figure 2 illustrates.

FIGURE 1: POLICE NUMBERS AND CRIME RATES, CANADA, 1986 TO 2016

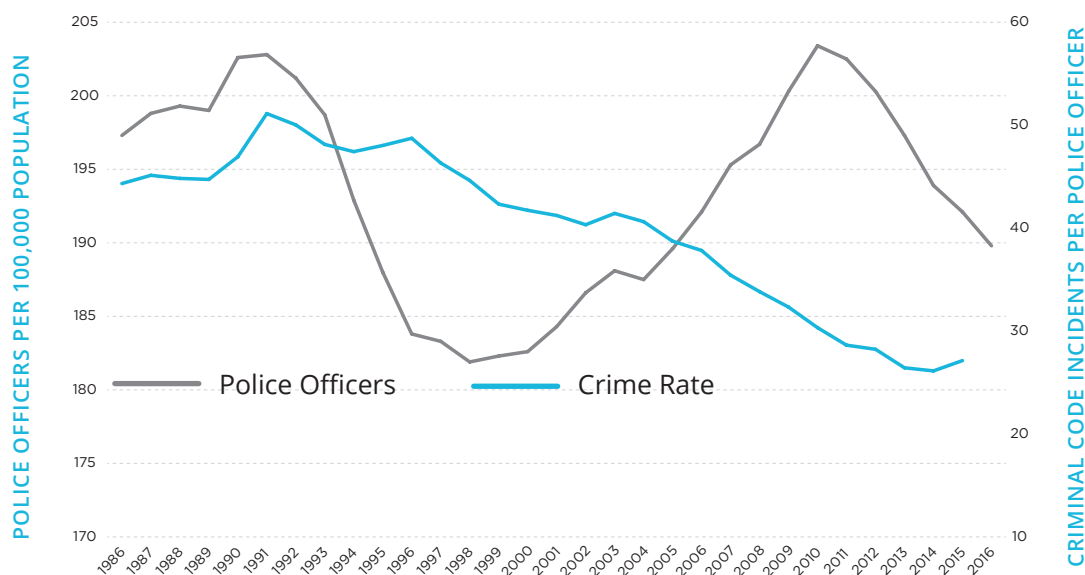


Figure 2 plots the percent change in police officers per 100,000 for 34 Canadian Census Metropolitan Areas (CMAs) between 2013 and 2016 and ranks those areas. Five of the 34 CMAs bucked the national trend and increased their per-capita police resources. These ranged from Thunder Bay (up 4.3 percent) to Hamilton (up 0.6 percent), with Brantford coming in at zero. After that, the declines range from -0.1 per cent for Saguenay to -11.7 percent for Vancouver.

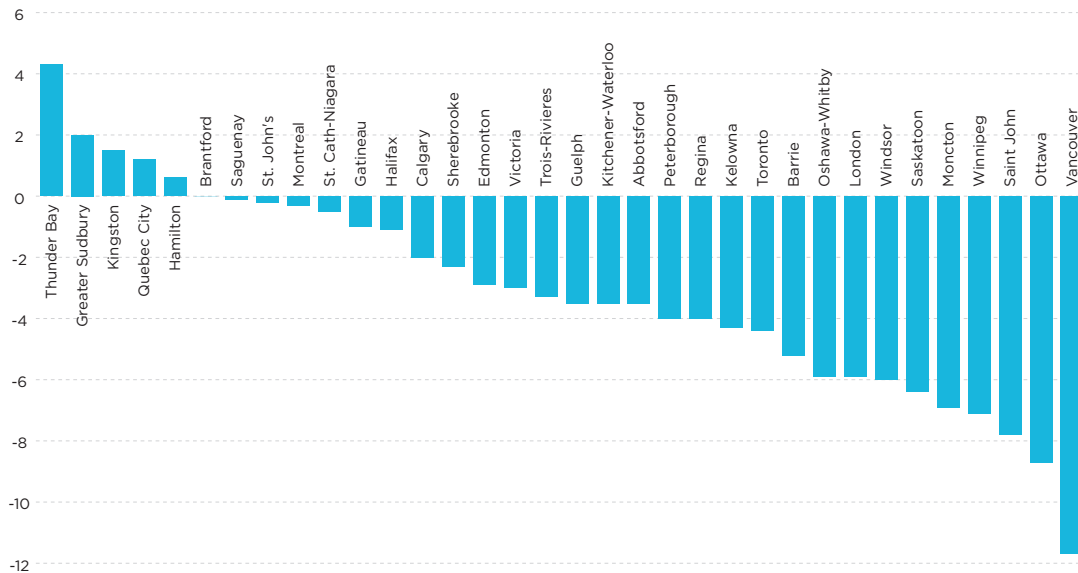
Police forces in Canada have been aging and it is to be expected that retirements and attrition are responsible for some of these declines. Moreover, the population growth rates are varying across these CMAs, which

means that more rapidly growing CMAs, all things being equal, can expect to see greater declines in police officer ratios.

However, these effects can be expected to differ across cities and regions. Local policing needs can vary as crime trends and other demands on police resources account for some of the substantial variation across CMAs.

Still, the overall result is clear: there has been a recent decline in police officers per 100,000 people, paralleling the continued decline in Canadian crime rates ♦

FIGURE 2: PERCENT CHANGE IN POLICE OFFICERS PER 100,000 PEOPLE IN MAJOR CANADIAN METROPOLITAN AREAS, 2013 TO 2016



Livio Di Matteo is a Fraser Institute senior fellow and a professor of economics at Lakehead University in Thunder Bay, Ontario, where he specializes in public policy, health economics, public finance, and economic history. His recent work examines health care spending and its sustainability. As well, he conducts research on the historical evolution of economic inequality.

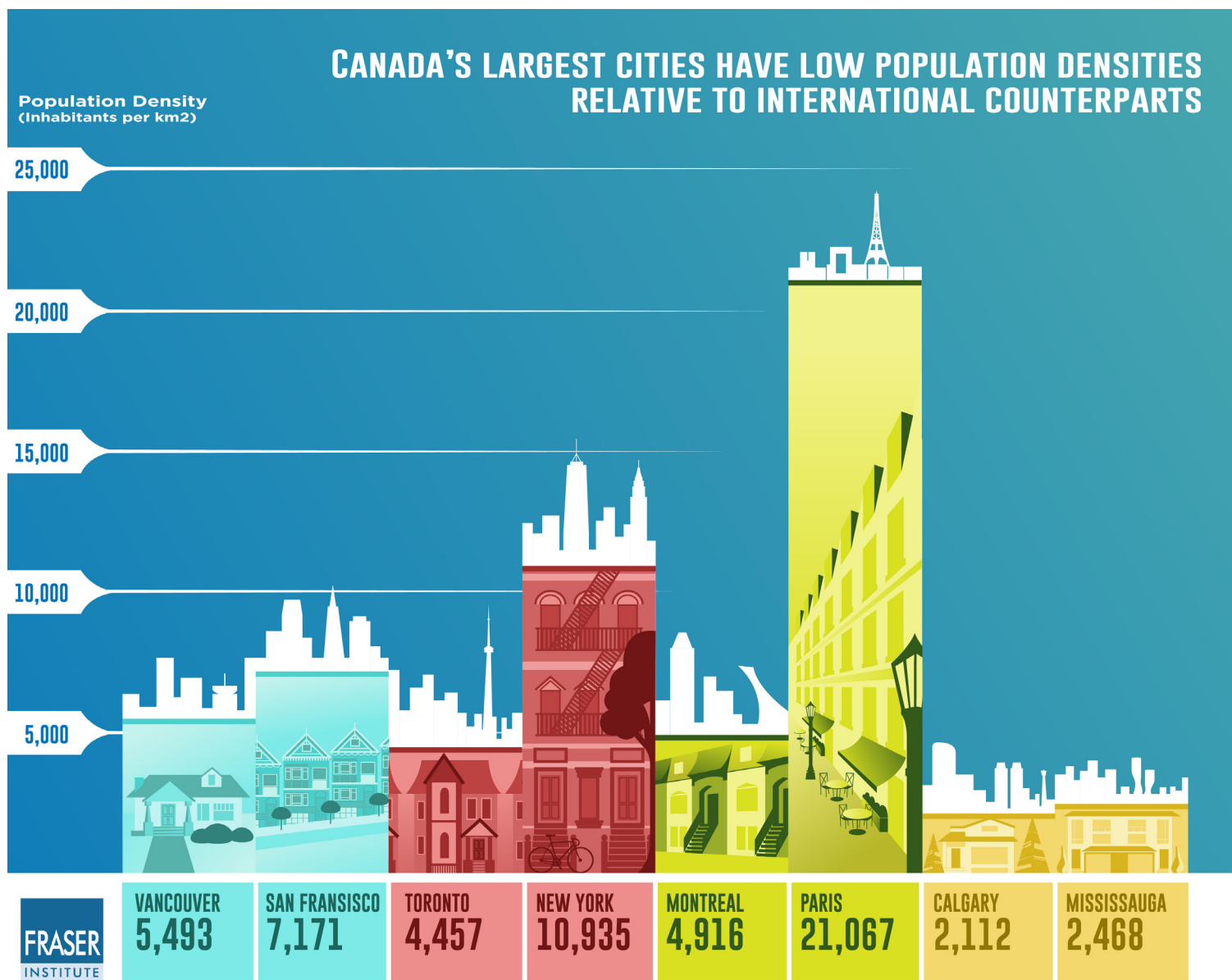
ROOM TO GROW: COMPARING URBAN DENSITY IN CANADA AND ABROAD

JOSEF FILIPOWICZ

Room to Grow: Comparing Urban Density in Canada and Abroad compares population densities in 30 metropolitan centres in high-income developed countries. It finds that Canadian cities—including Toronto and Vancouver, which are experiencing an affordability crunch—can accommodate much more

housing supply as they have much lower population densities than other major urban centres around the world ♦

[READ THE FULL STUDY HERE](#)



WHY THE UNEMPLOYMENT RATE IS NO LONGER A RELIABLE GAUGE OF LABOUR MARKET PERFORMANCE

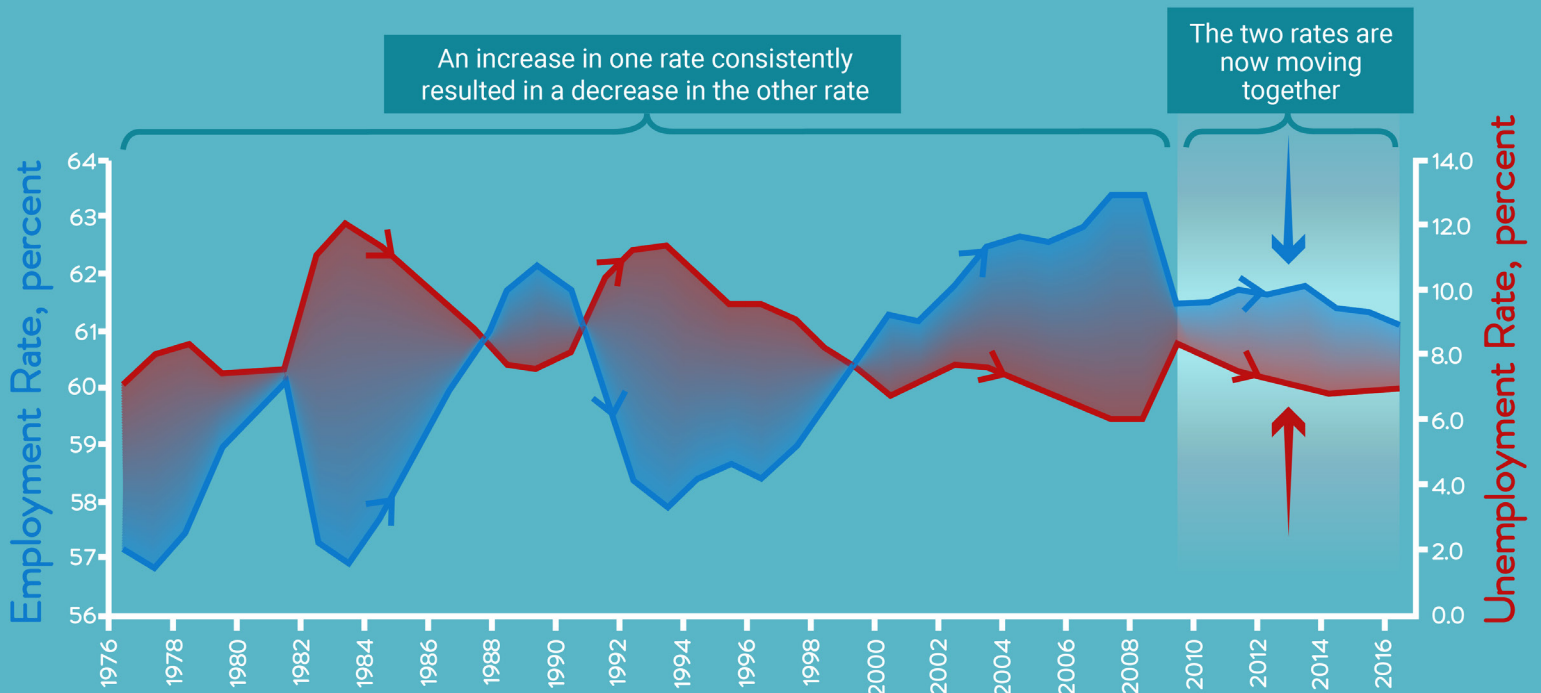
JASON CLEMENS AND MILAGROS PALACIOS

Why the Unemployment Rate is No Longer a Reliable Gauge of Labour Market Performance finds that, as Canada's population ages and more and more Canadians retire and leave the workforce, the employment rate is becoming more reflective of Canada's labour market than the unemployment rate. Despite a drop in the

unemployment rate from 2008 to 2017, due in part to the shifting demographics, the employment rate also fell during the same time—from 63.4 percent to 61.6 percent, indicating declining employment levels ♦

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Post-2008, the unemployment rate is less reflective of overall labour market performance



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