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**Canada at a new crossroads:  
25 years later**

CANADA  
— AT —  
**175**

What we need are new and courageous conversations—about the choices we face, and the trade-offs we must make, to give the country the best odds of a prosperous future from today forward.

A message from:

Jonathan Goodman, Global Managing Partner of Monitor  
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Chris Lynch, Canadian Monitor Deloitte Practice Leader

**February 2017**

**T**wenty five years ago, colleagues of ours at Monitor in Canada undertook a ground-breaking study on the economic future of the country. They were led by Roger Martin and John Armstrong, and worked in partnership with Harvard Business School professor Michael Porter. Their report, sponsored by the federal government of the day and the Business Council on National Issues (now the Business Council of Canada), sparked strong debate about what needed to be done by business leaders and policy makers to strengthen Canadian competitiveness and put the nation on a sounder footing for future growth and prosperity.

The title of the report *Canada at the Crossroads: The Reality of a New Competitive Environment* said it all. We faced then, as a country, macro-economic and micro-economic choices that were certain to define our future path. Hence, the crossroads.

Now, a quarter of a century later, Canada continues to have an enviable standard of living. We have also made progress, though certainly not what we hoped for in securing either our competitiveness or future prosperity. This underperformance, especially on a number of the key drivers of competitiveness—such as trade, education and innovation—would suggest a sluggish state of affairs at best, in a more forgiving environment.

But we don't live, work, or compete today in a forgiving environment. In fact, it's anything but.

To borrow from Tom Friedman, we live in a time of accelerations—of technology, of globalization, of climate change. We face an increasing pace of change, disruption, and uncertainty.

In this environment, we do not need more tired or shop-worn policy prescriptions. What we need are new and courageous conversations—about the choices we face, and the trade-offs we must make, to give the country the best odds of a prosperous future from today forward.

This discussion paper is intended to spark just such conversations across the country, as part of Deloitte Canada's new ambitious **Canada at 175** program, leading up to our country's 150th birthday.

To do so, we consider where we stand relative to some of the original *Canada at the Crossroads* recommendations. We then explore the trends and uncertainties that will impact our future. But more importantly, we posit four different scenarios that could impact the economic health and well-being of the country. These scenarios purposely and fundamentally challenge us to consider the different ways the world around us might impact our economic future. Underpinning our use of scenarios is the central belief that we cannot, nor should we try, to predict the future. Instead, as a country, we need to consider, be prepared for, adapt, and make choices in the context of possible different futures.

The result, for us, is a set of what we call “vexing questions”:

- How will we harness advanced technologies and automation to create tomorrow’s jobs, securing ongoing wealth for our country that includes people from every economic level?
- Is Canada prepared to take deliberate and extraordinary action to support areas of true competitive advantage in our country? And if so, on what basis?
- As labour grows less relevant in driving prosperity, what is the optimum size and composition of Canada’s labour force, and what is the best combination of skills to support long term growth?
- What must we do better to support sustained innovation in Canadian businesses, governments and society?
- What will it mean to be a responsible, responsive, and courageous business leader in the future in Canada?

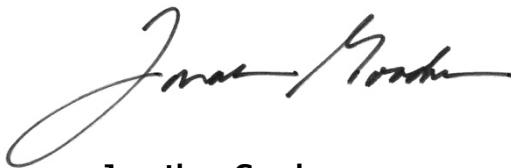
What makes these questions vexing is that the answers either involve difficult tradeoffs or new solutions that have yet to be fully identified, debated, or embraced.

By design, we have not tried to answer these questions in this discussion paper; our answers will come later. Instead we have purposely set out to frame the debate—with full recognition that it is going to take many voices and new coalitions, asking questions and convened in multiple ways, to guide coherent policy prescription and executive action.

Moreover, we know there has been, and continues to be, exceptional thinking and work done on many elements of the questions posed above—by Ontario’s Institute for Competitiveness and Prosperity, by the current federal government’s Economic Advisory Council, by the C.D. Howe Institute, by the Public Policy Forum, and by ourselves at Deloitte in our series of *Future of Canada* reports, to name a few institutions and organizations. There is certainly a growing body of thought and exhortation about Canada’s economic future.

That said, we think it is time now to step back and engage deeply with these difficult questions in order to move forward as a country with confidence and conviction. Whether and how we do so and ultimately our willingness to make and act upon bold choices, will determine our collective future. Will we choose to shape an even better country in the face of disruption and uncertainty? Or will we stagnate or even worse, languish? Nothing less than the future health, well-being, and potential of successive generations of Canadian citizens is at stake.

Indeed, we are at a new crossroads, some 25 years later.



**Jonathan Goodman**  
Global Managing Partner of Monitor Deloitte,  
and Vice Chair, Deloitte Canada



**Chris Lynch**  
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# Introduction

It was October 1991. Canada and much of the world were struggling under the weight of a deep, relentless recession. The first Gulf War had taken place earlier in the year. The Soviet Union was just months away from collapse, bringing about an unexpected, and swift end to the Cold War. The North American Free Trade Agreement was on the horizon and would bring sweeping changes to the foundations of our economy.

The exhortation at the time was clear and forceful. "Canada today is at an economic crossroads... the core of [our] economic prosperity is at risk."<sup>1</sup> So began the summary of a year's worth of work by Monitor Company in Canada, now Monitor Deloitte, under the direction of Roger Martin and John Armstrong, then of Monitor, and Harvard Business School professor Michael Porter.

The report was a *tour de force* on multiple dimensions. It assessed Canada's place in a then changing and increasingly competitive world, and outlined the decisions and actions needed to ensure our country could grow and thrive in the years to come. It looked at why competitiveness matters, building off of Professor Porter's ground breaking research and framework building in the area,<sup>2</sup> and described Canada's evolving position in international competition. It then explored the evolution and competitiveness of 25 Canadian industries (focusing on traded sectors) and identified important sources of competitive advantage for Canadian companies.

And finally, it described the implications of the key findings and offered a call to action for businesses, governments, and other stakeholders.

The original *Crossroads* report, its recommendations, and the dialogue it originally engendered, set much of the agenda for discussion and debate, and action on, Canada's competitiveness for much of the subsequent two decades.

One could easily argue that the work spawned the Ontario Institute for Competitiveness and Prosperity, originally under Roger Martin's leadership,<sup>3</sup> and the innovative work it has done for 15 years. And it certainly inspired Deloitte Canada. As Canada's largest professional services firm, we are of course deeply committed to the country and its future. Since 2011, in successive *Future of Canada* reports, we have studied and made recommendations regarding the factors that help drive Canadian competitiveness and the challenges that hold our country back—from productivity, to disruption, to courage.

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And now, some 25 years after the release of the original *Canada at the Crossroads* report, on the cusp of Canada's sesquicentennial, the country faces a new economic crossroads.

We live in a time where uncertainty is the new normal. We've come out of a difficult recession, but unlike in decades past, we are seeing only minimal growth in its wake. Our lives are increasingly disrupted by new technologies, changing our understanding of how, where, and when we work. The increasing liberalization of the global economy, once taken for granted, has been challenged by decisions like Brexit and the election of Donald Trump to the United States presidency.

And yet we are more connected and have access to more information than ever before, leading to opportunities for collaboration that were simply unknown to generations past. Had the country made more progress on the recommendations of the original *Crossroads* report and subsequent research it motivated, we would be in a better position to compete, win, and prosper in the future.

It is in this context that we release this discussion paper *Canada at a new crossroads: 25 years later*, to frame an agenda of critical dialogue and debate.

In what follows, we take stock of where we stand today in relation to the original *Crossroads* recommendations—with particular attention to the few areas where we had hoped to make much more progress, but yet have fallen behind. We then explore the key trends and uncertainties that will impact our future. But more importantly, we describe four different, plausible scenarios that could surround and influence our economic future. With each of these elements in hand—principally both the look backward, but also the look forward to different possible futures—we pose what we think are some of the most vexing questions that the country faces as we confront a tumultuous and uncertain environment.

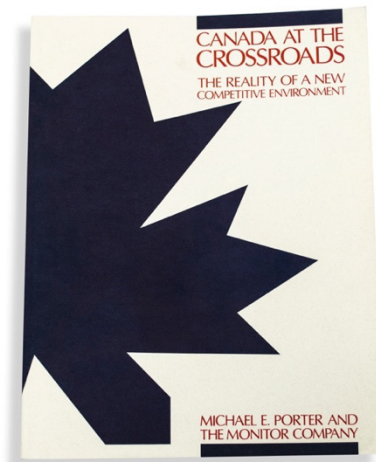
In the coming months, as part of Deloitte Canada's **Canada at 175** program we will convene conversations with business and government leaders from across the country to consider possible futures and debate the bold choices Canada must make to succeed.

Given the challenges we have outlined in this paper, not to mention those from 25 years ago, we must act quickly and courageously to build the future we want and deserve. We don't have another 25 years to wait—the time to act is now. Let's chart a path together, to future prosperity.

*Given the challenges we have outlined in this paper, not to mention those from 25 years ago, we must act quickly and courageously to build the future we want and deserve.*

# The past 25 years

## Canada's competitiveness after *Canada at the Crossroads*



The original *Canada at the Crossroads* was intended to serve as a guide for how businesses and governments could significantly improve Canada's competitiveness in an increasingly challenging global market. Yet here we are 25 years later—while Canada has made progress on some components of Canadian competitiveness, we continue to struggle in many ways.

To understand where we've fallen behind, we need to evaluate some key areas of national competitiveness. Many of these are building blocks for a great nation: trade, education, and innovation.

By exploring how insufficient action in these areas has impacted our country over the last 25 years, we can begin the journey of considering our future.

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### Progress and how we measure it

In this paper, we use two main methods of understanding progress: prosperity and productivity. *Prosperity* reflects the economic, social, and health outcomes that influence a Canadian's ability to enjoy life today and prepare for tomorrow. This is the measure that more closely aligns with the daily concerns and expectations of the average citizen. The most common measure of prosperity is GDP per capita. *Productivity* determines how well a country is able to add value to its products and services, calculated as the amount of output, measured by GDP, which the average worker in that country creates in an hour.<sup>4</sup>

Another key comparator we use is competitiveness. The *competitiveness* of a country is a function of its relative ability to harness the resources at its disposal. Some of these resources may be endowed, such as land or the minerals that are found so plentifully underground in Canada. Other resources may need to be built or cultivated, such as the human capital, buildings, and equipment that keep our country growing.



Since the late 1980s, Canada has consistently trailed the U.S. in GDP per worker.<sup>5</sup> U.S. productivity continually outgrew Canada's throughout the 1990s, creating a sustained productivity gap between the two countries. This is important because countries that are more productive are better able to employ their workforce in high value added industries, creating higher output per worker. And it's no coincidence then that highly productive modern economies become home to highly skilled workers who command higher wages and spur innovative new products and technologies.

While it's common to use GDP per capita as a bellwether for the prosperity of a country, the measure is fraught with issues. Many things important to the well-being of a country's citizenry are not included in it—particularly unpaid activities such as volunteerism and child-rearing. Also, certain technological advancements, such as applications for smart phones, show little to no impact on our relative prosperity if they are offered for free—despite their obvious impact. Notwithstanding these limitations, however, we don't have a better and more widely used measure, so in this paper we use GDP as the core measure of a country's wealth and its progress on growth.<sup>6</sup>

As we discussed in Deloitte Canada's first report on productivity (2011), the current generation of Canadians faces the spectre of a declining standard of living.<sup>7</sup> But it isn't too late to correct our trajectory. In order to understand where we can improve, we must first evaluate

the actions we have taken, or perhaps more to the point, the areas where we should have made more strides but didn't.

### **Worrying progress to date**

The key measures we've outlined—prosperity, productivity, and competitiveness—are areas where Canada has been slipping relative to competitors around the globe.

While there have been a few bright spots, they mostly relate to some of our core macroeconomic indicators and not to the strength of our economic engines. The World Economic Forum's Global Competitiveness Index ranks us near the top in terms of level of inflation, credit rating, and corporate tax, but look past those and our relative position worsens.<sup>8</sup>

Recognizing the dangers of relying on macroeconomic factors, the 1991 *Crossroads* report recommended that Canadian governments and businesses invest along several dimensions to accelerate and take control of Canada's competitiveness in a globalizing world. We've grouped them into three key areas:

- 1) trade more globally,**
- 2) develop Canada's people through education and training, and**
- 3) invest in innovation and business sophistication.**

*The key measures we've outlined—prosperity, productivity, and competitiveness—are areas where Canada has been slipping relative to competitors around the globe.*

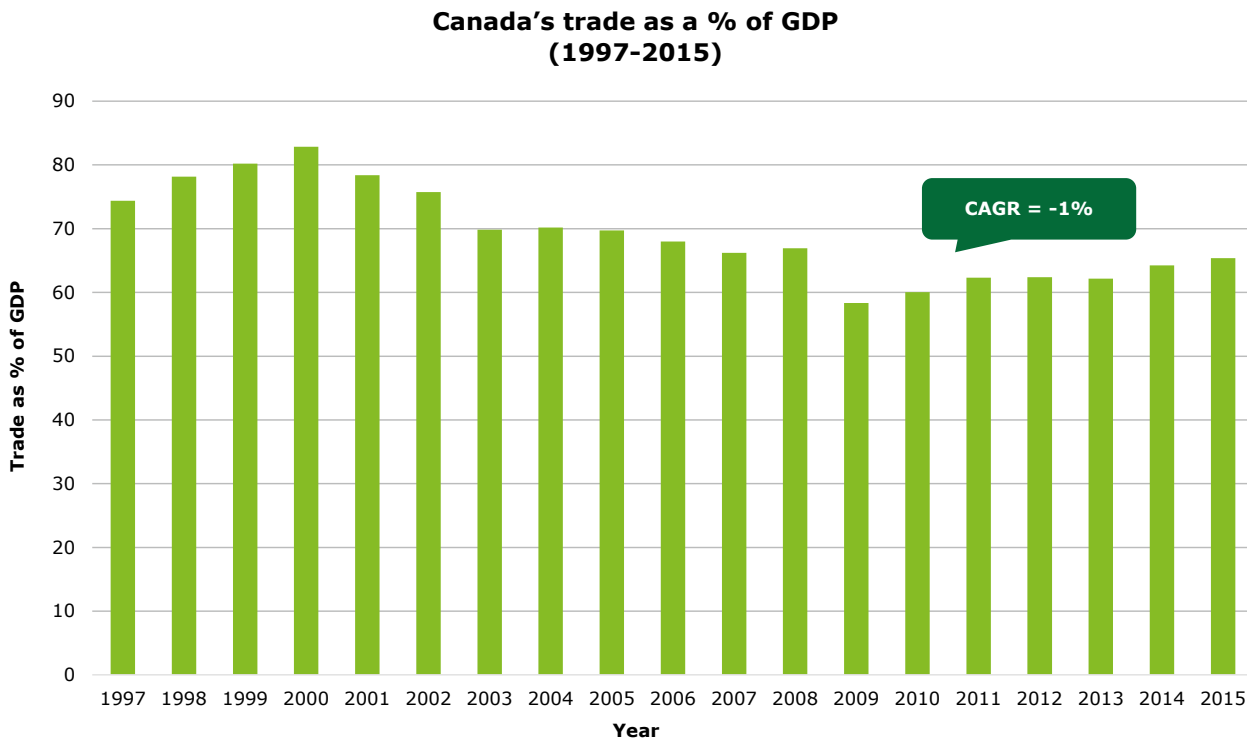
These three categories don't encompass all of the recommendations from 25 years ago, but they provide good examples of what's happened to Canada's economy and the foundations for our competitiveness in the intervening timeframe.

**Canada still struggles to trade more globally**

The 1991 report recommended that Canada expand its global economic engagement through trade—moving beyond our core extractive industries and ties primarily to the US. Unfortunately, Canada has failed to heed this call. Between 1997 and 2015, Canadian international exports grew an average of 2.8% per year, far more slowly than the OECD average of 4.8%.<sup>9</sup> What's even more troubling is that this growth is actually not

driving our economy forward at a significant rate. Since 1997, trade has accounted for a diminishing share of Canadian GDP, falling an average of 1% per year between 1997 and 2015 [Exhibit 1]. If Canada can't harness its productive potential and reverse this course, it will continue to fall behind.

Exhibit 1: Trade has accounted for a declining share of Canada's GDP since 1997



Source: Deloitte Canada analysis based on data from World Bank, World Development Indicators.

Canada’s global trade growth is faltering in part because the sectors driving GDP growth in recent years have low export intensity. The real estate and construction sectors experienced the greatest growth in terms of real dollars between 1997 and 2015, generating an increasing share of Canadian GDP; however, neither is an export-based sector **[Exhibit 2]**. In contrast, manufacturing and oil and gas—sectors heavily reliant on export activity—generate 19% of Canada’s GDP, yet saw the lowest real-dollar growth of any sector of the Canadian economy between 1997 and 2015.

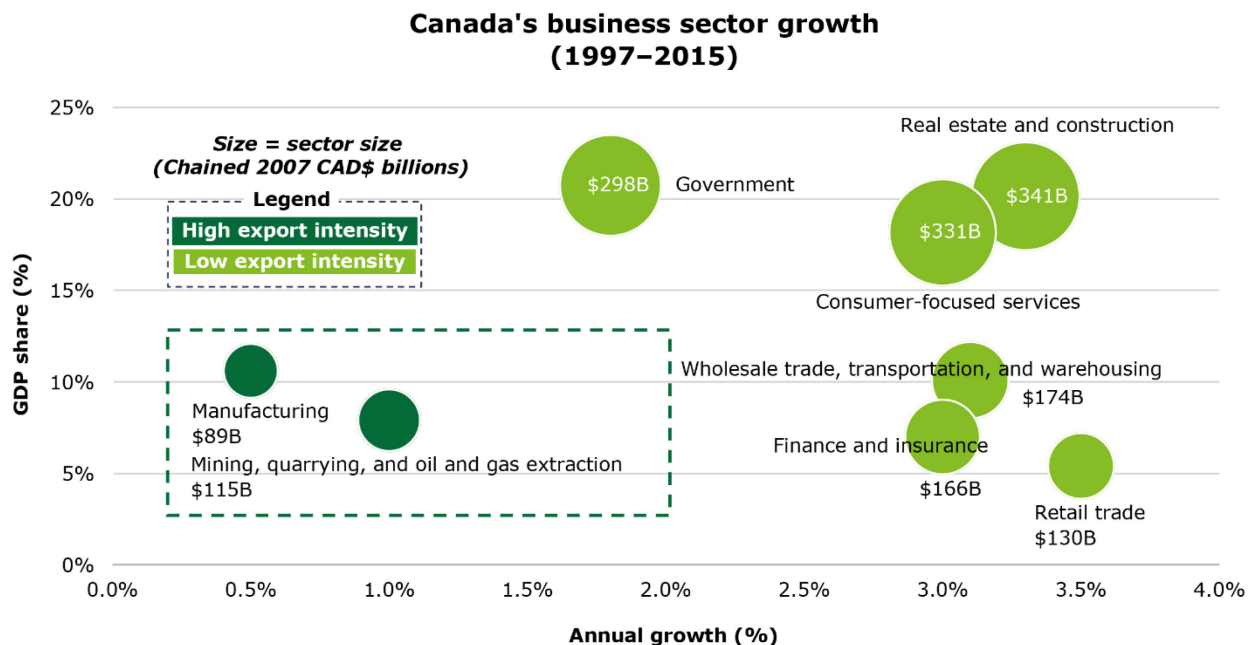
Moreover, we have only marginally expanded the scope of trade beyond the US. Exports to the US accounted for 82% of Canada’s total exports in 1997; in 2015, it was 77%.<sup>10</sup>

For Canada to continue to develop and become a global leader in any industry, we must move beyond our own borders, beyond the US, and up the value chain. This is even more relevant today than it was 25 years ago.

**Falling behind on education and training**

Canada’s investment in education and training once represented a key competitive advantage. The original *Crossroads* report recommended that Canadian governments and businesses press the advantage, developing Canada’s people by continuing to invest in the specific, high-skilled education and training needed to equip the workforce for a changing marketplace.

Exhibit 2: Canada’s economy is growing primarily through sectors with low export intensity



Source: Deloitte Canada analysis based on data from Statistics Canada.

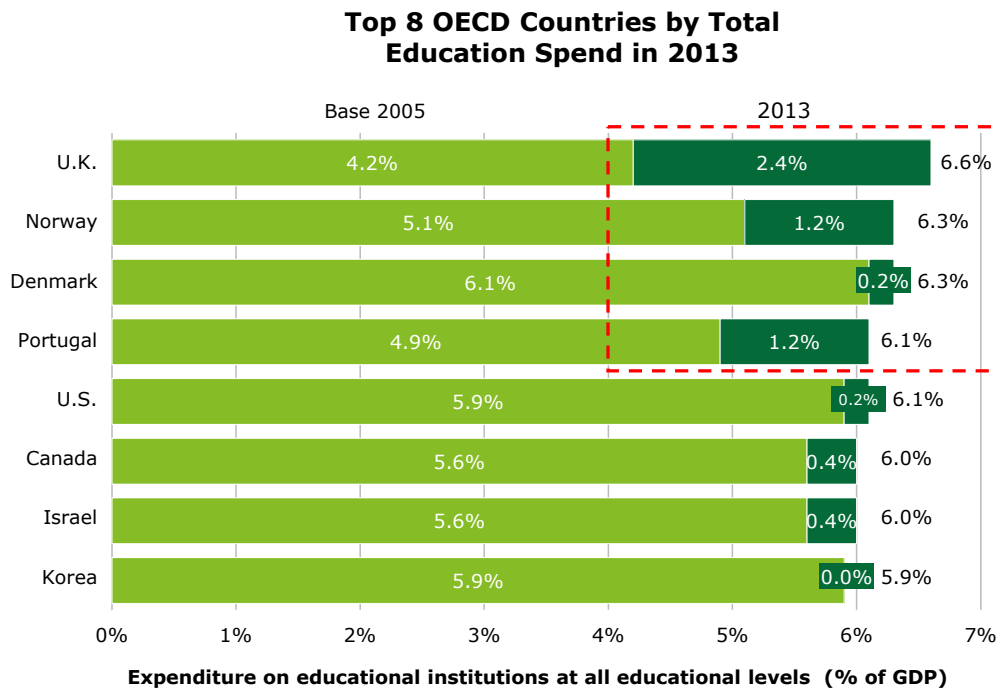
Today, Canada’s education spending remains high as a proportion of GDP—yet other countries have increased their education spending at a faster rate and are overtaking us. Between 2005 and 2013, Canadian education spending rose 0.4% [Exhibit 3]. During the same period, UK education spending rose 2.4%, while both Norway and Portugal increased education spending by 1.2%; all three nations now spend more on educational institutions at all education levels than Canada as a percentage of GDP.<sup>11</sup> What was once a distinct competitive advantage has now been so eroded that we are truly falling

behind in one of the key indicators of future success—a well-educated workforce.

As Deloitte Canada has previously discussed, highly skilled workers are crucial to producing the high-value products, services, and technologies necessary for our future productivity.<sup>12</sup> Yet Canada is lagging its counterparts globally when it comes to developing highly trained people with the skills needed for a knowledge- and technology-driven economy. Canada produces far fewer PhD graduates per capita than many nations, particularly Switzerland, Sweden, and Germany.<sup>13</sup> The future belongs to countries that

*Today, Canada’s education spending remains high as a proportion of GDP—yet other countries have increased their education spending at a faster rate and are overtaking us.*

Exhibit 3: Canada’s increase in education spending has not kept up with some OECD peers’



Note: Total education spend includes public and private expenditure on educational institutions at all educational levels from primary to tertiary education.

Source: Deloitte Canada analysis based on data from OECD Public Spending on Education Statistics.

have highly educated knowledge workers who can compete with the best in any industry. The only way to achieve this is through education, so a reduced advantage in this key area is troubling to Canada's future.

**Lagging on innovation, business sophistication, and productivity**

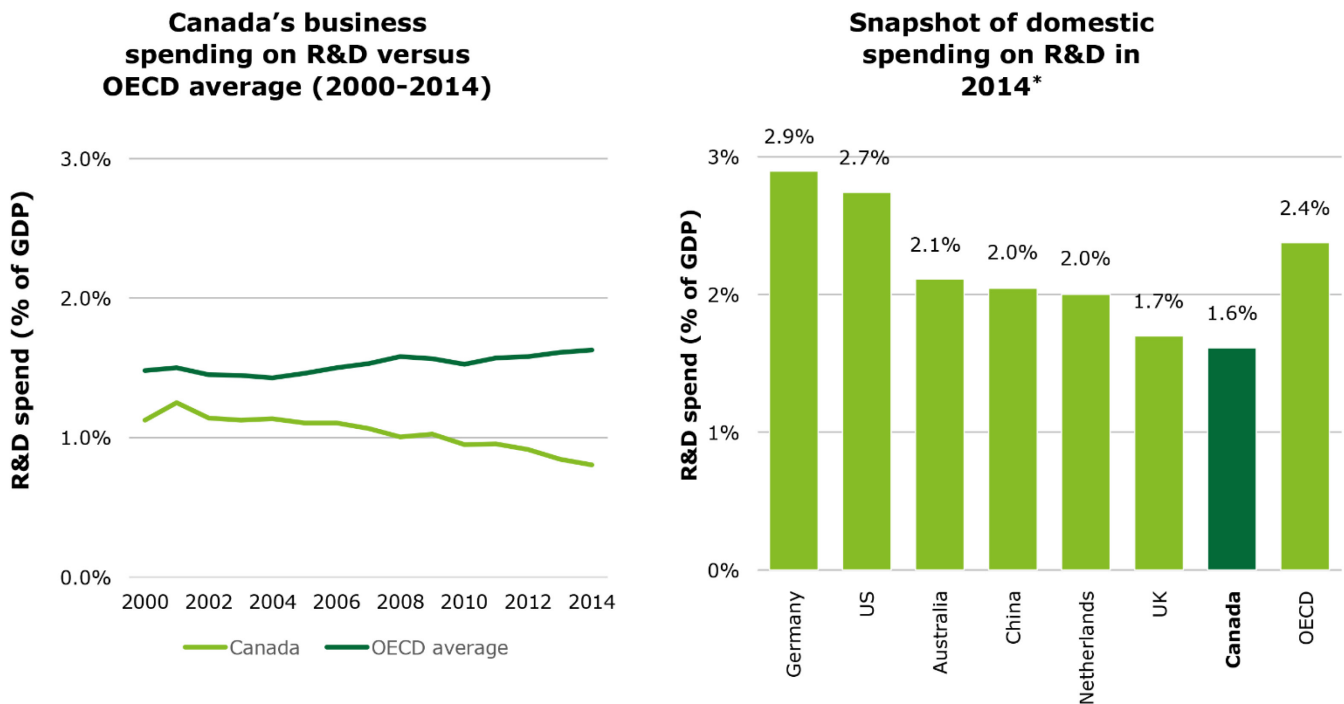
The original *Crossroads* report recommended that governments create conditions in which Canadian companies could innovate along all points of an integrated value chain and achieve positions of sustainable competitive advantage. Indeed,

Deloitte itself has long argued for investment in innovation to close the productivity gap between Canada and the US, as new ideas, processes, and technologies can greatly boost output, speed to market, and more.<sup>14</sup>

However, Canadian businesses have largely stayed the course in terms of where they play in the global value chain, ultimately underinvesting in their own future. Canadian R&D spending as a percentage of GDP has significantly lagged the OECD average for well over a decade.

Between 2000 and 2014, as a percent of GDP, Canadian R&D spending actually declined while the OECD average rose **[Exhibit 4]**. By 2014, Canada was spending less on R&D as a percentage of GDP (1.6%) than Germany (2.9%), the U.S. (2.6%), Australia (2.1%), China (2.0%), the Netherlands (2.0%), and the UK (1.7%).

Exhibit 4: Canadian spending on R&D significantly lags the OECD average



Source: Deloitte Canada analysis based on data from OECD, Main Science and Technology Indicators. \*Gross domestic spending on R&D includes spending by all resident companies, research institutes, and university and government laboratories. Data for Australia and US is for 2013.

Our inability or unwillingness to increase spending on innovation and R&D has left many Canadian companies at severe risk of disruption.

A 2015 Deloitte Canada study found that 87% of Canadian businesses aren't well prepared for disruption by advanced technologies—and more alarming is the fact that 43% of them think they're more prepared than they actually are.<sup>15</sup> In the years to come, we could see many Canadian businesses outclassed and outcompeted by more innovative players from around the globe. In a competitive global economy, R&D is not a nice-to-have; it's a must-have that our country has not focused on nearly enough.

### **Canadian competitiveness under pressure**

Given Canada's lack of progress on some of the key recommendations made in the original 1991 *Canada at the Crossroads* report, it should come as little surprise that our global competitiveness is faltering. While many factors have contributed to this lack of progress, we can certainly say that governments across the country have focused primarily on shorter term actions in the last 25 years.



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According to the World Economic Forum, Canada’s competitive ranking peaked in 2009, due in large part to soundness of the country’s financial institutions and our relative economic stability during and after the 2008 financial crisis and recession. Since then, Canada’s relative competitiveness has steadily declined—or it may be more accurate to say that other countries have surpassed us and become more competitive over the same period. **[Exhibit 5].**

Perhaps even more troubling, based on our research 25 years later, is that it seems global economic forces are such that even if we had taken more action on the recommended issues, we might still be falling behind. This brings the challenge in front of us into greater focus, and reminds us that standing still and not taking action is not an option. Canadian governments and business did not take enough swift and deliberate actions on the original *Crossroads* recommendations, but even if

they had done so, there are trends at play that would provide headwinds all the same.

*Exhibit 5: Canada’s relative global competitiveness has stagnated*



Source: Deloitte Canada analysis based on data from the World Economic Forum.

Note: In 2007, the GCI was updated to include additional indicators, making data from the 2006–2007 report onward the most accurate and useful.

# Trends impacting Canadian competitiveness

## Key factors that will alter the course of the next 25 years

**T**he country's lack of action over the past 25 years, leading to a decline in relative competitiveness, has left Canada further behind than the original *Crossroads* report imagined. Compounding this is the fact that further change is coming and new trends that didn't exist 25 years ago are going to impact our future. The recommendations we made then can't address these new issues moving forward, and so in this paper we hope to move the discussion into new territory.

### **Economic, political power shifts from West to East**

The first key trend is already impacting every Canadian sector—from extractive industries to real estate, the growing power of the East cannot be denied. Canada's continued reliance on the U.S. as its key trade partner could leave Canadian businesses in a difficult position as Asia-Pacific countries gain economic and geopolitical clout. Asian and Oceanic economies are forecast to generate 38% of the world's GDP by 2030, up from 32% in 2015.<sup>16</sup>

By contrast, the economies of North America, Latin America, Europe, Russia, and the nations of the former Soviet Union will contribute a diminishing share of global GDP over the same period.<sup>17</sup> As noted previously, since 1997, Canada's total exports with the U.S. have slightly decreased from 82% of total exports to 77% in 2015.<sup>18</sup> Clearly, this does not reflect the shifting reality of Asia-Pacific progress and represents a great stumbling block to Canada's future prosperity.

Consumer spending will move eastward even more rapidly. Spending by Asia-Pacific middle classes is projected to reach 59% of the global total in 2030, up sharply from 23% in 2009. Spending by North American and European middle classes, on the other hand, will fall from 64% to 34% over the same period.<sup>19</sup>

For Canadian businesses, the implication is clear: they must reconsider where they play on the global stage or risk being left serving a shrinking market. As for the Canadian government, supporting Canadian expansion into these markets will become even more important.

### **An aging population means a shrinking workforce**

Efforts to improve the skills and capabilities of Canada's workforce are going to run headlong into demographic realities in the next two decades. Canada's population is aging rapidly: the number of Canadians over age 65 will grow from 5.8 million in 2015 to 9.4 million in 2030, while the number of the country's youth (aged 0-14) will remain relatively steady.<sup>20</sup>

As the aging population exits the workforce without an equal number of entrants, our workforce will shrink. Having fewer people able to contribute productively to the economy could be a detriment our competitiveness and may pose an obstacle to further growth.



To mitigate the inevitable issue of a shrinking workforce, Canada has already begun to turn to immigration. However, with the continued disruption and disintermediation of traditionally labour-intensive industries, the outcomes of this trend are fundamentally uncertain. What we do know at this point is that what we'll need is not necessarily more workers, but more of the right workers, with the proper education, for the jobs of the future.

### **Canada's workforce faces stiffer competition from an increasingly well-educated world**

Twenty-five years ago, Canada's highly educated population gave us significant competitive advantage. As we've discussed, that position has been greatly eroded, which is particularly troubling given that the demand for highly educated, highly trained people will only grow in the decades to come. In 2013, it's estimated that 137 million people aged 25–34 across OECD and G20 countries held a post-secondary degree.<sup>21</sup> While major competitors like the US, India, and China held 14%, 14%, and 17% of the global share of post-secondary graduates, respectively, Canada only accounted for 2%.

*Canadians will need to find new sources of advantage—based on innovation, creativity, and quality in education—to remain globally competitive.*

To make matters worse, by 2030, when the total number of post-secondary grads will climb to 300 million, half of them will be from China (27%) or India (23%). Canada will account for a mere 1% of 25–34-year-olds with post-secondary education; the U.S. will be home to 8%.<sup>22</sup> Clearly, the market for educated talent is competitive and Canada isn't winning the battle. Canada will need to rethink its strategy for recruiting and retaining this talent, as those countries that figure it out will triumph in the innovation game.

However, while well-paying, high-value jobs will continue to gravitate toward countries and regions boasting top-tier talent, simply having a highly educated and well-credentialed workforce will no longer be enough. Rather, Canadians will need to find new sources of advantage—based on innovation, creativity, and quality in education—to remain globally competitive.

### **Advanced technologies disrupt key sectors of Canada's economy**

Through previous research,<sup>23</sup> Deloitte Canada has identified five advanced technologies poised to disrupt and overwhelm some of Canada's most important industries:

- *Advanced robotics* and automation will enable companies to lower labour costs, enhance productivity, and deliver superior quality as robots take on roles and duties once thought to be beyond them.
- *Artificial intelligence* will improve efficiency and cut operational costs as AI systems increasingly perform more complex, "human" tasks.
- *Collaborative connected platforms* will enable firms to tap into expertise and analytical ability outside their organizations.
- *Networks* and the "Internet of Things" will persuade consumers to expect ever more advanced, personalized interactions and demand that companies' services adapt immediately to their needs.
- *Advanced manufacturing* will enable companies to make, test, and modify new products at a speed—and cost—never before possible.

These advanced, disruptive technologies are already reshaping industries, and, as the pace of change accelerates, Canadian companies could find themselves swiftly outplayed.

As stated earlier, according to our study, 87% of Canadian companies are poorly prepared to respond and adapt to disruption from advanced technologies such as these.<sup>24</sup> [Exhibit 6]

Along with the five advanced technologies, a key sub-trend is the movement of automation and advanced robotics into industries beyond manufacturing, such as law and medicine. Businesses are facing the need to increasingly automate their labour force to

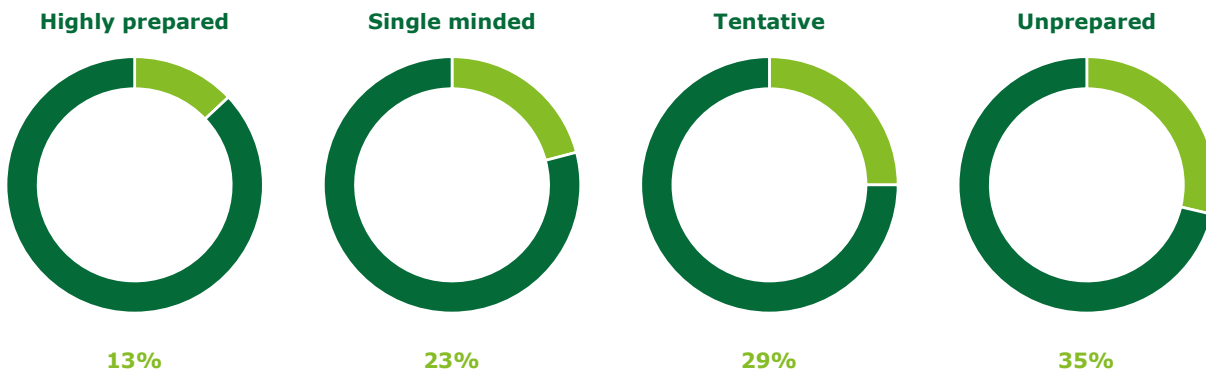
achieve the same efficiencies and productivity advantages enjoyed by other economies using these technologies. The challenge that this creates is that just as manufacturing jobs gave way to service-sector roles over the past 25 years, those same service jobs appear poised to disappear in the next 25. The Brookfield Institute estimates that nearly 42% of the Canadian labour force is at high risk of being affected by automation in the next 10 to 20 years.<sup>25</sup>

**Trends amplify challenges**

When we consider the lack of progress against the 1991 *Crossroads* recommendations, and couple that with these growing trends, the future of Canada appears less certain than it has in many decades. When we also factor in the level of uncertainty at play, especially the key uncertainties we discuss below, a number of plausible scenarios for the future emerge.

*Exhibit 6: A majority of Canadian companies report not being prepared for disruption from advanced technologies*

**Canadian business' disruption preparedness (2015)**



Source: Based on Deloitte Canada survey analysis.

# Preparing for the next 25 years

## Scenarios for an uncertain future

So far, we have laid out the view that Canadian governments and businesses have not done enough to prepare the country for the complex world we live in today. A lack of progress on relative competitiveness measures, coupled with an increase in the pace of change and a set of trends that threaten the foundation of the Canadian economy, mean our future is even less clear than it was in 1991. As we consider what we need to do now, we also need to take into account the critical uncertainties at play, and develop and debate possible scenarios for the future—we have to understand not just the one future we most want, but the potential permutations that are also plausible.

While Canada's governments and businesses can take action to improve our country's competitiveness on the world stage, the fact remains that our competitiveness will also be shaped by global forces not under our control. If Canada is to remain a competitive nation, Canadian business leaders and

policy makers will need to plan for many possible futures. By imagining what the global economy might look like 25 years from now, decision makers can make the right choices today that will position Canada as a relevant, competitive player in the economy of the future.

When considering the future, it's quite common for people to simply extrapolate their current experience and recent past as though it will play out in a straight line. Not six months ago,<sup>26</sup> the official future seemed perfectly clear: slow global growth would remain constant, technology would cause disruption across many industries at a rate similar to today, and rising connectivity would lead to greater flows of trade, capital, people, and information.<sup>27</sup>

Yet as 2016 so boldly demonstrated, real-world events can take startling turns. In an instant, safe bets can be cast aside, replaced instead by uncertainty. And it's this uncertain world for which Canada's governments and businesses must plan.

Scenario planning is key; it takes what we know today and filters it through critical uncertainties to arrive at a number of potential, plausible futures—more optimistic, more pessimistic, and everywhere in between. Scenario planning helps decision makers understand that there are multiple outcomes from our current trajectory, and that while each future may not have an equal chance of coming to fruition, each is possible to some degree. In an increasingly uncertain world, we need scenario planning now more than ever.

*If Canada is to remain a competitive nation, Canadian business leaders and policy makers will need to plan for many possible futures.*

**Scenario planning for Canada: Two critical uncertainties**

A key step in scenario planning is to identify two independent critical uncertainties. Not surprisingly, scenario planning around the global economy involves a very long list of potentially critical uncertainties. Having considered multiple options, we've identified the two clearest and most independent variables impacting Canada's future prosperity: **the rate of global economic growth and the rate and impact of technological disruption**. Both critical uncertainties tie closely to the trends that we have outlined, and embedded in each are considerations of areas like trade

and productivity that will deeply impact our future.

**Global economic growth.** The global economy is expected to continue to grow in the years ahead, but how quickly it will do so remains to be seen. We could see sluggish growth of 1%–2% annually, perhaps driven by political instability, a trade war between the U.S. and China, rising protectionism and a slowdown in overall trade, or a rapidly slowing Chinese economy. Alternatively, growth could jump to 4%–5% thanks to renewed Chinese or Indian growth, improving global trade levels, improving multilateral ties, or the rise of entirely new sectors.<sup>28</sup>

In either case, Canada as a small nation will be incredibly susceptible to the fluctuations in the global economy. As we have seen in the past, as a nation with prosperity still driven largely by exports and resource extraction, when the global economy rises, Canadian GDP does as well. Over the past decade we have seen that the inverse relationship is also true. **[Exhibit 7]** While we still believe that Canada must diversify its economy and take up more trade with other nations, given our relative size we'll always be at the whim of global forces to some degree.

*Exhibit 7: Canadian GDP growth tracks closely to global GDP growth*



Source: Deloitte Canada analysis based on data from the World Bank, Development Indicators.

**Technological disruption**

As outlined above, rapid advances in technology are transforming our world and economies at an unprecedented rate. However, it's not yet clear whether technological disruption will continue to accelerate and become more pervasive in the decades ahead or slow to a steadier, but still dramatic, pace. At one extreme, we could find ourselves in a world of ever-accelerating technology disruption in every aspect of our lives—an "Uber-ized" world of on-demand products and services, ubiquitous automation, genetic engineering, and more. At the other extreme, there is the possibility that new

technologies will fail to gain widespread adoption, whether through regulatory hurdles, quality concerns, or consumer indifference, and as a result the pace of innovation and disruption and their impact could accelerate more similarly to our experience today.<sup>29</sup>

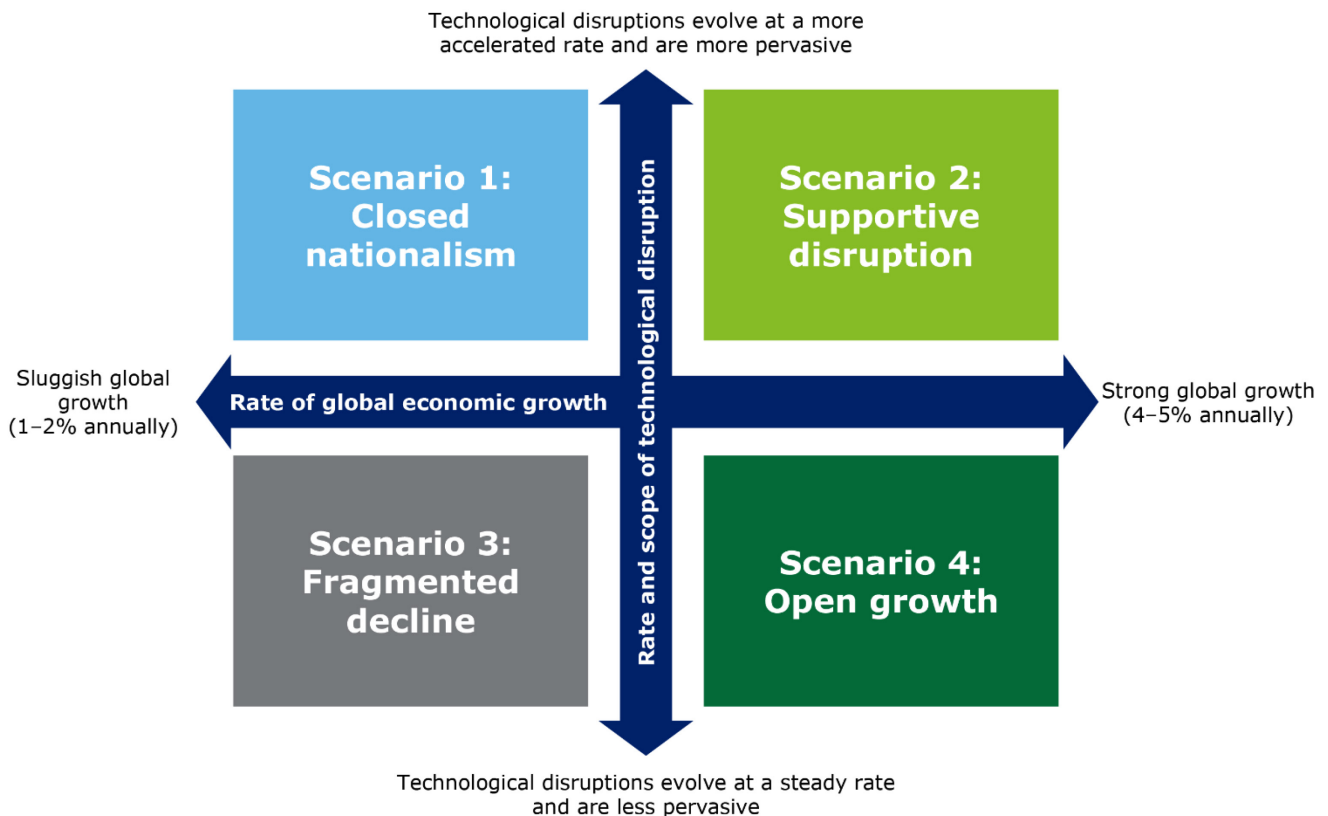
For a country like Canada the impact of technological disruption is one of the most crucial factors for future success. As a smaller nation with an aging population it will be critical for us to seize the productivity gains and new opportunities brought about by technology. New technologies have proven fundamental to

opening up new sectors of the economy, and each of our plausible futures takes that into account. While technological disruption will not cease, the pace of change will impact this country's outcomes considerably.

When we combine these two areas of critical uncertainty, we can develop four plausible scenarios for the global economy in 2030 **[Exhibit 8]:**

- **Closed nationalism**
- **Supportive disruption**
- **Fragmented decline**
- **Open growth**

*Exhibit 8: Four possible future scenarios for the global economy*



Source: Deloitte Canada analysis and consideration.





Each of these scenarios offers a unique glimpse of what the future could hold for the world’s economy—and would mean a unique reality for Canada and Canadian competitiveness.

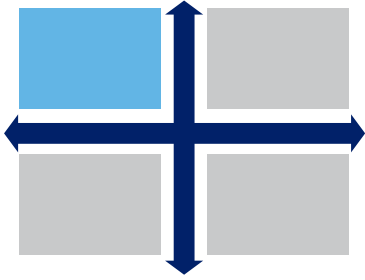
It is crucial to note that we are not urging every business and our government to immediately begin taking action relating to each scenario—that would be neither feasible nor warranted. Instead, the scenarios should be used as fodder for debate and discussion about how we all must prepare for what’s coming.

The future may unfold in a way that tracks closely to one of the four scenarios, or it may borrow from each one. Fundamentally, our goal is to posit four possible views of what might transpire over the next several decades and stimulate a dialogue about how our country and our people might handle those changes. On the following pages, we consider each of the scenarios in turn, considering how they could unfold over time, then discussing some implications for government, business, and citizenry.

**Remember to look at the scenarios through the intended lens—as the starting point for courageous conversations.**

## Scenario 1: Closed nationalism

Technological disruption leads to increased inequality and social strife. Faltering growth drives protectionist measures, and nationalism surges as countries turn inward.



### In this scenario...

The impact of automation becomes more widely felt in 2020, as technologies such as robotic process automation and artificial intelligence eliminate jobs in fields as diverse as financial services and fast food. Unable to replace the jobs lost, governments find themselves facing ever-increasing social strife. Eventually, voters begin to elect governments promoting protectionist measures.

The rising tide of protectionism causes global trade to decline and economic growth to stagnate. Many nations default on their debts; credit ratings plummet

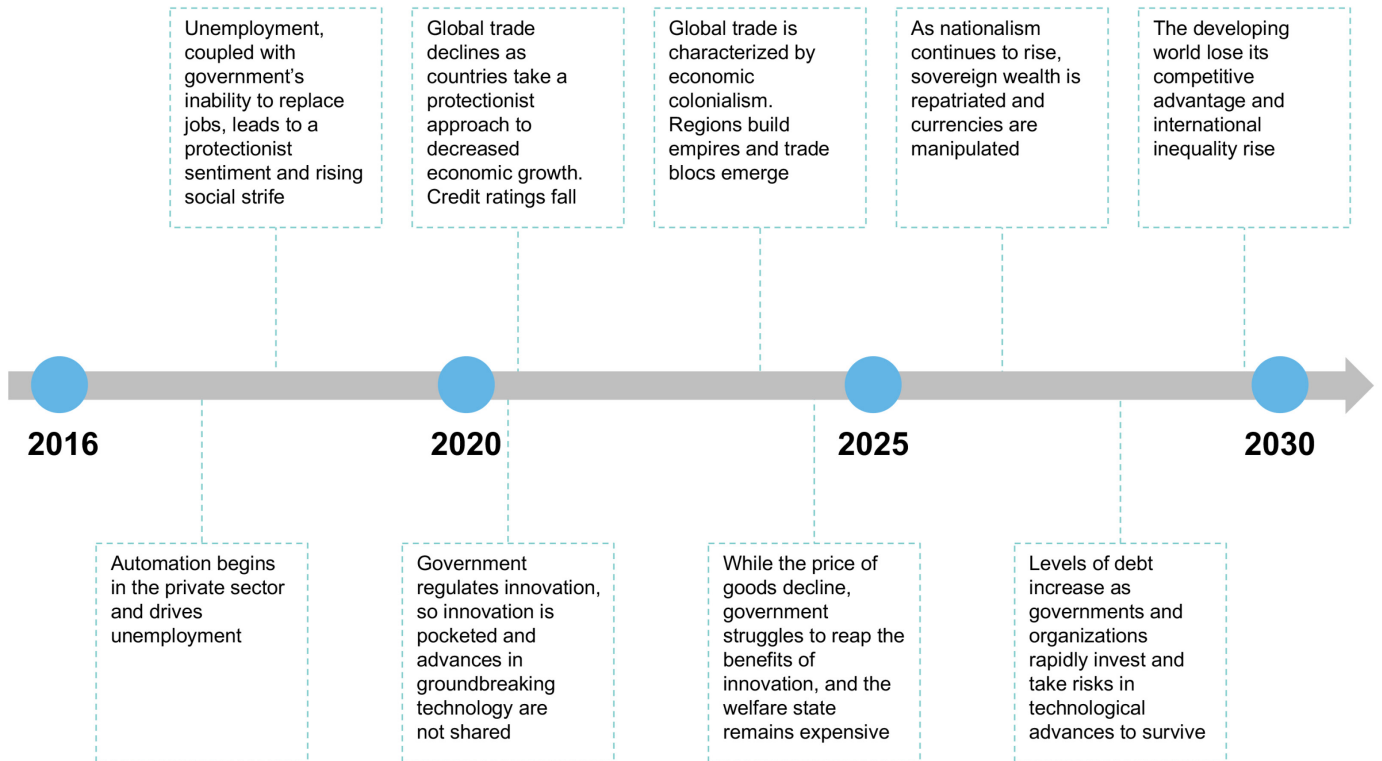
and borrowing costs soar. Sovereign wealth funds repatriate investments as nationalist sentiments continue to rise. Their capital is increasingly required to help fund domestic infrastructure and investment initiatives. Currency manipulation becomes more common as countries try to prop up struggling exporters in the face of increasing isolationism.

Cheap labour and energy costs lose their lustre and developing nations lose their former competitive advantages as countries bring production back “home.” International inequality rises and the economy gains made in prior decades begin to erode. By 2025, economic colonialism has returned and regional trading blocs—some call them empires—emerge.

Innovation becomes increasingly regulated, with new technologies isolated and not shared widely, as both governments and corporations begin to ring-fence their sources of competitive advantage. Debt levels rise as the burden of funding social programs—particularly in healthcare—falls on a shrinking tax base composed of a smaller number of workers. In response, some governments pour resources into efforts to spur efficiency-enhancing innovations with the potential to help keep costs under control. But while technology develops quickly, the benefits spread slowly as fewer can afford services and access meaningful employment. Over time, the gap widens between wealthy Canadians and those who see little benefit from further technological disruption.

*Innovation becomes increasingly regulated, with new technologies isolated and not shared widely, as both governments and corporations begin to ring-fence their sources of competitive advantage.*

*Potential future timeline of Scenario 1: Closed nationalism*



Source: Deloitte Canada analysis and consideration.

**Implications for government**

In this scenario, governments will struggle to meet citizens’ demands and expectations in a world of disappearing jobs and social strife.

Rising unemployment will place enormous pressure on healthcare, education, and social services. Government encouragement of immigration to address increasingly serious skills gaps and grow the funding base for core services will be met by increasing public opposition, particularly from displaced and under-employed workers. And as policies and programs fail, government churn will rise and “short-termism” will gain prominence.

**Implications for business**

It will be a cutthroat world. Businesses unable to keep pace with disruption will fail quickly. Scale will become vital as companies look for ways to afford essential R&D activity. Companies will come under pressure to absorb more of the burden of retraining the labour force—especially as it becomes more challenging to find and import talent from abroad. Public-private partnerships will become more common as governments search for ways to deliver essential services faster and more affordably.

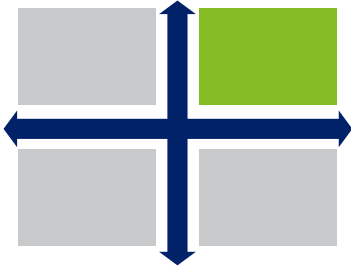
**Implications for Canadians**

Canadians will live in a less safe, less secure world as inequality rises inside and outside the country. Precarious employment and low personal savings will create more financial instability, and opportunities will be limited by the lack of labour mobility. Many Canadians will have more idle time that could be used for retraining or entrepreneurial activity—or could give rise to more social strife. The informal economy will grow, leading to a further erosion of the tax base. Education will become laser-focused on skills and careers.



## Scenario 2: Supportive disruption

Rapid, pervasive technological disruption drives robust economic growth and rapid wealth accumulation. Governments increase social support and retrain disrupted workers to ensure everyone benefits.



### In this scenario...

Rapid, widespread adoption of automation and other technologies drives significant disruption through all sectors of the economy, greatly boosting productivity and creating new industries and jobs along the way. The result is robust global economic growth on the order of 4% to 5%—a pace not seen in decades.

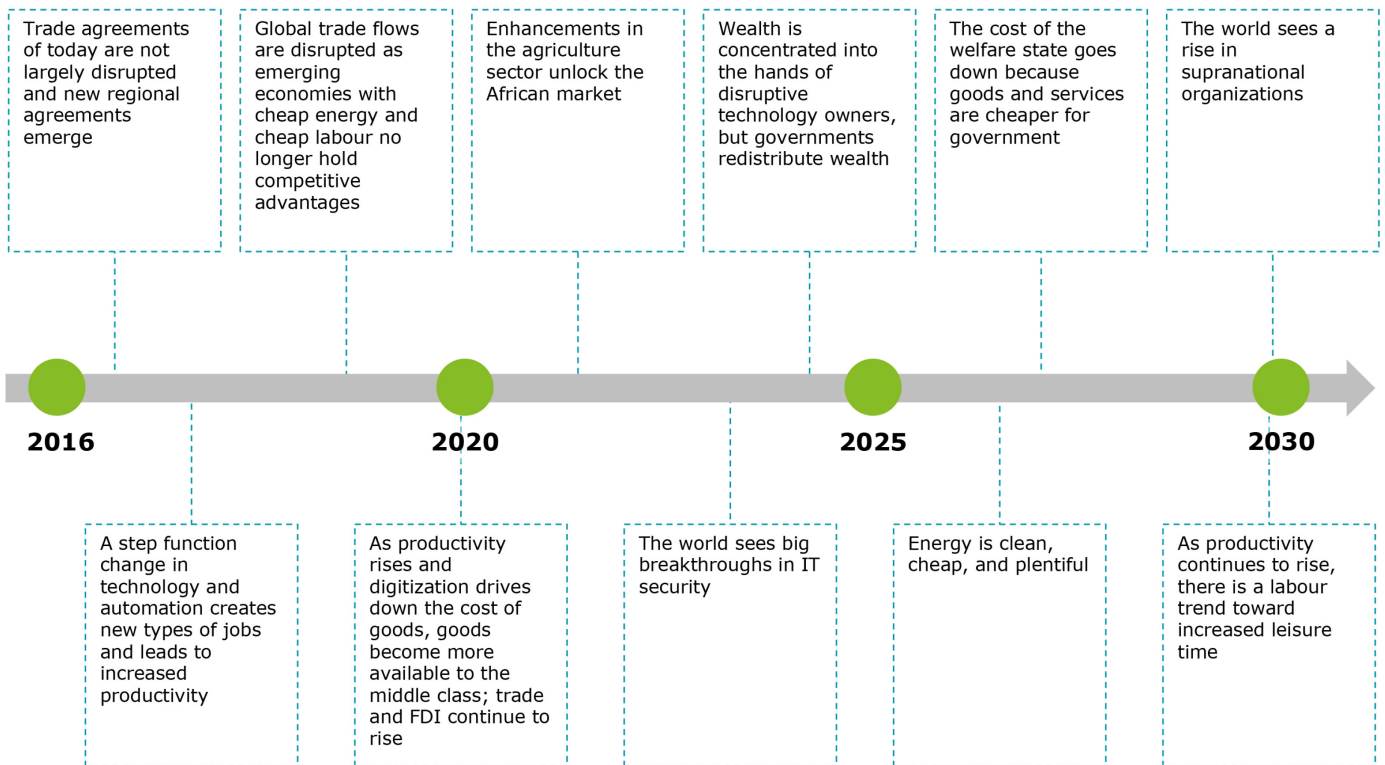
As productivity rises, digitization drives down the cost of goods, making them more affordable to the world's middle classes. Trade rises and new regional trade agreements come into being, building on the legacy of the major trade pacts of the 1990s and the early 21st century. However, the flow of global trade has changed since the early days of globalization, as the expansion of automation means that labour and cheap energy no longer provide emerging economies with the same kind of competitive advantage they once did. By 2025, energy is clean, plentiful—and cheap. Thanks to major breakthroughs in cybersecurity, governments and citizens are far more comfortable and willing to adopt new disruptive technologies to deliver social services.

Globally, wealth accumulates rapidly, concentrated largely in the hands of those who own the disruptive technologies that permeate day-to-day life.

Governments, however, keen to mitigate the socioeconomic impact of a disrupted world, ensure a proportion of this new wealth is invested in social supports to assist those upended by automation. Among these supports, major investments in retraining programs enable people to upgrade their skills throughout their lives so that they can continue to find meaningful work. At the same time, technology has made it cheaper for governments to deliver services, and the cost of government has fallen as a result. Steady productivity growth means workers are beginning to have more leisure time than ever before.

*Globally, wealth accumulates rapidly, concentrated largely in the hands of those who own the disruptive technologies that permeate day-to-day life.*

*Potential future timeline of Scenario 2: Supportive disruption*



Source: Deloitte Canada analysis and consideration.

**Implications for government**

Innovation will constantly outpace regulation and legislation in this scenario. Governments will struggle to keep up with the pace and extent of technology-driven disruption. In response, they will need to clearly define what is and isn't permissible to allow companies to innovate and evolve. Regulations will need to be modernized to reflect the needs of the mid-21st century, and in some cases governments may need to take ownership of certain technology assets. Governments will need to develop forward-looking energy strategies and more active international trade policies. New programs for education, retraining, and immigration will be vital to ensuring Canada has enough talent with the skills and

knowledge companies need. Most critical, however, will be policies to ensure that the great wealth generated by a fast-growing, highly productive economy supports the prosperity of all Canadians.

**Implications for business**

Canadian companies that can capitalize on opportunities in high-growth emerging markets will thrive; those that can't keep up will fail even faster than ever before. Incumbency will be no guarantee of future success, as competition from players inside and outside Canada intensifies and market leaders suddenly find themselves obsolete. With the arrival of cheap energy, business growth in both developed and developing economies will no longer be constrained by high

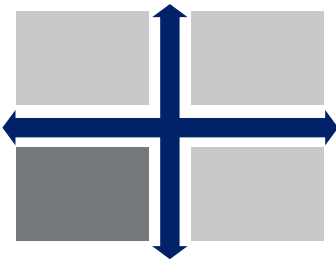
energy costs, allowing capital to be redeployed to innovative areas of businesses.

**Implications for Canadians**

Canadians will need to get a lot more comfortable with ambiguity—with not really knowing what the future will hold for their jobs, their careers, their employers, or even their industries. They'll have a great deal of labour mobility, but they'll need to be open to and adept at learning new skills quickly to capitalize on new opportunities. Overall, however, Canadians will enjoy an improved quality of life. They'll have more leisure time and they'll be able to spend more on the products and services they enjoy.

## Scenario 3: Fragmented decline

The adoption of emerging advanced technologies stalls. The international consensus on liberal trade is eroded and the world experiences a period of fragmented economic slowdown.



### In this scenario...

The world's economy manages to eke out 1% to 2% annual growth, driven largely by developing nations. Many of the world's more advanced economies experience periods of significant contraction due in large part to the slowing growth of disruption and technology. Rolling recessions lead governments to pursue short-term measures to spur economic growth, often at the cost of long-term investment that could spark innovation and disruption in many areas, including green technologies.

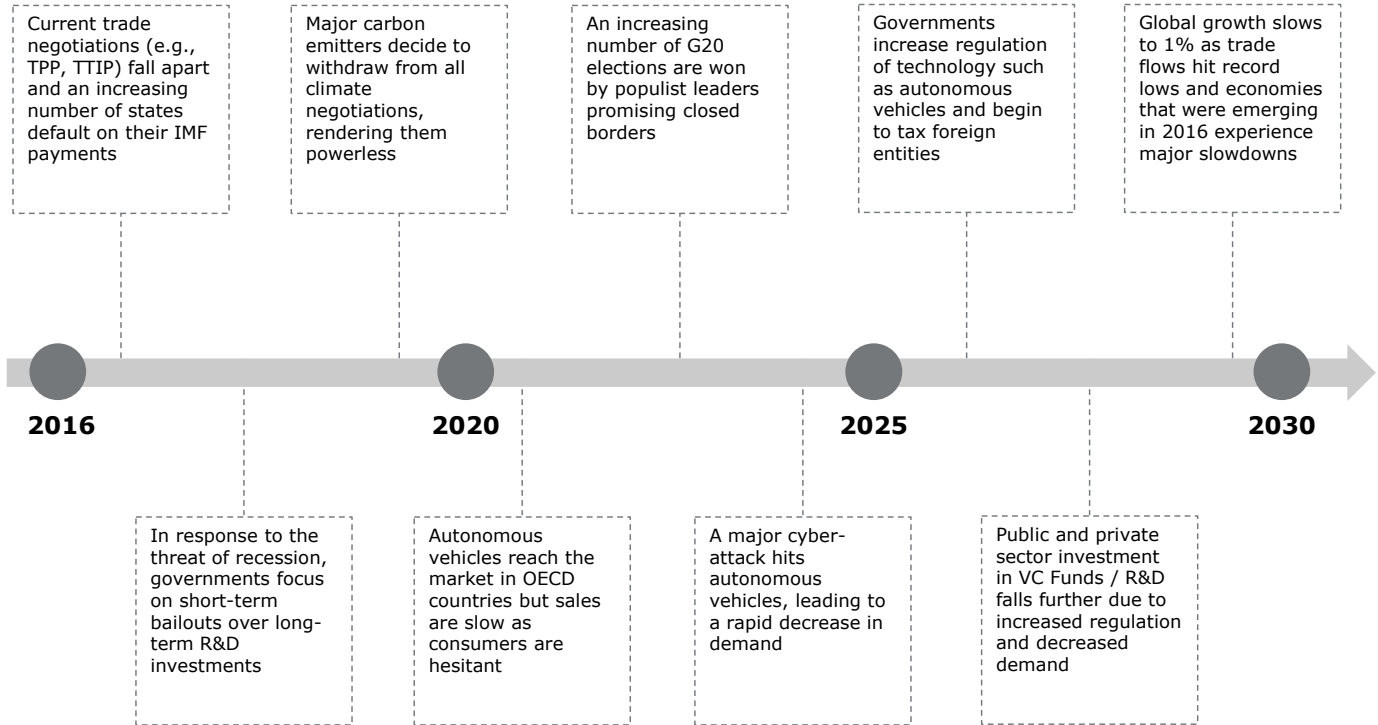
Advanced technologies that once promised to remake industries and launch a new era of productivity, innovation, and growth fail to be widely adopted. The current pace of change plateaus considerably. Some potential breakthroughs are scuttled by concerns over safety and security; others prove to be too difficult to produce cost-effectively at scale. True AI remains elusive across industries and continues to only augment human ability. Fintech, while pervasive across the developed world, stalls in its march across the globe as cybersecurity concerns grow in an environment of global instability.

The era of global trade liberalization comes to a gradual end as countries worldwide grow more isolated, protectionist, and nationalistic in their efforts to spark their economies to life.

International trade begins to slow, and governments resort to high tariffs and taxes and increased regulation to protect domestic industries and hinder foreign companies from entering the market. Climate agreements fall apart as nations turn their backs on international cooperation. Advanced economies' populations begin to decline as governments cut immigration limits.

*The era of global trade liberalization comes to a gradual end as countries worldwide grow more isolated, protectionist, and nationalistic in their efforts to spark their economies to life.*

*Potential future timeline of Scenario 3: Fragmented decline*



Source: Deloitte Canada analysis and consideration.

**Implications for government**

Governments will face enormous pressures in a world of fragmented decline. Low growth and high unemployment will place significant pressures on public finances, leading to growing levels of government debt. With less-than-expected progress toward the development of clean technologies, governments will need to choose between using their limited resources to increase Canadian competitiveness or to fulfil their climate-change commitments. They'll face calls to develop trade agreements with certain countries in an effort to help boost growth, but these efforts will falter amid populist pressures both at home and abroad. Ultimately, each government will need to choose

whether it will be a courageous global leader or a cautious follower in a significantly more challenging world. As domestic pressures mount and support for globalization dwindles, they may well choose the latter.

**Implications for business**

The stagnation of innovation in this scenario will lead to fewer of the hoped-for productivity gains, meaning resources stay locked in old economic models. Export-oriented companies will need to develop new strategies for an increasingly protectionist world. Businesses will strive to achieve scale and will grow increasingly monopolistic; smaller domestic companies will find themselves forced to consider mergers or takeovers from larger players in

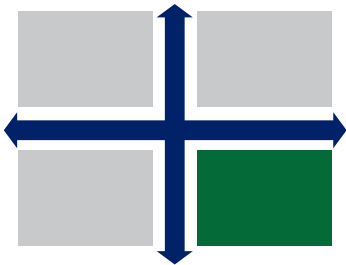
order to survive. Amid rising uncertainty, R&D spending will fall, and companies will grow much more selective in hiring decisions.

**Implications for Canadians**

The drop in export activity will give rise to a new cadre of unemployed or under-employed Canadian workers. Many Canadians will need to become much more mobile than they're used to, as large employers shuttle staff around the country to meet business needs. While the links between the world's economies will weaken, individuals will remain highly connected across borders; this will help Canadians with specific technological expertise pursue lucrative opportunities abroad.

## Scenario 4: Open growth

Global trade increases and the developing world's burgeoning middle class drives economic growth worldwide. Technological disruption evolves more steadily.



### In this scenario...

The protectionist impulse seen around the world in the mid-2010s doesn't last. A global consensus re-emerges that free trade provides a net social and economic good to people around the world, and major international trade agreements are resurrected and ratified.

China, India, Malaysia, and Indonesia experience rapid economic growth as their expanding middle classes gain more purchasing power and increase consumption.

Regional trading blocs re-emerge and take on a new, more powerful form. The new organizations soon drive monetary and fiscal unions, champion military cooperation, and even assume legislative powers.

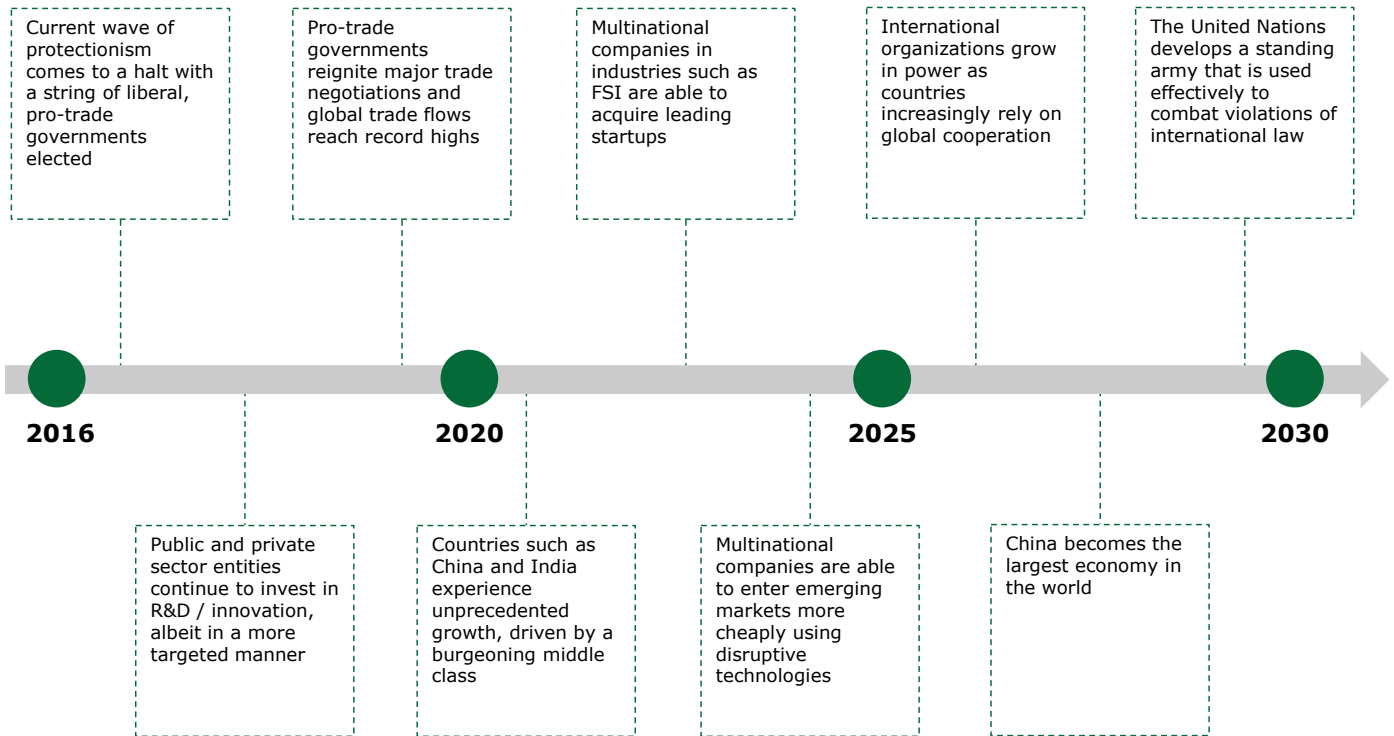
Advanced technologies continue to disrupt traditional ways of doing business at a steady pace, but large, well-established organizations in Canada and around the world are able to adapt by selectively acquiring the start-ups and technologies they need to drive growth and stay competitive. At the same time, they continue to invest in emerging markets and develop their international operations in order to do business across borders and meet high growth expectations.

Governments are also able to keep pace with technology-driven disruption, which enables them to effectively harness and regulate innovation to better drive productivity and growth. Governments begin to embrace new technology platforms to help them deliver services to their citizens. And in situations where domestic capital isn't sufficient to meet national economic needs, governments become more adept at using foreign investment, directed by sovereign wealth funds, as a financing tool.

Governments in advanced economies are finally able to impose a price on carbon. The effort is met with broad acceptance, thanks to a better global acknowledgement of the impact of climate change on the planet and the global economy. But with lower-than-expected levels of clean technology development, countries still struggle to meet their environmental commitments. As a result, over time, resources are increasingly devoted to mitigating costs and adapting to the consequences of climate change. International laws and customs are also more widely accepted, and countries become more likely to cooperate and intervene in situations where international laws are being violated. The world grows safer with each passing year.

*The protectionist impulse seen around the world in the mid-2010s doesn't last. A global consensus re-emerges that free trade provides a net social and economic good to people around the world.*

*Potential future timeline of Scenario 4: Open growth*



Source: Deloitte Canada analysis and consideration.

**Implications for government**

With the global economy thriving under this scenario, Canadian governments will need to design policies that allow the country to capitalize on growth opportunities in emerging markets. They'll need to encourage greater direct foreign investment in infrastructure to help get Canadian products to those growth markets as well. Canada's economic growth is likely to be concentrated in those parts of the country with the greatest exposure to the world's fast-growing economies; governments will need to find ways to encourage interprovincial mobility and address the potential impact of inequalities between Canada's regions and industries.

**Implications for business**

In an open-growth world, success will come to Canadian companies that can seize their place in emerging growth markets and thrive. Across the globe, technological disruption will unlock new forms of consumption, at lower costs than ever, amplifying opportunities within an ever-growing consumer class in developing countries. As Canada looks to capitalize on global growth, the social order will continue to evolve, with companies working more closely with government to deliver core services to a citizenry with growing leisure time.

**Implications for Canadians**

With the global economy firing on all cylinders, the competition for labour and talent will be fierce. Globally oriented leaders able to help companies take advantage of export opportunities will be particularly sought after. More broadly, those with deep ties to emerging markets—and who can leverage those relationships—will have an advantage over many of their peers. With economic growth concentrated in certain regions of the country, Canadians will also become more mobile, and urban populations will swell as people leave rural communities to pursue opportunities in the big cities.

## Scenarios and the peril of uncertainty

These four scenarios underscore just how much can change simply by reframing the critical uncertainties of our time. While we know intrinsically that every future is uncertain, laying it bare as we have forces us to acknowledge its existence and not be paralyzed by it. What's more, by debating a number of plausible futures as we propose, Canadians can avoid taking action only on one "official future," which is what so much current choice architecture and government policies seem to do. Also, given the plausibility of the four different scenarios above, such a single-minded view is both illogical and dangerous.

We believe it's time to act on a few dimensions that will make sense no matter what the scenario: Canada needs more trade, more innovation and more retraining—the very dimensions discussed 25 years ago. That said, we suggest below some vexing questions that are essential in determining how to propel our country forward. Only in debating these crucial questions can we begin to clarify the choices that businesses and governments must make to help Canada win the elusive prize of sustained economic security—no matter which future scenario or combination of them comes to fruition.

# Vexing questions, courageous conversations

Discussing our choices with Canadian governments, businesses, and citizens

**T**hroughout this paper, we've argued that if Canada is to truly lead in an uncertain world, Canadian executives, government leaders, and citizens must engage in constructive, courageous conversations about the future direction of our country. Our commitment is to ask those tough questions that will help to define our way forward. This is not an exhaustive list of all the fundamental questions the scenarios engender. But it does represent what we believe are the five most crucial areas our country must consider today, in order to lead tomorrow.

*Our commitment is to ask those tough questions that will help to define our way forward.*

## Sustainable and inclusive growth

***How will we harness advanced technologies and automation to create tomorrow's jobs, securing ongoing wealth for our country that includes people from every economic level?***

Achieving both sustainable **and** inclusive growth over the next 25 years is fundamental to succeeding in any of the four scenarios. We must discuss the need for trade-offs, as an increasingly digitized and disintermediated world has left much of the wealth in fewer hands. For Canada to find success and truly lead, we'll have to determine what success looks like and what levers we pull to get us there.

## Supporting competitive advantage

***Is Canada prepared to take deliberate and extraordinary action to support areas of true competitive advantage in our country? And if so, on what basis?***

Governments across the globe are increasingly choosing certain industries and groups to support over others, picking winners and doubling down on whatever competitive advantage they might have. In a practical sense, this means that they are massively investing in specific companies, clusters, sectors, and regions of their countries. For Canada to lead, we'll have to confront the uncomfortable reality that disproportionately supporting areas of competitive advantage, has become the new normal—and so we must participate. While we've had various levels of success in the past, today we must define our criteria and act boldly.<sup>30</sup>



### Country size, growth, and immigration

**As labour grows less relevant in driving prosperity, what is the optimum size and composition of Canada’s labour force, and what is the best combination of skills to support long term growth?**

As automation and robotics continue to change the nature of labour in our economy, reducing the overall need for humans in certain jobs, we have seen entire job classifications disappear in developed economies. At the same time, consumption in these economies has been the main engine of economic growth. These two experiences seem incongruent in the long term. While some of the scenarios could require larger populations in order to flourish, others would see sizable immigration as disastrous to potential prosperity. Given the divergence of this issue in the various futures imagined, we must tread carefully in the area of population.

### Innovation

**What must we do better to support sustained innovation in Canadian businesses, governments and society?**

Strengthening innovation was a core recommendation of the 1991 *Canada at the Crossroads* report, and calls for a focus on it have only intensified in the following 25 years.<sup>31</sup> Given the trends and uncertainties we’ve outlined, we know there is no version of a prosperous Canada that doesn’t involve significantly more innovation in the future than there is today. As a country that will remain relatively small in

population, we can’t compete on the volume of businesses we create—instead we must compete on innovation. This can’t be the fast-follower form of innovation often favoured outside of the U.S. and a few other countries, but must instead be truly ground-breaking, net new creation, in order for the country to find success.

### Responsible, responsive, and courageous leadership

**What will it mean to be a responsible, responsive, and courageous business leader in the future in Canada?**

In each scenario we’ve outlined, we see Canadian businesses, and by default their leaders, as playing a larger role in deciding the fate of our economy and our larger society. Underlying this idea is the concept that companies and leaders have a responsibility to make wise choices in the face of uncertainty, for the benefit of all. Areas like our social welfare system, the health of our environment, and the success of our workers will all increasingly come into the purview of corporate Canada. With governments stretched thin in many of our scenarios, citizens will turn in other directions for support—corporate Canada must be ready to heed the call.

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### The way forward

*Canada at a new crossroads: 25 years later* marks the beginning of an exciting and crucial journey not only for Deloitte Canada, but for our country. As the world becomes more unstable and uncertain with each passing day, now more than ever the “world needs more Canada.”<sup>32</sup>

This is the aspiration, but we’ll only reach our own lofty goals if we come together and candidly wrestle with the most difficult questions. Over the coming months, we plan to do just that.

Deloitte Canada will be hosting courageous conversations across the country with directors of boards, CEOs, and policy shapers and makers. Through discussions focused on the vexing questions we’ve proposed, our goal will be to inspire the kind of long-term thinking and moral bravery required to ensure that we are more focused in the next 25 years than we were in the 25 previous. We know that this is no small undertaking, but what gives us hope is that we won’t be doing this work alone—you, the reader of this paper, will be joining us. Our only request is that you consider these questions carefully, and come prepared to turn bold thinking into brave discussions—all of which must lead to decisive action.

## Acknowledgements

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## Endnotes

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- <sup>1</sup> Michael E. Porter and Monitor Company, *Canada at the Crossroads: The Reality of a New Competitive Environment*, Summary Report (1991), 4.
- <sup>2</sup> Michael E. Porter, "The Competitive Advantage of Nations", Free Press, 1990.
- <sup>3</sup> As the chair of Ontario's Task force on Competitiveness, Productivity, and Economic Progress, of which the Institute for Competitiveness and Productivity was/is the research arm.
- <sup>4</sup> Deloitte Canada, *The future of productivity: An eight-step game plan for Canada* (2011), 6.
- <sup>5</sup> *Ibid.*
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- <sup>7</sup> Deloitte Canada, *The future of productivity: An eight-step game plan for Canada* (2011).
- <sup>8</sup> Klaus Schwab, *The Global Competitiveness Report 2015-2016* (World Economic Forum, 2015).
- <sup>9</sup> Deloitte analysis based on data from The World Bank, "Exports of goods and services (annual % growth)."
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- <sup>11</sup> Deloitte Canada analysis based on data from OECD education statistics.
- <sup>12</sup> Deloitte Canada, *The future of productivity: An eight-step game plan for Canada* (2011), 6; Deloitte Canada, *The future of productivity: Clear choices for a competitive Canada* (2012), 50.
- <sup>13</sup> The Conference Board of Canada, *PhD Graduates: Provincial and Territorial Rankings* (2014).
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- <sup>15</sup> Deloitte Canada, *Age of Disruption: Are Canadian Firms Prepared?* (2015).
- <sup>16</sup> Based on projections from the U.S. Department of Agriculture Economic Research Service International Macroeconomic Data Set.
- <sup>17</sup> *Ibid.*
- <sup>18</sup> Deloitte Canada analysis based on data from World Bank, World Integrated Trade Solution.
- <sup>19</sup> Homi Kharas and Geoffrey Gertz, *The New Global Middle Class: A Cross-Over from West to East* (Brookings Institution, 2010).
- <sup>20</sup> Statistics Canada, *Canada's Population Estimates: Age and Sex* (2015).
- <sup>21</sup> OECD, *Education Indicators in Focus* (2015), 2.
- <sup>22</sup> *Ibid.*
- <sup>23</sup> Deloitte Canada, *Age of Disruption: Are Canadian Firms Prepared?* (2015).
- <sup>24</sup> Deloitte Canada, *Age of Disruption: Are Canadian Firms Prepared?* (2015).
- <sup>25</sup> Brookfield Institute for Innovation + Entrepreneurship: *The Talented Mr. Robot: The impact of automation on Canada's workforce* (2016).
- <sup>26</sup> As of February 2017.
- <sup>27</sup> "Official future" in this context means the future that is most commonly discussed in our current public discourse and the most simplistic extrapolation of current trends based on our experience. We aren't suggesting that this is the future that we might expect—based on our analysis quite the opposite is true: the future is more unknown than it has been in decades.
- <sup>28</sup> When assessing the extremes of the global growth uncertainty we considered multiple sources. See, for example, Neil Irwin, "We're in a Low-Growth World. How Did We get Here?" *New York Times*, August 6, 2016, and McKinsey Global Institute, *Manufacturing the future: The next era of global growth and innovation* (2012). Irwin makes an argument for persistence in low global growth. Conversely, the McKinsey Global Institute report argues that through technology and productivity gains, as well as rising consumer classes in developing nations, global growth will quickly accelerate.
- <sup>29</sup> In our analysis of the extremes of technological disruption, we reviewed research across the continuum of possibility. See Robert J. Gordon, *The Rise and Fall of American Growth* (Princeton University Press, 2016) and Tyler Cowan, "Is Innovation Over?: The Case Against Pessimism," *Foreign Affairs* (March/April 2016). On the one extreme, Robert Gordon suggests that disruption has begun to fall flat, limited by the human need for personal interaction. On the other end of the spectrum, Tyler Cowan suggests that with an ever-increasing number of people entering fields of science and technology, the pace of disruption and the corresponding gains will only increase.
- <sup>30</sup> Canada's record of taking bold bets and picking winners is mixed. Actions like the expansion of the Canadian Pacific Railway, the creation of the Auto Pact, and the development of the Alberta oil sands were instrumental in the development specific sectors and the country's economy. In contrast, less successful or uncompleted efforts—such as the Avro Arrow project—point to potential pitfalls and highlight the need for courageous, committed leadership.
- <sup>31</sup> See Review of Federal Support to Research and Development, *Innovation Canada: A Call to Action* (2011); Expert Panel on Business Innovation, *Innovation and Business Strategy: Why Canada Falls Short* (2009); Canada 2020, *The Canada We Want in 2020* (2011); Roger Martin and James Milway, *Canada: What It Is, What It Can Be* (Rotman-UTP Publishing, 2012).
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**Canada at 175** refers to Deloitte's vision for the future of our nation's prosperity by July 1, 2042. With the 150th anniversary of confederation on the horizon, now is the time for Canada to redefine what it means to be a global leader.

Our ambition as a nation must be bolder—we must aim to not only achieve economic prosperity, but to elevate our quality of life for our vast and diverse population.

Deloitte's vision is that Canada should rank among the top three countries on the Human Development Index within the next 25 years. To do so, we must adopt an unrelenting commitment to developing courageous leaders who embody an inclusive way of being.

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