

Future Skills Podcast

Season 4: Episode 3

Canada's Productivity Puzzle: The Skills Connection

We've heard the term "productivity" come up a lot lately. But what does the term really mean? And why does strong productivity matter for leaders, decision makers, and to Canadians at-large? Three experts join us in this episode to help us unpack this concept. They give us an overview of the economic concepts behind productivity, suggest solutions to help boost Canadian productivity, and explain why skills development and innovation are an important part of this conversation.

Guests

Jonathan Barr, Senior Director, Innovation, Science and Economic Development Canada (ISED)

Pedro Antunes, Chief Economist, The Conference Board of Canada

Anne-Lore Fraikin, Senior Manager, Economic Research, The Conference Board of Canada

Host

Heather McIntosh, Associate Director, Education and Skills, The Conference Board of Canada

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Transcript

Heather McIntosh:

Welcome to Season 4 of the *Future Skills* podcast presented by the Conference Board of Canada on behalf of the Future Skills Centre. Here, we explore how skills development can prepare Canadians for the future of work. I'm Heather McIntosh, your host for this season. I'm the director of the Education and Skills team at the Conference Board of Canada.

We've been hearing a lot about the term "productivity" lately, but what do we really mean by this term and why should productivity matter to leaders, to decision-makers, and to Canadians at large? In this episode, we hear from three experts on the topic. They give us an overview of productivity and its components, suggest solutions to help boost Canadian productivity, and explain why skills development and innovation are an important contribution to the productivity conversation.

First up, I'm joined by Jonathan Barr. Jonathan is a Senior Director with Innovation, Science and Economic Development Canada, sometimes referred to as ISED. Jonathan worked previously at Employment and Social Development Canada, where he led a team that analyzed labor market and skills trends. Before that, he was at the OECD for nearly a decade and led a team of economists focused on global issues related to employment and economic development. Welcome, Jonathan. Pleased that you could join us today.

Jonathan Barr:

Thanks a lot, Heather. Pleased to join.

Heather:

I'm going to dive in with our first question here. Jonathan, let's start with a broad question about the importance of productivity. From where you stand, why does productivity matter and why should non-economists like myself care?

Jonathan:

Great. Thanks a lot for the question, Heather. I think it's probably best to start with a quote from a famous economist named Paul Krugman. He effectively said, "Productivity isn't everything, but in the long run, it's almost everything." I think that really speaks to the fact that a country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker. An economy with stronger productivity has faster growth, more jobs, and higher wages with less risk of inflation.

Heather:

Okay. Jonathan, you're speaking to a non-economist. Can you describe to me what is productivity to someone who is not an economist?

Jonathan:

Yes, no, I think it's a great question. I think probably what really matters is, what does weak productivity really mean for the average Canadian? What I think it does mean is Canadians, compared to their peers abroad or other countries, earn less, work more, and perhaps spend more on housing. One interesting way of comparing productivity and what it really means to the everyday average Canadian is looking at wages. Productivity is really intricately connected with pay. When we look at average disposable income, in the US, it's around \$62,000. Whereas in Canada, it's around \$43,000.

That's 30% less that the average Canadian has to spend on other things that they might want to spend, whether it be groceries or other things to stimulate the economy going forward. I think another important indicator is hours worked. For example, to keep Canada's economy level with Finland, each year, a Canadian would need to work about 200 more hours. That's about five more weeks than the average person from Finland. I think these types of data I've tried to present really speak to why it's important for all Canadians to really care about productivity.

Heather:

Jonathan, what can you say about Canada's recent productivity performance?

Jonathan:

Yes, it's really interesting. Productivity is one of those things that's really felt and observed over the long term. The Canadian economy has essentially seen a steady decline in our overall productivity growth since the 1960s. Essentially, we were seeing growth rates in and around 3.6% in the '60s, but this steadily declined to about 1.8% in the '90s, and then to about 1% post-2000. Really, the pandemic, we've seen pretty much almost zero growth in our labor productivity in the economy. In fact, labor productivity has now fallen in 12 of the last 15 quarters coming out of the pandemic. We're essentially back to where we were in 2018 in terms of our overall productivity levels.

Heather:

I said, from what I understand, you focus on issues, of course, related to Canadian innovation. I'm wondering if you could discuss the relationship from your perspective between innovation and productivity. What is the role of innovation in spurring productivity?

Jonathan:

Yes. Really, innovation is really, you can think of it, it's like the engine that drives productivity forward. Innovations often introduce new technologies, processes, and methods that streamline tasks and processes, and really make the economy more efficient, which is absolutely vital for productivity going forward. The innovation system in Canada really plays an important role in stimulating our productivity growth.

I think one of the things that we look at within the department is R&D or research and development. We really see that R&D has an important spillover effects across sectors. Knowledge gained from one innovation can lead to further developments in unrelated areas, often amplifying the overall impact on productivity. Innovation is really key to productivity growth going forward in Canada.

Heather:

How is Canada doing when it comes to innovation?

Jonathan:

I think, Canada, we've got a lot going for us, but there's also some challenges that we need to think about. In terms of what we have going for us, Canada remains a leader when looking at R&D expenditures amongst higher education institutions. That's really important because we know that higher education like universities and colleges, they're really at the forefront of research and innovation and can create important knowledge spillovers that drive productivity growth.

On the other hand, one of the challenges we see is business investment. This is really, I think, an overall challenge in terms of the productivity storyline in Canada. One of the indicators we look at is what's called Business Investment in R&D, otherwise known by some economists as BIRD. When we look at the numbers, we see that overall BIRD rates in Canada have declined from a peak of 1.25% of GDP in 2021 to 0.93% in 2021.

During the same period, what we see if we're looking at OECD averages is overall average BIRD rates have gone from 2.16% of GDP to 2.71%. In other words, what I just said there is Canada's overall BIRD rate is falling while other OECD countries are gaining. I think that has important implications for our productivity growth going forward because we're falling behind some international competitors in a global marketplace and economy.

Heather:

Why do you think BIRD rates are decreasing for Canada and increasing for other OECD countries?

Jonathan:

Yes, it's a really great question. I think in Canada, one of the really unique things about our economy is we are an SME-based economy. We have a lot of small and medium-sized enterprises. That's important because SMEs are the bedrock of the economy.

That also creates challenges in terms of these investments. In many cases, SMEs are just getting by and have certainly been disproportionately impacted by the pandemic. That certainly explains part of the challenge.

I think a lot of the other challenges in terms of business investments is we see a lot of investment going to what are called “non-residential structures.” Effectively, plants and warehouses to manufacture and sell products, but we see less business investment going to what are called machinery and equipment and intellectual property products, which often have greater spillovers in terms of productivity growth. It’s not that firms aren’t investing in Canada. It’s perhaps that they’re not investing in the right things for productivity growth.

Heather:

Jonathan, where do skills enter the conversation when it comes to productivity?

Jonathan:

I think skills are really fundamental to solving the productivity puzzle in Canada. The economy needs higher levels of skills well-aligned with employer demand. What we’ve seen from the pandemic is it really acted as a great accelerator of some megatrends around automation, digitalization, and AI. We see that skilled workers are generally more efficient at completing tasks. They often bring new ideas and perspectives to the table that can help lead to new innovations and process improvements in how products and services are manufactured and delivered. Skills are absolutely vital for the economy going forward and to give us the productivity payoff we need in the future.

Heather:

I’m hearing from you that skills are important for this productivity conundrum, but do you have any thoughts on how we go from thinking about, “Yes, skills are important,” to where does the execution come in there?

Jonathan:

I think the more skills people have and the more training they receive, the more value they can generate on the job. For workers, I think it really means having access to training and reskilling programs, so whether it’s learning how to use a new technology or gaining skills that can create opportunities to maybe change a career or switch the sector that a person is working in. I think for new entrants to the workforce, it means colleges, universities, and apprenticeship programs that can help them prepare for the world of work.

It’s really, I think, also important to acknowledge in this vein that Canada’s workforce is expanding at a record-setting pace with immigration driving this increase. I think that’s also an important part of the overall productivity piece is that payoff will come. It’ll come probably later, but there are some transitions happening in the economy with that strong population growth that we’ve seen recently.

Heather:

Understanding the value of skills in this productivity question, do you have any thoughts or recommendations for the education and skills ecosystem?

Jonathan:

Yes, I think interestingly in Canada, when we look at the supply side, otherwise known as educational attainment, is one way of looking at it. Canada has a skilled workforce. About 59% of Canadians age 25 to 64 have finished tertiary education, so college or university. That’s one of the highest in the OECD. I think supply-side approaches are definitely important.

I think perhaps greater attention and opportunity could be on the demand side. That’s working closer in partnership with firms to look at how they deploy and utilize the skills available in the economy in the workplace. Here, I think one of the really important opportunities is looking at management skills and promoting what are known as high-performance workplaces in Canada.

Heather:

Can you dig in a little bit more to that idea of looking at the demand side?

Jonathan:

I think there potentially is a challenge in Canada around firm absorption capacity with all the great skills we have in Canada. One of the examples is if we compare Canada to the US and look at manager university degrees. In 2021, 47% of Canadian managers had a university degree compared to 60% of American managers. Good management is one of those factors that can play a role in how workplaces organized and can lead to opportunities to more effectively utilize the skills that are there. We know that managerial education can help drive innovation by disseminating best practices, increasing the ability of managers to adapt and manage change, and integrate new technologies in the workplace, which is all really important for productivity.

Heather:

Jonathan, I'm wondering if you could dig in a little bit more to this idea of high-performance workplaces. What do you mean by that?

Jonathan:

Yes, so I think it really builds on the point I was saying about looking at the demand side of the economy. I think there really is a strong rationale to work closer with firms to encourage them to use skills better. One way of measuring this is what I mentioned called "high-performance work practices." What these practices are effectively are things like employee reward programs, more flexible working hours, mentoring and leadership development courses, as well as a general company culture that promotes training and development. It's essentially trying to enable employees to have more autonomy and skills training in the workplace.

The OECD actually collects international data on this using the survey of adult skills. When we look at Canada, we see about 28% of firms exercise high-performance work practices with greater take-up amongst larger firms

versus small firms. That's slightly above the OECD average, but it does fall behind leading jurisdictions like Denmark, Finland, and Sweden. I think this is an area where maybe we could do more, not only to measure but look at policy opportunities going forward to encourage firms to think more critically about how they're designing the workplace to maximize the way skills are deployed.

Heather:

Hopefully maximize productivity as well.

Jonathan:

100%.

Heather:

Jonathan, thanks so much for joining me today. It's been a pleasure to have this discussion.

Jonathan:

Thanks a lot, Heather. It was my pleasure to join the podcast.

Heather:

Next, we'll dive deeper into the dimensions of productivity with Pedro Antunes, the Chief Economist at The Conference Board of Canada. The Conference Board is well-known and respected for its insights on the Canadian economy. Conference Board economists regularly publish in-depth economic analysis and forecasting. Pedro is a familiar voice in the media. He frequently shares his expertise with various news outlets. He's got a knack for explaining complex and nuanced economic issues in a straightforward way. I am so pleased he could join us again on the podcast. Hi, Pedro. How are you doing?

Pedro Antunes:

Great. Thanks for having me, Heather.

Heather:

Pedro, I'm wondering if you can start us at that high level and explain why does productivity matter and why are people so concerned about this lagging productivity in Canada right now?

Pedro:

You may know, Heather, I've been at The Conference Board a long time, so it's a long-standing issue that we've been looking at in terms of productivity. Why is it important? Well, the economists will tell you that productivity is output or GDP per hour worked. I'd like to say that GDP is essentially income that we earn through economic activity. Sometimes people forget what really that means and income earned per hour worked is really important because that's our prosperity.

In fact, when we talk about productivity, we usually go to the business side of the economy because it's hard to measure productivity in the public sector. We look at business sector productivity. How much are we getting per hour worked in terms of income, both wages and that income earned that goes to labor, but also profits and the income earned that goes to owners of capital? That's essentially what GDP is.

Why is it important on the private sector? Well, the private sector is what generates the income that is taxed by government. We focus down, what are businesses doing? What is the business sector doing in terms of investment, in terms of all the pieces that can drive this income? Of course, if we're lagging in growth on that productivity piece, then that means that our prosperity is not keeping up with that of other countries, let's say.

Heather:

Pedro, this idea of productivity seems pretty layered. Do you mind unpacking it a bit for us?

Pedro:

Recently, we've heard a lot about our deputy governor at the Bank of Canada in a speech. Well, this was Carolyn Rogers in a speech that she gave in Halifax. She broke it down beautifully, I thought. She talked about, what are the pieces that drive our output in terms of our productivity? Essentially, she talked about the amount of physical capital per hour worked or per worker, so you can imagine.

The example I've always used in the past was if I had a shovel versus if I had a backhoe. She used the example if we had a shovel versus if we have a snowblower or a pickup with a shovel. You can imagine how much more work gets done per hour of the employee's time with a different amount of physical capital. That's one key factor. The other really important one, which Canada is doing fairly well, I would argue, is on the quality of the workers themselves. We measure that through, essentially, educational attainment and skills.

That's another really important piece. Now, how we actually look at it is, how are real wages evolving? Statistics Canada actually measures that quite well and tells us that we've been building up our human capital in Canada. Over time, that is contributing steadily to our productivity, to our income earned. In other words, if you're an engineer versus a service sector worker, nothing against either one, but the amount of wage that an engineer can earn is higher because there's just more value-add from that higher education, that higher certification.

Then the last piece, which is really interesting and what drives a lot of change in productivity, is what we call efficiency or multifactor productivity. You might hear that term. Certainly, if you read any productivity research, you'll see it. What does that mean? Well, essentially, economists don't really know. It's what we don't understand about the physical capital or about, essentially, the human capital that drives our output.

These pieces don't necessarily always match up. Sometimes there's that piece that we don't understand. We call it "multifactor productivity." When we look at multifactor productivity, the efficiency, we look at everything. This is what some of our work in innovation is doing in terms of, are we commercializing? Are we producing patented products? Are we doing research and development? Are we entrepreneurial? These are the things that we think affect that efficiency piece that is so hard to understand really.

Heather:

Pedro, we hear a lot about this talk around Canada's lagging productivity. I'm wondering if you could dig into that a little bit. How are we lagging? Why are we lagging from your perspective? I'm wondering if you can dig into that a bit.

Pedro:

I like to put it into a little bit of perspective. If you look at the last decade or so, we've been on par with most other developed economies, advanced economies, let's say. Not too, too bad, but almost all advanced economies have been lagging the US performance, which has been really a step above everyone else. If we go further back, we know that Canada hasn't really done that well in comparison to other economies as well. It's been a long-standing issue as I mentioned.

I think one of the big concerns that's really striking and why we're hearing the term "productivity emergency," I don't like the term "emergency" necessarily because it suggests that in some ways, we could fix it quickly. I think these are obviously issues that are longer term. Are we doing enough R&D? Do we have enough investment in physical capital? These are things that are structural. We need to address these issues over a long time.

Nonetheless, I think what's called for the use of the word "emergency" has been what's happened to the business cycle since the pandemic. We've seen a real drop in productivity in Canada. Some of it is because some of the industries that were more productive haven't come back. Some of it is very concerning really recently because the economy has slowed to a very slow pace. That's because interest rates have come up and the Bank of Canada is trying to force the economy to essentially shut down.

At the same time, we've seen businesses and employers continue to hire massively. You can imagine what that does when your GDP, what you're able to sell, and your revenue creation is down while, at the same time, you're hiring more and more people. I'd like to just highlight

that cyclical part, maybe just a cyclical. Maybe we'll see that come back a little bit. It's more the longer-term trends, I think, that concern me the most.

Heather:

Pedro, while I've got you, I have to ask. Why are the United States such rock stars when it comes to productivity?

Pedro:

Essentially, since 2015, we've seen a significant drop in the amount of private investment in physical capital. That is our competitiveness, our tax competitiveness, and many other issues have affected the level of investment spending. We're not building up that productive capital quickly enough to keep pace with, essentially, the employment growth and fairly good employment growth that we've had over past years.

This is especially poignant when we compare to the US. If you look at US private investment in productive capital, and why I say "productive" is we want to exclude residential. We want to look at machinery and equipment, industrial space. We even include, in fact, transportation infrastructure and other infrastructure that is government-funded, but we want to exclude residential.

If we do that, we see that the US is essentially investing at 15% of its GDP, of its total income. Canada is more around 10% or 11%. This means that that easy part of productivity, that piece that we get from just having more physical capital, more snowblowers, let's say, that easy part is drastically lagging in Canada. When we look at that specifically, we're not only lagging in comparison to the US, we're also behind the eight ball really in comparison to Europe and many other countries.

Heather:

We've talked a lot about some of the challenges, Pedro, with the whys. I'd love to get your thoughts on some of the solutions. What can we do in your perspective to improve Canada's productivity?

Pedro:

Well, that's a tough question. I do think we need to address our competitiveness in terms of the tax regime. There's a lot of outcry with the latest federal budget about what capital gains taxes might do. I have nothing against having a fair tax system in Canada. The question that begs here is, are we competitive? Are we changing the tax rules so that we're losing to the US where there might be an advantage there?

It's really important to at least be understanding of that playing field that we're dealing with. I know that right now, we're seeing very strong investment in the US with respect to a lot of the measures that have been put in place. We talk about the IRA and the subsidies that are going in. The IRA is the Inflation Reduction Act that President Biden put in that heavily subsidizes green industries.

We've had some wins in Canada. Some might agree or disagree with subsidizing specifically battery plants. We're hearing about another success perhaps with Honda EV manufacturing. I think, certainly, that's one issue that we have to deal with. The environmental approval process is something that we have to look at as well. Heather, I want to bring you to a little bit of what I think is good news.

I do think there are some bright spots. One of them is in the fact that we are no longer really a manufacturing economy. We are still very much a resource economy, but where we have grown fabulously over the last decade and even through the pandemic has been on a knowledge economy side of things. The investment that we're doing in human capital, I think, is key to that. We have strong immigration.

I know we've had challenges right now with the affordability issues and some of those pieces, but the knowledge economy is where we're essentially competitive, where we've been growing and seeing the private sector prosper. The other thing is that when we look at the knowledge side of the economy, there's some recent research done by Statistics Canada that's telling us that maybe we're not capturing all of that capital investment properly.

When we are adapting and adopting technology that is cloud-based, AI, let's say, we may not be capturing that in the numbers. I do think that AI is going to be a game-changer. There's a lot yet to be understood about how that is going to affect what is a growing, booming part of Canada's economy, and that is the knowledge-based economy. Just to give you an example, other professional, scientific, technical services, this is private sector, well-paid wage, this is where the growth has been happening, certainly in the last decade in Canada.

Heather:

As you know, some of our colleagues are working on some research on skills and productivity. We wanted to get your perspective on it. Are you aware of the project? Do you have any thoughts on it?

Pedro:

One of the pieces where we're trying to understand that unknown part, the efficiency part that's really important is some of the work that is being funded, in fact, by the Future Skills Centre that the Conference Board and Anne-Lore's team is taking on is looking at specifically how skills may be affecting or the lack of skills or skills mismatches may be, in fact, affecting our productivity performance. This is a seminal piece of research. We've not seen this done before. I think it just adds another piece to our understanding of what's missing in terms of Canada's productivity performance.

Heather:

Great. I can't wait to talk to Anne-Lore and hear all about it. Thanks, Pedro.

Pedro:

Oh, it's a pleasure. Thanks for having me.

Heather:

Let's hear about this recent Conference Board of Canada research project that's being funded by the Future Skills Centre. Here to tell us about it is Anne-Lore Fraikin, Senior Manager of Economic Research at The Conference Board of Canada. Welcome, Anne-Lore.

Anne-Lore Fraikin:

Thank you for having me, Heather.

Heather:

I'm excited to hear more about this research. Can you tell me a bit about the goals of the project?

Anne-Lore:

This report analyzes the link between productivity and skills shortages in Canada. We often hear that Canada's labor productivity lag its peers, and particularly the United States. There are many possible reasons for this situation. Past research has looked at the industrial structure, business innovation, for example. We are exploring a different angle and we are looking at whether skills and skills shortages in particular could be influencing Canada's productivity performance. The main objective of the report is to really examine the relationship between productivity in Canada and skills shortages.

Heather:

That's interesting. What did you find?

Anne-Lore:

We did find that skills matter for productivity. Actually, if we look at the two episodes where Canada's productivity growth was like the United States, so that's the early 2000s. From 2018 onwards, we found that skills shortages explain roughly 7% of this gap. That may not sound like a lot. Actually, even if we could address this small share of the productivity gap, this would increase Canadian GDP by billions of dollars each year.

Heather:

Okay, so why does this link between skills shortages and productivity that you found matter? What is the significance of this link?

Anne-Lore:

With our research, we found that skills shortages, which are a well-known phenomenon in Canada, they do matter for productivity. They could explain part of why Canada is lagging behind its peers. We also know that there are policy tools that can help address skills shortages in Canada. Those include training and education but also targeted immigration. With the current trend and the current situation, it's first important to understand the factors that are influencing productivity in Canada so that we can think about and implement targeted measures and policies.

Heather:

Let's get into a few more details about the project. I'm curious to know a little bit more about your approach.

Anne-Lore:

There are two parts to the report. First, we are measuring the link between labor market tightness and productivity in Canada. We built a labor market tightness index using six different indicators that we get from Statistics Canada. We use this index as a proxy for skills shortages. From there, we found that skills shortages, they do matter for productivity.

In the second part of the report, we are building a skills profile by industry. Based on the first part of the report, we know which sectors are likely to face skills shortages. In the second part, we're translating the sectors and the occupations in each of these sectors into skills demands and skills gaps so that we can assess the current needs and the current skills gap of the Canadian labor market.

Heather:

What do you mean by skills shortages? How do you measure these skills shortages?

Anne-Lore:

That's a really good question. It's actually challenging to measure skills shortages because it's not possible to directly observe skills. We don't directly get data. We don't get information from Statistics Canada that would

help us or that would tell us which skill is in shortage. First of all, I'd like to take a step back to differentiate between three different concepts which are important.

Skills shortages, which is what we're looking at in the report, they arise when the skills that are sought by employers are not available in the pool of candidates or the unemployed workers. Skills mismatches are different. They occur when a worker's skill level exceeds or falls short of what is required for their job. Skills shortages, they can lead to a skill mismatch because employers, they might have to resort to hiring workers who are underqualified for the job, for example.

Then we have tight labor markets. Tight labor markets, they are caused by a shortage of qualified workers. The degree of tightness is typically measured by looking at the unemployment rate or increases in wage, the average working hours of workers. Since we cannot observe skills shortages directly, we have to use different methods. In this report, we are using methodology from the OECD, the methodology that they use for their Skills for Jobs database.

What we do is we combine six different labor market indicators and we create a single measure of labor market tightness for each industry in Canada. This indicator, it tells us at any given point in time, which industries are facing tight labor market. We use this as a proxy for skills shortages. Essentially, we're looking at what's happening in the labor market. Thanks to these indicators, we're inferring which industries are likely to face a skills shortage. The way this indicator works, so I'll give an example.

When skill is in short supply, we would expect the returns for this skill to increase. That means that we would expect the wages for workers who possess that skill to go up. Based on that, firms might want to adjust their production process to decrease the demand for that

particular skill. Workers or job seekers, they might want to train in that skill. Wages and working hours used alone don't always tell the whole story. We have to use an index of different indicators to really understand what's happening in the labor market.

Heather:

Thanks for explaining all of that for us. I know that this methodology was both unique and complex. I'm wondering, are there any other findings from this project that you'd like to share?

Anne-Lore:

There are two other key findings that I would like to highlight beyond the main result that skills matter for productivity. First, we found that there are three groupings of industries in the Canadian economy that have similar skill requirements or skill needs. First is the goods-producing sector such as construction and mining. The second group is the knowledge-based services such as professional services, health, and education. The third group is technical and manual services such as hospitality.

What we observed based on the data is that skills shortages in one industry tend to spill over to other industries with similar skills demand. We found that, currently, the construction sector is facing skills shortages. This has spilled over to the utilities and mining sectors. Over 2022 and 2023, we found that these skills shortages cost the Canadian economy close to \$4 billion. We know that these three sectors that are facing skills shortages, they require high levels of technical skills, which include workers who can select, set up, operate, test, maintain, and repair equipment and machinery, as well as design and develop layouts for the construction of objects, equipment, machinery, structures, or engineering systems.

Heather:

Now that this project is complete, what's next for your research?

Anne-Lore:

We think it would be useful to understand skills shortages and skill demand at a more granular level. We would like to look at, again, the labor market tightness indicator at, for example, the occupational level rather than the industry level. We studied three groups of industries, so we'd like to replicate it for specific industries. We would also like to try and better understand the pathways to alleviate skills shortages. For example, we found that the construction sector is currently facing skills shortages. Could this shortage be addressed with training programs such as on-the-job training or micro-credentials or would it require multi-year university or apprenticeship programs?

Heather:

As we wrap up this episode, I want to thank our guests, Jonathan, Pedro, and Anne-Lore, for their insights. I think they did a great job of taking these complex and sometimes quite technical economic concepts and bringing them to life. We've discussed the importance of productivity to Canadian prosperity and the role of innovation and skills development within this concept. Thanks for following along. If you've enjoyed this episode, please subscribe and recommend to others to take a listen. I'm your host, Heather McIntosh. Until next time.