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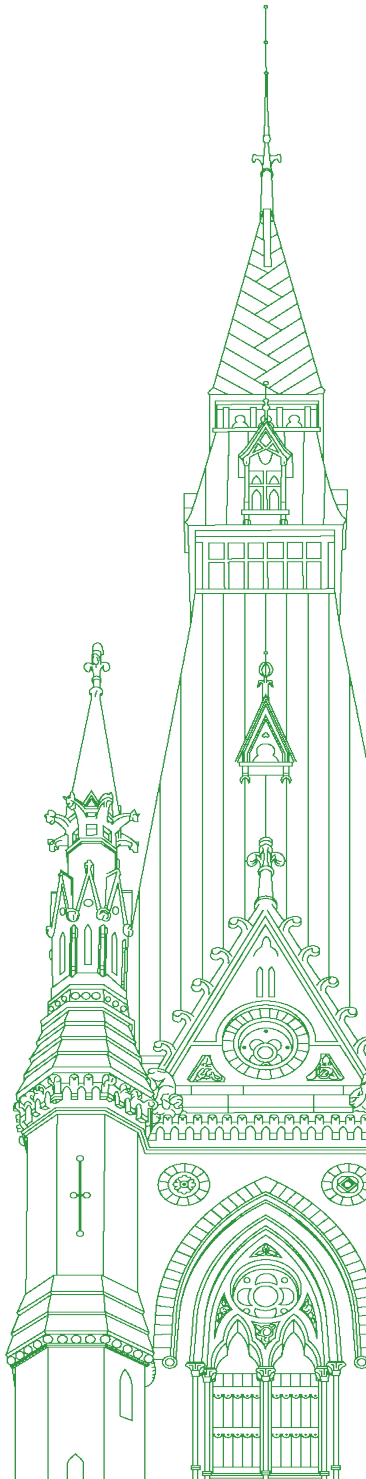

Chair: Mr. Lloyd Longfield

Standing Committee on Science and Research

Tuesday, June 13, 2023

● (1100)

[*English*]

The Chair (Mr. Lloyd Longfield (Guelph, Lib.)): Welcome to number 49 of the Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format pursuant to the House order of June 23, 2022. Members are attending in person in the room, and we also have members remotely using the Zoom application. We have a witness on Zoom, as well, today.

I have a few comments regarding Zoom. To choose your interpretation, you have the choice, at the bottom of your screen, of floor, English or French. Mute yourself unless you're speaking. When you are speaking, speak through the chair. That goes for everybody, please.

Pursuant to Standing Order 108(3)(i), and the motion adopted by the committee on Tuesday, February 14, 2023, the committee commences its study of the Government of Canada's graduate scholarship and post-doctoral fellowship programs.

It's now my pleasure to welcome our witnesses today. Thank you for coming and preparing for today's discussion.

First of all, in the room, we have Colin Colterjohn, Ph.D. candidate from McMaster University. From Support Our Science in Winnipeg, we have Marc Johnson, chair of the board.

Each of you will have five minutes to give us your remarks, after which we'll go to the rounds of questioning. I'll start signalling you, when we're at time.

We'll start off with Colin Colterjohn from McMaster.

Mr. Colin Colterjohn (Ph.D. Candidate, McMaster University): Thank you very much, Mr. Chair and the Standing Committee on Science and Research, for inviting me to give the testimony of my experience as a graduate student in Canada.

I thought it best to begin by addressing how McMaster University recognizes and acknowledges that it is located on the traditional territories of the Mississauga and Haudenosaunee nations and within lands protected by the Dish with One Spoon wampum agreement.

Next, I'd like to open by giving an overview of who I am and what my research is. I'm a Hamilton native currently studying at McMaster University in the engineering physics stream for my Ph.D., specializing in the nuclear stream. I primarily focus on modelling the introduction of small modular reactors into Ontario's energy mix. If you have any questions about this, please let me know. I believe I may have exhausted my partner's patience on the topic of nuclear reactors at home, so it would be best to get it out of my system while I'm here.

With the support of my amazing supervisor, McMaster University, Mitacs and other research funding groups, I've been fortunate enough to have opportunities to collaborate with international professors and pursue my research abroad, such as spending nine weeks in Japan last summer as part of the Mitacs-JSPS Globalink award.

However, while amazing opportunities such as this may exist on the individual level, I have found that graduate funding as a whole is an area worthy of rehabilitation in Canada if we are truly seeking to ground innovation domestically and support a new generation of industry-leading experts.

For almost the entirety of my undergraduate career, I knew that grad school was a route I wanted to follow. That being the case, I still spent the vast majority of the time looking into pursuing my graduate career in the United States rather than Canada, largely due to the immense funding opportunities that exist for both researchers and varsity athletes down south. In the end, though, the opportunity to work with a specific professor at Mac shifted my interest back home. Though I'm happy with my decision today, it has not come without its difficulties.

For example, I recently purchased a very modest home in Hamilton. I am the only one I know, among my peers, who has been capable of doing so, and I could not have done so without my fiancée sharing the financial burden. She is a registered nurse who has also recently rejoined the academic community to obtain her master's as a nurse practitioner. Unfortunately, as is the reality in today's housing market, my fiancée was unable to begin her graduate career until after we successfully secured a home together, as Canadian mortgage insurers do not consider my guaranteed graduate and research scholarships to be counted as consistent income, even when stipulated as such by my issuing university.

Together, with the aid of our respective graduate bursaries and collective funding, as well as all qualified OSAP support, we still would not be able to sustain our current mortgage payments without the part-time jobs we both hold and balance alongside our full-time education. My fiancée continues to work 12-hour shifts as an RN and I operate as a part-time bar manager in Hamilton in order to subsidize the mortgage we otherwise could not afford. Even then, our financial situation, though sustainable, is far from comfortable. I believe this remains a best-case scenario for many graduate students seeking to own their own homes today.

While it may seem obvious that the preferred alternative to this arrangement would be for us to wait until we have finished our respective degrees before purchasing a home, this option is rapidly becoming less and less realistic. Housing prices continue to soar out of reach for my friends who have yet to purchase a house, and rental prices are scarcely easier to manage.

To summarize, while I sincerely appreciate the support I have received from my university and all government funding agencies thus far, I believe this support is quickly becoming insufficient for incoming students. Today, Canadian graduates seem to have to make a decision between pursuing higher education or being able to afford adult life. I feel this dichotomy is nothing short of detrimental to furthering Canadian-led research and innovation. I do not believe we can sustain our graduate programs if we're asking young people to put their lives on hold in order to follow us.

Thank you again to the chair and this committee for the time. I hope my testimony might help in strengthening Canada's commitment to graduate research.

● (1105)

The Chair: Thank you, Mr. Colterjohn, for coming to the committee and for your succinct testimony. I appreciate that.

Now, we'll go to the next presenter, Marc Johnson, chair of the board, Support Our Science.

Marc, the floor is yours.

Mr. Marc Johnson (Chair of the Board, Support Our Science): Thank you very much.

Dear Mr. Chair and members of the committee, thank you for the invitation to be with you today. I'm speaking to you from Winnipeg, Canada, Treaty 1 land, which is home to many first nations today and the homeland of the Métis nation.

For background, I am a professor of biology at the University of Toronto Mississauga and the Canada research chair in urban environmental science. Today, though, I am speaking to you in my role as chair of the board at Support Our Science, or SOS.

SOS is advocating for higher pay for the nearly 300,000 graduate students and post-doctoral scholars working across Canada from coast to coast to coast. I am speaking to you today because stagnation in funding and inadequate federal financial support for graduate students and post-docs is the most important issue in Canadian research and innovation today.

I'm not going to restate Support Our Science's requests of the government. If you'd like to see them, they were given in the May 9 testimony by Sarah Laframboise, our executive director. I'm happy to put them into context if you have any questions about them.

This is an important issue, because research at university in Canada drives the discovery and innovation of our nation that fuel our economy. The people doing this work are largely graduate students and post-doctoral scholars. It's important to put this into context, because “graduate students” is a bit of a misnomer. They're not really students in the traditional sense that you think of students. They are researchers. Their main job is doing research. Post-doctoral scholars have already earned a Ph.D. They're already among the most highly trained and skilled people in our country. We need these people for Canada to succeed, and we're forcing them into poverty by paying them less than minimum wage. You'll hear about that today from some of the other testimony.

Let me put this into perspective from a personal angle. In 2003 I was a second-year Ph.D. student. The Conservative Party of Canada in that year, when they were in government, had a bold vision to create a highly trained generation of people who would drive our innovation economy. They created the Canada graduate scholarships program for master's and doctoral students. They also increased the value of postgraduate scholarships and increased the value of post-doctoral fellowships.

The following year, in 2004, I was among the very first Ph.D. students to be awarded a Canada graduate scholarship. It was worth $35,000 per year. That money, that investment, was transformative for me. With this money I paid my tuition, my food and my rent. The investment allowed me to focus on research. With this increased focus, I was able to make major discoveries about how plants defend themselves against pest insects. This work has had applications to agriculture, horticulture and conservation. For this work, I won the Governor General's gold medal and several other awards.

This success led to me receiving an NSERC post-doctoral fellowship, which I took to Duke University to learn cutting-edge techniques in molecular biology and genomics. Armed with this new knowledge and these skills, I then started my own laboratory as a professor, eventually at the University of Toronto Mississauga, where I'm training the next generation of scientists, master's and Ph.D. students and post-doctoral scholars, who are making their own discoveries that are contributing to our country and economy.

Now, herein lies the problem. It's been 20 years since I did my Ph.D., and the federal support for graduate and post-doctoral researchers that I received has changed by zero dollars. Imagine if you hadn't received a raise in 20 years. I think most of you would have left your profession by now. That's exactly what's happening. The Canadian research system is in crisis. Our brightest minds in Canada are leaving the country in droves.

In 2019 the McGill TRaCE study discovered that 38% of all freshly minted Ph.D.s in Canada are leaving for other countries where they are better compensated, mainly in Europe and the U.S. That's nearly 3,700 Ph.D.s leaving every year that we've just invested in. That investment was intended to drive our innovation and our economy. When they leave, that's a lost investment. I've estimated that it's worth $740 million every year.

● (1110)

That study was in 2019. The problem is even worse today. Essentially, Canada has become the world leader in training people to leave our nation. That's why increased federal support for graduate students and post-doc students is the most important issue in Canada today.

The Chair: Thank you, Dr. Johnson.

Now we'll move to our round of questions.

First of all, welcome, Kelly Block, from the Conservative party. It's good to see you here.

The first questioner from the Conservatives will be Corey Tochor, please.

Mr. Corey Tochor (Saskatoon—University, CPC): Thank you very much, Mr. Chair.

Thank you to our witnesses for appearing today.

Mr. Johnson, you said there was a 0% increase, but we know that's not entirely true. When you factor in inflation—right now, we're suffering from a 30-year high in inflation—it's worse than a 0% increase. It's a decrease, because fewer dollars go further now than in the past.

Have you heard of other students having to use the food bank or changing their living environments to somehow get by on the same amount of money that you received 20 years ago?

Mr. Marc Johnson: In inflationary terms, you're exactly accurate. The values are now much less than they were 20 years ago, of course.

Yes, there are many students who are in dire straits. Many students are using food banks. If you go to the website for Support Our Science, there are lots of graduate and post-doc students who are telling their stories there, and it is heartbreaking. Some of the students have to live in vans, so they are actually homeless.

This is why I say the system is in crisis. These are people who are supposed to be our leaders for the future. They're supposed to be leading our innovation and discovery in Canada for the benefit of Canada, and we are forcing them into poverty. I think that's not right.

Mr. Corey Tochor: Thank you very much for that.

I'm switching gears to our other witness today.

Colin, thank you very much for appearing here in person. I understand that you are working on fuel research. It sounds like you had a professor who had a connection with you or an impact on you, and that's why you went to McMaster.

In general, though, what is the federal government's role in encouraging more people to study in the sciences and, especially, nuclear science?

Mr. Colin Colterjohn: My belief is that the allocation of funds through bodies such as Mitacs and NSERC has been crucial to the growth of STEM at McMaster and at the other universities I've seen.

There is significant funding that exists that students are not made aware of, and whether that comes down to the government needing to speak with the universities more or the universities needing to step up in order to let the students know that this funding is available.... I think that is one of the largest missteps that seems to exist, personally, as a graduate student.

Beyond that, I'm not too sure if—

● (1115)

Mr. Corey Tochor: There's a role.

Mr. Colin Colterjohn: Yes, if there's a role....

Mr. Corey Tochor: I'm changing gears a bit. I applaud you. It sounds like you and your significant other are putting down roots and making a go of it. It sounds like, I would assume, you are working late nights with a secondary job.

Of your fellow students, how many others are forced into having evening employment?

Mr. Colin Colterjohn: I believe a good portion of them usually seek additional hours, whether it be via additional TA roles, additional marking roles outside of the program or additional research hours. I cannot think of any students I know of in a master's or Ph.D. role right now who do not either work with a company through their Ph.D. to increase their overall funding or who have not sought additional working hours from their professor. I think that tends to be the most common role.

I grew up working in the restaurant industry alongside school, so that was an easy option for me to have alongside my research career. However, most or all of the graduate students I know tend to seek additional work hours in some form or another.

Mr. Corey Tochor: Could you add a bit on your personal stories of other students who are struggling with inflation right now? Earlier, we heard our other witness talk about people living in vans and using food banks.

What are other personal stories you might have heard from other students?

Mr. Colin Colterjohn: I would say the number one that I have seen is friends of mine who are in serious, committed relationships and very much want to do what I've been fortunate enough to do, which is to move in with their significant other or take the next step of an engagement, but they are unable to do so. That is because, right now, the only housing they can afford is a seven-person house just off campus, where rent is in the hundreds of dollars, rather than being four figures.

I would say that is probably the example I've seen reoccurring the most that I would point to most directly. Some of what I mentioned in my opening.... Other people my age, younger or older, seem to be putting their lives outside of research on hold, because research is such a major step in their career. I don't think it's sustainable for us to be asking them to do so.

Mr. Corey Tochor: We understand that, with the most recent budget, we have more inflationary gas poured on the fire, and it looks like costs are going up next year as well.

What do you think are the next implications of inflation once again setting a new record with students?

Mr. Colin Colterjohn: Could you just clarify...?

Mr. Corey Tochor: It's going to get worse.

What is the next decision students will have to make to cope?

Mr. Colin Colterjohn: It will very likely tend to be the social side of things. As the social side of things tends to happen, a lot of students, who are already introverted, tend to bury themselves more in their work, which we know can have a very dire effect on their mental health. Overall, I think that will have a negative effect, if students don't have the social ability to go and see people outside of research.

The Chair: Thank you, both.

We'll now go to Stéphane Lauzon for six minutes, please.

[*Translation*]

Mr. Stéphane Lauzon (Argenteuil—La Petite-Nation, Lib.): Thank you, Mr. Chair.

I'm pleased to see you with us, and I thank both witnesses for their testimony.

My first question is for Mr. Colterjohn.

Mr. Colterjohn, I reviewed your profile and saw that you're a water polo player. I'm sure you juggle the demands of both academics and sport. I've been the parliamentary secretary for sport, so I know a little bit about the sports scholarships system.

Can you tell us about the contribution of scholarship programs to your ability to maintain a balance, thanks to the scholarships you received? Have you received any scholarships for both sports and academics? Tell us a little about that system.

[*English*]

Mr. Colin Colterjohn: Unfortunately, I have not received any funding for quite some time for water polo. That being said, I do recognize that water polo is a lesser-known sport in Canada. Of all the sports where funding is allocated, it is likely very far down on the totem pole, which is something I agreed to when I started to play it decades ago.

That being said, if we look at the overall recognition of the amount of time that athletes give to sports, the funding in the United States completely dwarfs what is available in Canada for anyone from undergrad to graduate research. The comparison is that funding today for virtually any sport outside of the big three or four is non-existent outside of perhaps a signing bonus when you start your undergrad.

● (1120)

[*Translation*]

Mr. Stéphane Lauzon: So, you think it would be a good idea to review the system of combined sport-study scholarships.

[*English*]

Mr. Colin Colterjohn: I'm sorry. The translation didn't come through.

[*Translation*]

Mr. Stéphane Lauzon: Is the interpretation working now?

[*English*]

Is it working right now?

Mr. Colin Colterjohn: It just cut out about halfway.

Mr. Stéphane Lauzon: Okay. I'll start again.

[*Translation*]

Mr. Colterjohn, you said that water polo scholarships were smaller than those for certain recognized sports. It's important to mention it, because it's difficult to combine university studies and sports.

Do you agree with me about the fact that it's important to review the entire scholarship system, whether it's sports or academic scholarships?

[*English*]

Mr. Colin Colterjohn: Yes, I do believe that it's fair to have some degree of allocation of funding that's given to each sport based on the popularity of the sport, because that, at the end, also impacts the amount of money that comes through the entire system. That's the way that funding has been from a government standpoint in the past when I used programs such as Quest for Gold carding from the Ontario government.

At the same time, I do believe that funding, overall, from the ground up, does require some degree of rehabilitation because it seems that there's a stopping point right now somewhere between what the government has allocated and what schools are allocated. Again, I can only speak from my experience here as an undergrad and a graduate student. We went from some small amount of subsidies at the start in the form of scholarships to paying to play at a fairly competitive level the last six or seven years. As much as we are very committed and passionate about our sport, it's something that, unfortunately, most students can't physically afford to do. Much of the burden has been picked up by our alumni association to help with that, but it does feel that, overall, the students are not receiving any support in terms of sports scholarships.

● (1125)

Mr. Stéphane Lauzon: Thank you.

[*Translation*]

Mr. Colterjohn, as a PhD candidate, you're directly affected by study scholarship amounts. In fact, you told us about it.

What's your opinion of the adequacy between current scholarship amounts and the needs of graduate students? Do you think the amounts are enough to cover costs and promote academic achievement?

[*English*]

Mr. Colin Colterjohn: I'm not getting enough in order to take the steps in my life, outside of research, that I have been able to take. I do not believe that my funding would have been sufficient for me to take steps such as purchasing a home—or an engagement ring for that matter.

I do believe that my second job has been purely a necessity in order for me to take those steps in my life. I think that the graduate funding that I'm receiving is significantly shorter than what I require in order to live solely based on that.

[*Translation*]

Mr. Stéphane Lauzon: Thank you.

Mr. Johnson, as chair of the board of directors for Support Our Science, you have a valuable vision of the current reality of graduate students and postdoctoral researchers in Canada.

In your opinion, what was the impact of freezing scholarships for researchers, and what might be the effects of a possible increase?

If you don't have time to answer my question now, I'd like you to send us an answer in writing.

[*English*]

The Chair: Yes.

We're out of time, but if you could provide a written answer or could work it into another answer, that would be great.

Thank you for that.

[*Translation*]

Mr. Blanchette-Joncas, you now have the floor for six minutes.

Mr. Maxime Blanchette-Joncas (Rimouski-Neigette—Témiscouata—Les Basques, BQ): Thank you, Mr. Chair.

I welcome the witnesses who are here to participate in our important study.

Mr. Johnson, on May 1, the Support Our Science movement coordinated simultaneous rallies throughout Quebec and Canada. In nearly 50 institutions, students, research staff, teachers and other players united to send a message to the government that it's time to act. Asking our best brains to live with the same income they had 20 years ago is unworthy of a G7 country. Is there anything, anything at all, whose price hasn't gone up since 2003? I don't know of any.

I was at the rally on Parliament Hill, which included representatives of the Quebec Student Union, the Canadian Alliance of Student Associations and Support Our Science. In fact, I called more attention to it by holding a transpartisan press briefing in the House of Commons foyer with representatives of those three organizations. I invited all members of the committee to join me in asking for an increase in scholarships. I thank my colleague Mr. Cannings, who was the only one to join me in supporting our students. It's important to mention it.

Mr. Johnson, after that huge rally on May 1, organized by the Support Our Science movement, have you had any discussions or communication with the current government?

[*English*]

Mr. Marc Johnson: Yes, we have had communications with the current government, leading up to and since the May 1 walkout at 46 institutions coast to coast.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Johnson.

Can you tell us about the type of discussions you had?

[*English*]

Mr. Marc Johnson: We've spoken to a number of individual MPs. We've also spoken to Minister Champagne's office extensively. We've also been speaking with Minister Freeland's office. We were supposed to have a meeting with Minister Freeland on Thursday, but she cancelled the meeting.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Johnson.

I assume you had already spoken with these individuals before. Do you really feel that the government understands the reality, what graduate students are going through right now?

[*English*]

Mr. Marc Johnson: I'm sorry. Can you restate the question? I thought it was for the other witness.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Do you feel that the government understands the urgency of the situation, and that it must increase scholarships for graduate studies?

● (1130)

[*English*]

Mr. Marc Johnson: It's an absolutely urgent issue. Minister Champagne, on Thanksgiving, said that he heard us and that they are going to address it as soon as possible. We saw that as a good-faith commitment. We did not see any investment in the fall economic update. We are disappointed by that, but we saw it as coming in budget 2023. There was nothing that came in budget 2023. That was, quite frankly, shocking and surprising. I don't understand.

This seems like an easy win politically, but more importantly it seems like an easy win for Canada since this has such huge impacts on our economy. The lack of investment is costing the Canadian government probably over a billion dollars in people leaving Canada annually right now, which is much less than we're asking them to increase it.

Why is there a roadblock? I have no understanding of this. It's surprising because it seems like an easy win.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Mr. Johnson, can you clarify Support Our Science's demands?

[*English*]

Mr. Marc Johnson: There are four specific requests. One is that the value of graduate scholarships increase by 50% in their value and be indexed to inflation moving forward.

The second is that the number of graduate scholarships increase by 50%, because there has been a doubling in the number of graduate students in the system in the last 20 years.

The third request is that the number of post-doctoral fellowships increase by 100%. The reason is that, in 2010, the number of awards decreased by 40% and at the same time the number of Ph.D.s in the system has doubled through time.

The fourth request is to increase the budgets of grants at the tri-agencies by 10% per year for the next five years.

I am surprised that this committee has only recommended a 25% increase. That only brings us to 2015 levels, which are still below the poverty line. Why the committee keeps recommending an increase of 25% is also surprising. I don't know where that number is coming from. It's not based on any data that I'm aware of.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Johnson.

I'd like to talk about another aspect of the issue. There's a lot of talk about increasing scholarship amounts, but not every student has access to them. They can also get funding from granting agencies, through research chairs.

I'd like to hear your recommendations or your opinion on the fact that, even if scholarship amounts go up, they won't be enough for all students to access the funding that might be available in graduate school.

[*English*]

Mr. Marc Johnson: We need to invest in both scholarships and fellowships, and grants. There are many students that are supported by scholarships and fellowships, but most students are supported by grants. That's why it's very important we do both at the exact same time by the amounts that I was just suggesting right there, which is a 50% increase in the value of scholarships and a 10% increase in the value of the grants per year for the next five years.

The Chair: Thank you very much.

Now we go to Richard Cannings for six minutes.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you.

Thank you to both witnesses here today. I'm going to continue with Dr. Johnson.

First of all, thank you for all the work you've put in over the last years on this issue. It's an important one, obviously. As you say, it's the most important issue facing science and research in Canada and the federal government and, again as you say, there's been general surprise from all sorts of people and groups, including me, that this hasn't been dealt with quickly, because it would be an easy win. It's very low-hanging fruit.

I'm wondering if we can go back to the figure you mentioned. I think it was $740 million a year as a rough figure—and you've said that it may be more than a billion dollars per year—in lost investment. This is the amount of money we've put into educating our young researchers every year, and that is being lost as they leave the country, because other countries seem to recognize their value more than we do. I'm just wondering if you could comment on that and maybe expand on how that works.

Mr. Marc Johnson: Yes. Every Ph.D. student in the country ends up doing years of research and training. On average, it's 5.75 years that a Ph.D. student works to become an expert in their field. We invest a lot in that. On average, that's $35,000 a year that we're investing in them to become some of the best scientists, social scientists, engineers and nuclear physicists, as we were hearing from the other witness.

The intention of that investment, as I understand it, is that it's going to benefit our economy for years to come. I see it as problematic that four years ago, before everything went crazy with inflation and the pandemic, 38% of all Ph.D.s were immediately leaving the country—and most of them not coming back—because they could not get adequate support here in Canada. In 2019, that was costing our economy $740 million per year. Today, with inflation, that number is going to be much higher. There's been no other study since then. It's almost certainly over one billion dollars a year today.

For example, from my own lab, of the last four Ph.D. students, three have gone to the U.S., and there's no hope of bringing them back at this point because they're making much more money. In the U.S., for example, the equivalent of our scholarship for a Ph.D. student is $65,000 Canadian in the U.S. We're offering $45,000 here. For post-docs, it's $95,000 a year Canadian in the U.S. for the equivalent of what we're offering here, which is $45,000.

There's just a huge discrepancy right now. When my daughter, who's going into university right now, thinks of doing graduate school because she wants to be a physicist, I will tell her to study elsewhere unless things change here in Canada.

● (1135)

Mr. Richard Cannings: You mentioned the need to increase the grants as well, because most students are paid by the principal investigators, the researchers, out of their own grants. We've heard from other testimony that universities have been counselled to take on fewer grad students because they end up topping up the incomes of their grad students and they just simply can't afford to do that any more than they're doing now.

Can you comment on that? It looks like not only are students choosing to go elsewhere, but now universities may be forced to accept fewer.

Mr. Marc Johnson: Yes, because of 20 years of stagnation in funding, we're having to find other sources of funding to support the students, who just cannot afford to live in cities like Toronto, where I am. That's coming from increased teaching. It's coming from increased awards—coming from our endowments from the universities. As you're hearing, most students are actually now getting part-time jobs, when we would I think ideally like them to be focusing on the research. As a result, we are having to take on fewer students.

We're at a breaking point. I am now actively taking on fewer students as a professor because I can no longer pay them at that minimum level in Canada and expect to get the top talent. I would like to take on more students. I certainly have a lot of students contacting me, but if they're going to have any type of living wage, I have to take on fewer right now, which is going to have a negative impact on innovation and discovery in Canada and on the short-term and long-term economy.

Mr. Richard Cannings: I wonder if you could comment on this.

Although these scholarships and fellowships represent less than half of the students who are in graduate studies in Canada, what is the effect that the rates they are getting, these poverty rates, have on setting the bar for other ways that the students can be paid, whether from the universities through a teaching assistantship or whatever? What is the effect of saying that this is what the federal government feels is an okay rate to pay students?

Mr. Marc Johnson: It's not just about these specific students who are receiving these scholarships and fellowships. Those scholarships and fellowships are setting the level that most universities set their stipends at. For example, if NSERC keeps their master scholarships at $17,500, most universities are going to aim for the minimum.

I was just here in Winnipeg at a conference—

The Chair: I'm sorry, but we're out of time. We're going to have to move on to our next questioner.

Thank you for that.

Mr. Lobb, you have five minutes.

Mr. Ben Lobb (Huron—Bruce, CPC): Thanks very much.

My first questions are for Mr. Colterjohn.

Thanks for coming today.

The area you are studying is great. I think 20 years ago there wasn't very much research done in the nuclear field at all.

You stated that you were doing some research in the small modular reactor field. Is there any company or entity providing any sort of subsidy to you in your research funding to help do what you need to do, or is it all what you receive through the university and through grants?

● (1140)

Mr. Colin Colterjohn: That sort of funding is usually directed towards a research group, which is led by a supervisor, and the supervisors will then allocate those funds as they can. Unlike general graduate scholarships, however, those funds, at least in my experience and to the best of my knowledge, are very often used directly for research purposes. They can't be allocated to graduate students for general spending or personal spending.

The NWMO is very active with my research group because a big part of our research looks at nuclear waste. Much of our funding comes from them, but none of it is allocated to the students outside of research-related purposes.

Mr. Ben Lobb: You mentioned NWMO. Do you think it's maybe in the economic interests of some of these companies, like Westinghouse or OPG or RIVA Solutions or anyone you want to throw out there, that they provide direct financial compensation to someone like you for the betterment of the industry and the betterment of the sector? What do you think?

Mr. Colin Colterjohn: My answer likely has a very obvious bias, but I do think it would be in their interest overall to do so.

I have spoken with groups like CNL, which have approached me when I've given seminars or conferences asking when I'm likely to graduate, when I might be coming into the workforce. My response is that I would be very interested in working for a group like them when I'm done, but I want to finish my Ph.D. Best-case scenario, I'm two years away from working for them. However, if there is work they can give me that coincides or goes well with my current research, I would be very interested in taking it on, so that there is a relationship forming there and it could be lucrative for me as well.

Mr. Ben Lobb: Maybe I'm naive in the way I'm looking at it, but we have this big system. Everybody comes to this committee and says, "Hey, fix our problem", but they are kind of the problem, in my mind. I ask why they would have a guy working at a bar—he's probably really good at his job at the bar—when he could go work for Westinghouse or OPG on the side instead and perfect the SMR?

I have nothing against working at a bar. That's great, but you're a Ph.D.

What do you think about that?

Mr. Colin Colterjohn: I completely agree. If it were to be the option between working in the industry, which I see to be my future career, and working at the bar.... I obviously love my current jobs, but I'll take the one that will build me towards a more successful career. I completely agree that there should be some incentive for these companies to subsidize the graduate research, if such an avenue could be made possible.

Mr. Ben Lobb: Just building on that, where do you see the downside? Where do you see in the big blobby system, from the top right down to where you are, that the improvements need to be made?

Mr. Colin Colterjohn: I think there could be more direct action between the government funding groups and the students themselves.

Most of the funding right now seems to be done through the university, then allocated to a research group and then allocated to a student. That's not to say anything negative about my research group, professor or university, but I think between professors not necessarily seeing the actual financial need a lot of students have.... There's some degree of "lost in translation", as I referred to before, with funds that are allocated not being used at all.

If there were more direct communication between graduate students and these funding bodies, the funding could be used better. More of the existing funding could be used more effectively.

Mr. Ben Lobb: That's a great point, and I think that should be a major theme in our study. There's way too much bureaucracy. It's fine for the universities that come to us and want more money, but they have to find a way to cut out all these layers that don't add any value to the research you're doing.

● (1145)

Mr. Colin Colterjohn: I agree. I think things fall through the cracks.

The Chair: Thank you, both.

Now, we go online to Mr. Collins for five minutes.

Mr. Chad Collins (Hamilton East—Stoney Creek, Lib.): Thanks, Mr. Chair.

Thanks to both of the witnesses for their appearance today at committee.

I'm going to start with Mr. Colterjohn.

He touched on the housing issue here in Hamilton. With both of us being from Hamilton, we know the wave of migration from the GTA to Hamilton has certainly impacted not just house prices—he referenced the challenges he experienced with his partner—but also the rental market. For students, then, who are primarily in the Westdale area in the west end of the city and who are looking for affordable accommodation, it becomes a real challenge.

Some of the questions I've asked previous witnesses relate to the same study around that whole issue of housing and how the federal government can assist with student housing. I know, Mr. Colterjohn, you may be familiar with McMaster opening, this fall, a postgrad residence in downtown Hamilton, right across the street or a stone's throw from city hall. It will house 600 grad students and assist with that whole issue of affordable housing. I think the university sees it as a kind of carrot.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Mr. Chair, I raise a point of order.

Today's study is on graduate scholarships, not housing issues.

[*English*]

The Chair: We're looking at the overall costs, and cost of living was brought up by the Conservatives, as well, so let's continue on.

Mr. Chad Collins: Thanks for the help.

Mr. Chair, through you, my question to Mr. Colterjohn would be this: Are there ways and means by which we can assist with that affordability issue he referenced earlier? We've received some consistent recommendations as they relate to increasing the amount of assistance, scholarships or post-doctoral support, but if we're looking at that whole issue related to affordability.... I think my colleague MP Lauzon touched on that in terms of sports—the assistance we can provide as carrots, so to speak, to be more competitive.

How can we assist on the housing file with those who are looking at staying in the system and at the university for their postgraduate studies, but who see it as very expensive, as Mr. Colterjohn raised in his opening comment? I'm glad he raised it, because it's a consistent theme, not just here at this committee but also at others. How can we assist in terms of providing support for those experiencing the high inflationary costs and finding it very challenging to find an affordable place to live in and around the university precinct?

Mr. Colin Colterjohn: Thank you.

I have seen the graduate building going up in downtown Hamilton. I'm very happy McMaster decided to invest in this. I haven't looked into it. I can't speak to what the costs are for graduate students who are interested.

I think the number one thing.... It comes back to what I spoke about in a previous set of questions: direct funding from bodies to students. If it were made clear that there are funding opportunities for students to apply for, specifically with an emphasis on affordable living or subsidizing housing situations, that would be some of the best action that I, personally, as a grad student, could see the universities and governing bodies taking.

Mr. Chad Collins: Thanks, Colin.

Mr. Chair, I'll turn to Mr. Johnson for the international context.

Mr. Johnson, you compared the postgraduate support provided in the United States to what students are receiving here. What does it look like internationally, if we turn to Europe or other parts of the world, as it relates to financial support? I'm assuming those same gaps exist in comparison to.... Mr. Colterjohn talked earlier about his Japanese experience.

How does it compare to Europe and other parts of the world?

Mr. Marc Johnson: It does not look good for us is the simple answer. If you go to Germany, the U.K., Australia or any of the countries in Scandinavia, they are all paying much higher levels. Their entire systems have been increasing in recent years, because there's a race to try to own innovation and discoveries.

Most countries in the G7 are trying to race well above 3% of their total GDP to research and development, with a lot of that going into training of graduate students and post-docs. Canada's decreasing its investment in research and development. We're now tied for last in the G7 at 1.6%.

Wanting to get more industry here, going back to an earlier question, it's not going to happen if we are investing half as much as the other countries in the G7 that we're competing against. We are not competitive.

● (1150)

The Chair: Thank you, both. Unfortunately, we're out of time.

We're now going to the two and a half minute rounds, starting with Monsieur Blanchette-Joncas.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

I'm also happy to talk about the issue of housing, specifically when it comes to affordability. Mr. Chair, do you know how many new investments the last federal budget made in housing? None. Same thing for graduate scholarships, with no new investments over the last 20 years.

I don't mind asking questions and going around in circles, but I really want us to talk about the subject at hand, which is graduate scholarships and postdoctoral fellowships.

The government sponsored the Bouchard report, which was released by the Advisory Panel on the Federal Research Support System. Recommendation 6 of the report calls for competitive support on the global stage for graduate students and postdoctoral fellows, thus recognizing their essential role as the future leaders of scientific innovation.

Mr. Johnson, do you think that meeting demands to support our sciences represents an acceptable minimum threshold to achieve an internationally competitive level of funding?

[*English*]

Mr. Marc Johnson: Our recommendations are the minimum if we would like to remain competitive. If we would like to be the leader, it would have to be higher.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you.

Mr. Johnson, in the Bouchard report, the committee members, who are student researchers, stated that the scientific ecosystem is at a breaking point. Can you share your thoughts on the subject?

[*English*]

Mr. Marc Johnson: The system in Canada for research is absolutely in crisis. We are losing our talent every single day. We are not going to get them back unless we invest majorly in the system, particularly in trying to retain and attract graduate students and post-doctoral scholars, who are the future of innovation and discovery in Canada.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you.

[*English*]

The Chair: You still have 30 seconds.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Since we are the only G7 country to have lost researchers since 2016, what message would you like to send to the government for it to try and change things as quickly as possible?

[*English*]

Mr. Marc Johnson: Invest in the future of this country by investing in graduate students and post-docs through scholarships, fellowships and grants. That's the solution. It's an easy win. The logic is clear.

Why we have not seen it is hard to understand, especially when the minister—

The Chair: Thank you.

We got the core part of that answer in a concise way. I appreciate that.

Mr. Cannings, you have two and a half minutes.

Mr. Richard Cannings: Thank you.

I'm going to continue with Mr. Johnson, because I think his reply to my last question was cut off when I was talking about how scholarships and fellowships, the federal ones, set the rates.

Mr. Johnson, you were starting to say something about the situation in Manitoba where you are now. I think that's where we left off.

Mr. Marc Johnson: It was a colleague I was speaking to from biochemistry. I'm not going to name the university. I'm not going to say it's within Manitoba, because it's actually a system-wide issue across Canada. They were explaining to me the funding levels. The minimum stipend level before tuition—and all students have to pay tuition with the stipends they get—was $17,500 for master's students and Ph.D. students in 2023. That's the same level of the Canada graduate scholarships master's program from 2003. That has been used as the bar.

If you look at graduate programs across the country, they're consistently using the tri-agency fellowship and scholarship levels to set their minimum bar. They're all shooting for the minimum. If tri-agency awards, scholarships and fellowships increase, that will put pressure on the universities to increase their stipend levels, and they'll be able to pay for those once we increase the grants as well. That's a key piece of this.

Mr. Richard Cannings: You mentioned the fact that tuition has to be paid out of this as well. I think a lot of people forget. When they think of $17,500 and how they could live on that, they forget that these students have to pay tuition, as well, on top of that.

Maybe you could give me an idea of what graduate tuition fees are today. I remember paying them when I was a student and when my wife was a student, but can you remind us what the standard graduate tuition fees are in Canada today?

● (1155)

Mr. Marc Johnson: They vary from university to university and department to department, but they range roughly between $7,000 and $11,000. On average, most students who have a stipend have $15,000 in their pocket after tuition. With that, they have to pay rent and they have to pay for food, and most cannot do that in any Canadian city I'm aware of.

Mr. Richard Cannings: Thank you.

I'll leave it there.

The Chair: You have five seconds left. You got a lot in in a short time, as always.

Thank you to our witnesses for being so concise with your answers. If there is other information that you want to expand on, you can definitely send it in writing and the clerk can include it in your testimony.

Thank you, Colin Colterjohn and Marc Johnson, for your testimony. It is going to help us with the Government of Canada's graduate scholarship and post-doctoral fellowship programs study.

We'll suspend briefly now to change our panel. We'll have one witness online and one in person. I'll suspend for a few minutes. We'll see you at the top of the hour.

● (1155)

(Pause)

● (1200)

The Chair: I call the meeting back to order. We'll get started.

We may need to suspend. The witness who is online isn't here yet, so we may have to suspend to do a sound check with that witness.

Welcome to everybody who has returned and to our witness as well. Welcome back.

Pursuant to Standing Order 108(3)(i) and the motion adopted by the committee on Tuesday, February 14, 2023, the committee is resuming its study of the Government of Canada's graduate scholarship and post-doctoral fellowship programs.

It's now my pleasure to welcome back Mr. Chad Gaffield, who is the chief executive officer of the U15 Group of Canadian Research Universities. We'll start with your testimony, and hopefully our other witness will join us in progress.

You have five minutes, please. The floor is yours.

[*Translation*]

Dr. Chad Gaffield (Chief Executive Officer, U15 Group of Canadian Research Universities): Thank you very much, Mr. Chair.

I would like to thank all members of the committee for giving me the opportunity to discuss what I think is the key component of the science and research file.

[*English*]

Let me thank you for your continuing leadership of the standing committee in discussion, debate and policy formulation for science and research in Canada. Your reports and recommendations this past year consistently proposed promising and urgently needed steps forward for Canada in what I think we all agree are turbulent times.

My focus today is on the Government of Canada's graduate scholarship and post-doctoral fellowship programs, the subject of your next report. My specific aim is to contribute to your report by describing, in detail, exactly why these scholarship and fellowship programs are so important and so deserving of your close attention. These details are important since they help explain why Canada's scholarship and fellowship programs are at risk—at risk of failing Canada's best and brightest; at risk of failing our institutions, companies and communities; at risk of failing our country's future; and indeed at risk of failing Canada's important role on the world stage.

How did we get here?

Witnesses thus far have emphasized how graduate students play a vital role in the research and innovation ecosystem, making significant contributions to advancing research and mobilizing knowledge while developing domain expertise and deep, enduring competencies in high demand across society.

Witnesses have emphasized how Canada's scholarships and fellowships have generally remained at financial levels set two decades ago.

Witnesses have described how peer countries are moving in the opposite direction by rapidly increasing their research investments, especially to cultivate the highly qualified talent development that is now globally recognized to be the centrepiece of every robust research and innovation ecosystem.

The U.S.A.'s Chips and Science Act more than doubled their national science commitment over five years and has increased graduate research fellowships by 50%.

Witnesses have emphasized that the government's own advisory panel on Canada's research ecosystem—in the Bouchard report—concluded that Canada has been losing ground when it comes to investing in research. The Bouchard report makes clear funding recommendations: Increase funding for the three granting agencies by 10% annually for the next five years. The report stresses the urgency of acting. The report reads, “To put it starkly, current support for graduate students—the researchers of tomorrow—is at a breaking point.”

In this context, my aim today is to ensure that you have the detailed information that explains how we got to this breaking point and what action is needed to get Canada back on track.

Let me invite us to focus attention on a series of key issues.

Let us focus on the holders of graduate scholarships and fellowships and discuss how exceptional they are as the emerging leaders of their generation. They represent those who have been judged to be Canada's best hope for major steps forward as a country. Let us discuss, in detail, the rigorous, multistep process that leads to their selection. Let us discuss Canada's objectives in offering these graduate scholarships and fellowships. Let's specify exactly what these awards are designed to accomplish for Canada and why they set the standard for Canada's entire science and research ecosystem.

Let's review the meaning and significance for an individual to be chosen for an award, especially for the best and brightest from disadvantaged backgrounds. Let's list the consequences for award winners today of receiving awards at levels set years ago. Then, let's consider the consequences for Canada of offering scholarships and fellowships today in the currency of 2003.

Mr. Chair, it is these and related issues that are at the heart of our discussions.

While all your reports have been highly significant, I am convinced that this report on scholarships and fellowships could have the most significant impact for the long-term benefit of Canada.

As you know, this spring's federal budget contained no new investments in research funding for universities. This marks the second consecutive year that the federal government has frozen research funding. In fact, this year, it is asking for a 3% cut. Scholarships and fellowships will remain at levels set years ago. Inflation will continue eroding research grant funding, and initiatives to innovate across the private, public and non-profit sectors will continue to face serious difficulties at a critical time.

Canada needs to act now.

● (1205)

Many thanks, and I look forward to our discussion.

The Chair: Thank you for your presentation.

The clerk is still trying to get in touch with our second witness, so we'll start into our rounds of questions.

We will begin with Gerald Soroka, from the Conservatives, for six minutes.

Mr. Gerald Soroka (Yellowhead, CPC): Thank you, Mr. Chair.

Thank you, Mr. Gaffield, for coming today. I guess I'll start with you.

My first question is this: You have talked about how bleak and not great a future we have for science and research here in Canada. Do you feel that the government has an understanding of how beneficial science and research are or even has a plan in place to make sure that we have good science and research in Canada?

Dr. Chad Gaffield: Thank you very much for that question.

As you may know, I'm a long-term university professor, and I've also looked after one of the federal research councils. What I've been struck by in the last 25 years of active involvement in this sector is the extent to which a commitment to building a better future for Canada in a changed world has really involved a bipartisan commitment to investing in the best and brightest. We saw this. Earlier today there was mention of the Liberal government's initiatives in terms of the Canada graduate scholarship and so on. That was followed by the Conservative government's leadership in terms of the Bantings and the Vanier fellowships, and the Canada excellence research chairs and so on. There has been a long-term commitment to say that Canada will survive in the 21st century by having the human capital to help us move forward.

What's happened, I think, in the last number of years is that this long-standing commitment has kind of been taken for granted a bit. We haven't realized that, in an international and competitive world, given inflation and so on, we cannot lose focus. This is something that must be considered a priority for the country, year in and year out.

My sense is that a lot of your work here at this committee, and certainly what the witnesses have been saying, is really bringing it to our attention that this plan, this commitment, of building a Canada based on human capital rather than simply what we have in the ground is now more important than ever. In a changed global context, a world of the intangible economy and a world in which all countries are trying to move up the value chain in terms of a higher level of economic activities, we must double down, in fact, on this bipartisan strategy that Canada pursued successfully until fairly recently.

Mr. Gerald Soroka: You mentioned a few of the great discoveries that have happened in Canada. Would you say that the approach is more that it's going to happen whether we fund it or not, and we don't have to really be as concerned about it? Other countries, like you say, are doubling or doing more for science and research.

Is that what they're probably doing? Are they just taking it for granted and not actually willing to invest and make that significant contribution?

Dr. Chad Gaffield: That's such an interesting point. One of the issues that is so important goes back to the bipartisan debate that went on, in fact, in the mid-nineties: The world has many researchers. Canada is a little country. How about we just import it when we need it? We're a little country. Let's just let other people do all the great discoveries and advances and so on. Then we'll just leverage that. It was a “make it or buy it” kind of argument.

The reason that approach was put to the side was that people argued that, if we don't have a rich, high-quality research and innovation ecosystem, we won't even know what to buy. We won't even know what's happening in the world. We need to have our leaders in the game. Yes, we're a small country. We're never going to be able to make all the advances that are needed in the 21st century, but if we don't have people in the game of science and research, we will become a colony in this new world of the 21st century.

That was why there were investments and a huge effort made to make Canada not just an intellectual colony in the 21st century, not just a place that was dependent on the rest of the world, but a strong, sovereign and domestically capable country, by investing in our best and brightest.

● (1210)

Mr. Gerald Soroka: Thank you for that.

My next question is about the science and research we are doing right now. Do you feel it's of the best quality? We've heard from other witnesses about the financial pressure when it comes to paying for food and rent, and even getting married and trying to afford a home. With the challenges there, with their mental state, do you think they're doing as best they could be? If they had the financials, do you think they could be doing better?

Dr. Chad Gaffield: This is such an important point. It goes back to the heart of why Canada created the graduate fellowships and post-doctoral fellowships. That was exactly why. They wanted to do exactly what you said. They wanted to give these talented, emerging leaders the chance to focus on their work, because it was so important. They didn't want them having to scramble to get other jobs on the side. They didn't want them to have the distractions.

One great advantage—such as in my own case, and you've heard this many times—of having that signal from the federal government that what you're doing is so important, and being given some financial stability, is that it allows you to do it and focus on it and do it at that high level. What's happening now, since that financial stability is not there anymore, is that you have a situation in which the ambition and the objectives of these programs can't be met. It's not allowing the award winners to actually focus on their research and to actually push ahead, because they're having to scramble on the side to make ends meet.

The Chair: Thank you both.

Now we go over to Mr. Sousa for six minutes, please.

Mr. Charles Sousa (Mississauga—Lakeshore, Lib.): Thank you, Mr. Chair.

Thank you for your testimony, Mr. Gaffield.

I'm listening to a number of witnesses—you and others. We're all sensitive to the complexity of the issue. It's not just more money for the scholarships. There's a host of issues at play to support students. I have nephews—Ph.D. students—in the family. They all struggle, like most kids do and like we did as kids, trying to get themselves established to have some life benefits.

Then the monetization of what some of what that work will do will have huge payoffs. Part of this is also the monetization of IP, enabling us to scale and enabling us to retain investments in Canada to support these innovations and these students ultimately.

To hear from one side and to throw money at one single issue while not giving consideration to all the other things that are being done to support the system is unfair. What we need to do is prioritize and be efficient and effective at attracting the students, the talent and the minds because that's priority one over everything else. I congratulate you for so much of what you've done in this respect.

Tell me: How can we, as a government, but not just the federal government, the private sector, all of us, even those in the provincial sector, support some of these efforts?

Dr. Chad Gaffield: Thank you so much for that question because what you implied in it is the crucial point.

Again, in my years leading the federal granting council for social sciences and humanities, what we found was that for investing in research, the guaranteed ROI—the guaranteed return—is that cultivation of talent, which is the people we need. It's guaranteed.

This was the debate from the mid-nineties on. For a country, when you think about it, what can we invest in today that has a guaranteed return? There are not many things, but in fact, in the research world, that's exactly what happens. When you fund research projects, the people involved are all going to have their human capital—their intellectual capital—raised in ways that will serve that society.

You're absolutely right in terms of pointing to the importance of an ecosystem approach. One key aspect is that we can't just do a little bit over here and.... While I'm a huge proponent of saying we must have scholarships and fellowships at an internationally competitive level, that is just the pinnacle of the much larger effort we need.

We need to be able to view this entire ecosystem in a holistic way. Why? We need that development of talent across our sectors across the country and for them to be able to engage internationally, because at the end of the day, that is the ROI that is going to save us in terms of building a better future.

● (1215)

Mr. Charles Sousa: Yes, I couldn't agree more. Being able to attract some of those students to stay in Canada.... We do have a lot of interest in students remaining in Canada doing the work they do. Some of the concerns involve affordability issues. We have a whole suite of other opportunities to support them in that regard too, which are not being taken into consideration in the line of questioning.

We have to recognize that there's a much bigger issue. That's why this committee has been formed. It's to support research, to support innovation and to support Canada's sovereignty and protection in this space. It's critical as we go forward.

On the Bouchard report, some of your colleagues have been calling me already. We've had discussions. We know that's a priority system. We know that's something the government is looking at seriously. Thank you for that.

Mr. Chair, I'm not sure if I have more time. I have two minutes...? That's even better.

What are some of the supports the students are receiving from outside of government in regard to what they do?

Dr. Chad Gaffield: That's a great question, and implied in what you said there, in fact, are a few things that are really important.

First of all, what attracts a student here from another country and what keeps one of our students from going somewhere else? There are a few factors involved.

Obviously, there is the quality of the research environment. Canada has been investing over the last 25 years to have research facilities that are at the right level in terms of that. We've been investing in terms of having leading professors who are able to be supervisors for students, and that's a key component.

We also have—and I think you were implying this—a kind of country that I think is super attractive for some of the world's leaders of the emerging generation. We have an inclusive society. We still have a lot of work to do, but we are devoted and committed to being an inclusive society. We're a society that I think in many ways corresponds to the ideal of a 21st-century world, a world in which we support a way of living and a way of being that I think is really recognized around the world.

In terms of the academic world and in terms of our communities, I think we have some of the real makings of being a magnet both for our students who stay and for others around the world. At the same time, though, we cannot send a message to our own students and to the world that we don't really think they're a good investment at an international level. They do need to eat. They need to pay for housing. They need all of that.

Mr. Charles Sousa: Absolutely, and thank you.

The Chair: I think we're at time.

Thanks to both of you for that.

We'll now move to Mr. Blanchette-Joncas for six minutes.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

I welcome the witnesses who are with us today.

Mr. Gaffield, I'm happy to see you again. I think this is your fourth or fifth the visit. It's always pleasant to hear from you.

I think the picture of the situation is pretty clear. I was looking at our last discussion and, on December 5 of last year, you said the investment situation was rather worrisome. Some words struck me when I reread your testimony. You represent the 15 largest Canadian universities and receive nearly 85% of funding. We're talking about billions of dollars, here. Your testimony today is therefore serious. On December 5 of last year, you said that the stagnation of scholarship funds over the last 20 years revealed indifference and inattention. In the beginning, Mr. Gaffield, very sincerely, I told myself it might be a misunderstanding on the part of the government. However, it is now evident that it's not just a misunderstanding. I'm 100% sure of it. Unfortunately, the government takes for granted scientific researchers, the university system, the college system and all the people in graduate-level education. I find it embarrassing, even absurd, for a government not to understand the importance of investing in research today. You know that the decisions and investments we make today may not be a political win. However, they will be a win for our society as a whole in 10, 20 and 30 years.

Understand that there are 6,000 graduate scholarships in Canada. However, there are 240,000 students. You can see that a small percentage of people get scholarships. We've been informed that 80% of graduate-level students get their funding by working with senior researchers. In its report sponsored by the government, the Advisory Panel on the Federal Research Support System, presided by Mr. Frederic Bouchard, highlighted that many students, if not most, don't get funding through scholarships. It's an undeniable issue because without considerable reinvestment, given the global competition for talent, Canada will very likely see another exodus of highly qualified people. I'm sure you know this, but I will say it again: Canada is the only G7 country to have lost researchers since 2016.

Here's the question I want to ask you: Is it fair to say that increasing granting agencies' overall funding is inextricably linked to increasing graduate-level scholarships if we want to truly tackle the issue of the next generation of scientists in Quebec and Canada?

● (1220)

Dr. Chad Gaffield: Thank you very much.

There's no doubt we have a tendency to take the quality of our research and innovation ecosystem in Canada for granted. We often hear that Canada has the best universities and life is good. Without a doubt, we are very proud of the quality of our researchers and our students. However, the current reality is such that, when it comes to the number of citizens in Canada with a graduate degree, Canada is 28th in the OECD's rankings. People are very surprised when I tell them that. Why is Canada now ranked 28th?

[*English*]

One of the things we haven't done—and I think your committee has been a huge solution to that—is that we haven't spent enough time really keeping track. We built a good system, and then we said, "Okay, it's fine. We don't have to worry about it." Meanwhile, the world kept changing, and we didn't sufficiently track the fact that we've fallen to a place where, if you look at the educational structure in the country, it does not correspond to the kind of high-value economy society that we need in the 21st century.

We can't imagine ourselves building this high-value economy and society, this world of intangibles, this world of adding value and building a sustainable and just future. We can't do that with the kind of investment that makes us look like we're on the path to being a kind of new colony in the 21st century, because we'll be so dependent on other countries.

As you know, when they look at us, it's going to be easy for them to just continue to see critical minerals now or see things in the ground, rather than seeing us, as we were talking about earlier, as a sovereign country with domestic capability that has a place on the world stage.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, because that gives us a good picture of the situation.

You talked about a colony, evidently. As you know, the Americans doubled the biggest scientific investment program through the CHIPS and Science Act. The United States has now increased their investment in basic research by $200 billion.

What would you say to a young person who wants to do research?

Dr. Chad Gaffield: Indeed, the message the United States is sending to other countries, including Japan, is that they are serious about the fact that the 21st century is not the 20th century, and we have to act accordingly.

Since young people are now thinking about their future in Canada or elsewhere, we have to pay attention to the issue.

● (1225)

[*English*]

The Chair: I'll have to call time, but thank you for your response.

Before we go to Mr. Cannings, we do have Dr. Murphy joining us from the Ontario Tech University. In fairness, we could just go through this round of questioning, and then we'll briefly suspend to get a sound check done. We'll continue on with his presentation, which will be a five-minute presentation.

Mr. Cannings, it's over to you.

Mr. Richard Cannings: Thank you, and thanks again to Mr. Gaffield for being here once again. It's always a pleasure to have you and your expertise before us. Thank you for also pointing out that you feel that this study could have the most significant impact of any of our studies so far on the Canadian science and research scene.

Mr. Sousa made a statement that all students struggle. Just to counter that, I didn't struggle when I was a grad student. I was lucky enough to get an NRC scholarship. I predate the tri-councils in my career, but it was plenty for me to have room and board and all the things necessary. I didn't have to worry about working outside of the university.

You have a long history of working in the university scene, in the research scene at the national level, could you comment on the higher level of overall government investment for universities, both at the provincial and federal level? It seems to have declined over the last 20, 30 and 40 years. One of the side effects of that, of course, is the increasing tuition that students have to pay on top of room and board.

Could you spend a little time talking about that and how that plays into this whole question we're talking about today?

Dr. Chad Gaffield: Thank you so much. That's such an important question because, as we know, in the Canadian structure, the dossier of building a robust research and innovation system is, in fact, a federal-provincial partnership.

What is so important about the federal role, though, is its leadership role. If you look at the history of Canada, federal initiatives are what sent the message across the country that it is a case of national sovereignty and domestic capability—that we, as a country, are going to move forward. It is federal leadership that has been consistently key. Whether you go back to.... Think about the National Research Council or the creation of the federal granting councils and so on. Those were the ones that started to move Canada from being a real intellectual colony as late as the 1960s.

We've told this story before. In the 1960s, almost all professors—80% of professors in Canadian universities—had been trained outside Canada. We had a relatively small graduate system and so on. It was federal leadership that sent the word to the entire country that we had to change in the later 20th century. That was doubled down on in the mid-1990s and the recent era.

National importance, domestic security, sovereignty and all of that, it's federal leadership that drives those. If provinces see, to some extent, that it's not a top federal priority for making a better future, it is really not going to help us.

Mr. Richard Cannings: Thank you for that.

I want to add that the scholarship I got in the mid-1970s made me decide to stay in Canada. I was looking at going elsewhere for my grad studies and that scholarship allowed me to stay here.

I'm also happy to hear that your organization, U15—the big universities—is embracing the Bouchard report. From what I can tell, it calls for an annual 10% increase in the tri-council grants.

You just mentioned in passing a 3% cut. I've heard this, too, from NSERC. I wonder whether you could expand on what the risk of that is.

● (1230)

Dr. Chad Gaffield: Thank you very much for that question. Again, it goes back to our earlier discussion in terms of our paying attention and staying focused on this.

In the most recent budget, all departments were told to cut by 3%. It was a little line in there somewhere. We are exceedingly concerned that, not only did that budget not increase the tri-council funding and so on, it gave a 3% cut at the worst time possible. I think we need to investigate this. My understanding is that the situation is, in fact, worse than we have been thinking. Again, it's part of our responsibility, and your committee....

You know, it wasn't that long ago we didn't have a committee like this set up. It was taken for granted that, yes, everything's going along well, so we didn't have this. Your committee, I think, has played a key role in ensuring we start paying attention and don't take it for granted. We just can't take this for granted. We have to see it as the way in which Canada is going to have a bright future.

Mr. Richard Cannings: Thank you.

The Chair: Thank you.

We'll suspend for a minute, but nobody leave their place. We'll just do a quick sound check with the interpreters and resume momentarily.

● (1230)

_____(Pause)_____

● (1230)

The Chair: We are back in business.

I'll welcome you more officially to the committee, Dr. Murphy from Ontario Tech University, president and vice-chancellor. We're looking forward to your comments.

Could you give us your comments for the next five minutes, please?

Dr. Steven Murphy (President and Vice-Chancellor, Ontario Tech University): Thank you, Mr. Chair.

It's a pleasure to join you.

Ontario Tech University acknowledges the lands and the people of the Mississaugas of Scugog Island First Nation, which is covered under the Williams Treaties, and we're situated on the traditional territory of the Mississaugas, a branch of the greater Anishinabe nation, which includes Algonquin, Ojibwa, Odawa and Potawatomi.

I'm here today to speak to you about an issue that impacts Canadians' competitiveness on the international stage. As you know, we fall behind our peer nations on R and D spend at 1.55% of GDP. The latest OECD average is at 2.7%, the U.S. at 3.45% and Finland at 2.9%. The countries closest to our spend are Estonia and Portugal.

Canada’s peers are recognizing the opportunities of investing in research and have made significant commitments to increase support. As you know, in the United States, the Chips and Science Act includes over $200 million U.S. in new funding for fundamental research.

Without similar ambition, Canada risks falling far behind the OECD average. The government’s own advisory panel concluded that Canada will continue falling behind our peers if we fail to increase core funding for the granting agencies and support our early-career research talent. Canada must step up, show ambition and implement these recommendations from the panel’s excellent work. In Canada, most of that spend is still by government and that tells us some of the issues we have in the private sector in the R and D spend.

At the centre of R and D are people, of course, and highly qualified personnel. These are our doctoral and graduate students. Doctoral fellowships and grad scholarships in general have largely remained stagnant over the last 20 years. For the lucky few students who receive these awards, they have to be topped up with tri-council funding from their supervisors—their principal investigators—but even the tri-council has been frozen. In real dollars, we are losing ground. The value and the numbers of Canada graduate scholarships and doctoral fellowships have not increased in two decades—halving in real value. Addressing the stagnation in scholarship funding is an important pillar in the broader effort to tackle the stagnation of funding for the last 20 years.

Graduate programs in Canadian universities are one of the key pipelines for talent, which is fundamental for economic growth in Canada. Investing in the support of grad students through the Canada graduate scholarships program and the fundamental science research funding provided by the tri-agencies will be critical to retaining talent in Canada and driving innovation. Graduate studies in public universities are a fundamental means by which Canadians invest in themselves. While provincial governments are increasingly subsidizing learning opportunities outside of universities, we build capacity in this country by investing in education. Education is how we transform ourselves and, by extension, the world around us, our nation and the globe. Investing in our public institutions is capacity building and citizenship cultivation.

Inflation, and especially the increase in rental accommodations, has very significantly affected the cost of living for grad students. Tri-council doctoral fellowships, including Canada graduate scholarships, have not increased over the past two decades. Adjusted for inflation, the amount of funding per student from the tri-agencies and the Canada Foundation for Innovation is at the lowest it's been since 2000 and is set to decline even more drastically as the funding commitment following the Naylor report is now coming to an end. The research granting agencies are the bedrock of our research ecosystem in Canada, as you know, and now is the time to renew the government's commitment to fundamental research by increasing funding for the granting agencies.

Graduate-level funding is fundamental to recruit and retain high-quality students in Canadian graduate programs, and universities are a catalyst for economic activity, employing nearly 410,000 people and contributing more than $48 billion to Canada's GDP across the country. Every year, we're conducting research worth more than $16 billion and fostering new and innovative ideas that will help us solve problems for today and, more importantly, for tomorrow, in everything from climate change to pandemics.

Graduate studies are a key element of talent acquisition from around the globe. While Canada's funding for graduate students has largely remained stagnant, countries such as Finland and many others we've heard about today are subsidizing graduate students with free tuition—until completion of a first master's degree anyway—and funding to ensure their students can focus exclusively on their studies. As you note, more students are now part-time or working in part-time jobs while studying, merely to make ends meet.

Tri-council funds overwhelmingly—an estimated 80%—go ultimately to support students. Increasing tri-council funds overall, for this reason, directly flows to students. The Bouchard report highlighted that it's "critically important" that core funding of the granting councils be increased, which is why we were disappointed that we did not see such funding in the budget of 2023.

● (1235)

Canada must act in the fall economic statement to ensure the welfare of the federal research ecosystem. Without increased funding, more students need to take on additional jobs. The unintended consequences are that it increases the time it takes them to complete the requirements for their degrees and, obviously, the brain drain.

Ontario Tech seeks to democratize graduate education. Historically, graduate studies have been associated with a privileged few—

The Chair: I think we'll have to wrap up your opening comments at that point. Thank you. Maybe you can work the rest into some answers. We're just watching the time.

We're going to start our second round starting with Ben Lobb for five minutes, please.

Mr. Ben Lobb: Thanks, Mr. Chair. I'm going to split my time with Corey Tochor.

My first question is for Mr. Gaffield.

It's good to see you.

Our previous witness, Mr. Colterjohn from McMaster, a highly accomplished individual, outlined his current situation. He has his money coming in from his work but also from a second job.

He seemed to agree with me, and our thoughts aligned a bit. It seems like there's a lot of bureaucracy in the university system, and a lot of dollars touch a lot of hands before it gets to the people who are doing the research. Does that system need to be completely changed so that we cut out all the bureaucracy and that it goes right to the person needing the money?

Do we need to look at bringing in companies that have a vested interest in these individuals after they're done their school?

Dr. Chad Gaffield: It's a question, I would say, that touches every aspect of all our institutions across the private, public and non-profit sectors. One thing that I think happened in the later 20th century was an effort to build into our organizations the kind of frameworks and structures for accountability and responsibility that would ensure that everything worked at the highest standards.

There's no doubt that, in doing that, at times we haven't sought the most efficient ways of doing that across all sectors, so what I think we're all doing now—my sense is that we're doing it in every company and government institution that I've been close to—is finding more efficient ways of doing what we're doing. The Bouchard report, for example, was certainly down that path.

Can we coordinate better, can we be more efficient, can we simplify and so on? I think this is a shared pursuit everywhere and one that will definitely continue to be important as we try to optimize every dollar.

● (1240)

Mr. Corey Tochor: My question is for Mr. Murphy online.

You talked about the cost of living and some of the challenges. Do you have any personal stories from students of the hardship that the cost of living crisis has caused them?

Dr. Steven Murphy: Certainly. We have a number of students in various faculties for whom the norm is to work one part-time job, and a whole lot are working two.

I finished my studies 28 years ago and only received about $2,500 less than what is a SSHRC doctoral fellowship today. In real dollars, obviously these are individuals who are falling behind, and they need to seek that extra employment just to make ends meet. Of course, that prolongs their time in graduate studies and their not getting out into the workforce as we would want them to.

Mr. Corey Tochor: You talked about the policies and that we're on the wrong track. Many Canadians believe that we need a change in government or we're going to carry on to a much more difficult place for our country. You mentioned that we need to change our approach on this, but, if we don't change, what do the next five or 10 years look like in Canada if we carry on this way?

Dr. Steven Murphy: Through the chair, my response would be that I would be very concerned about Canada's falling further behind our OECD colleagues. I referenced the countries that we are closest to. I think that what we see is the U.S. accelerating. We see Japan accelerating, and we see countries like Finland accelerating. Now is the time to be investing in post-secondary education, and we are an outlier. Certainly that's in both the provinces and the federal government, but the federal government plays a really important leadership role in setting the tone for research and development in this country.

Mr. Corey Tochor: Thank you so much for your testimony here today.

The Chair: Thank you.

Now we'll move to Ms. Diab for another five minutes, please.

Ms. Lena Metlege Diab (Halifax West, Lib.): Thank you very much, Mr. Chair.

Welcome to our witnesses.

Dr. Gaffield, you mentioned that we need to attract the best and the brightest of students, and we all agree that we have to do that. You also mentioned how Canada has invested in the quality of the research environment and the infrastructure we have, quite frankly, across the country. In my own province of Nova Scotia, I see that every day and every week in the institutions we have, and in the leading professors and the supervisors we have.

Yes, I have to say that I definitely agree with you in that we are a committed country, committed people, to being an inclusive society, which tends to bring us talent from around the globe. They want to come, to stay, to learn and to contribute to Canada.

I appreciate that you said this committee is part of the solution, and I feel that. I think I'm going to agree with you. I was very proud when this committee was formed, and proud of the members, who were the inaugural members of the science and research committee when we started on this in the fall of 2021, because in fact, it had not existed before.

I do believe that we have been able to raise awareness and to shed a lot of light on many topics, one of which is exactly the one we're dealing with today. I would say that, for many, sometimes, some things have fallen through the cracks, and I suspect this is definitely one of them.

We've also talked about how it's a holistic approach. It's not simply one item in terms of increasing the graduate scholarships, or doing whatever. It's a holistic approach to solving the problem. I think Dr. Nemer and many others have mentioned that. I think a lot of the issues as well are because of the cost of living and the challenges that many face.

With the few minutes that we have remaining—you've been a professor, you've been someone who has led one of those councils, and in your current role with the U15—what are some of the most important things you can give us to finalize our work here in the committee? Not one answer is going to do the job here.

● (1245)

Dr. Chad Gaffield: Thank you so much.

Let me raise two points. You mentioned two things that I think are so key.

One is how access to funding for graduate students, through the research grants or through graduate scholarships and fellowships, is really the way we're going to pursue an inclusive society. As you know, those from disadvantaged families and those from disadvantaged backgrounds are going to be the most easily discouraged by not having access and not having that support.

Clearly, we don't want a system in which the only Canadians who are able to continue into graduate school are those who come from advantaged families. We want to tap the entire pool of talent. In fact, that was why the scholarship and the fellowship programs were created—to really level the playing field and to give everyone the chance.

In building an inclusive society, we have to understand that being able to make it financially viable for the talented students is absolutely key. We can't make it an elite kind of preordained system. That is not what Canada is trying to do.

The second thing you alluded to is the added advantage for our students to be able to work in research projects. There are many things in that, quickly: learning about how to pursue original thinking; learning about creativity; learning about critical thinking; how to actually assess whether different strategies work in terms of advancing knowledge; sophisticated research skills; how to deal with obstacles when you meet them in your work; how to work in teams, which most of them will do when they finish graduate school; how to manage projects; how to balance accountability and efficiency, and so on, with the kind of discovery impulses that are needed—that creativity piece.

It's that rich array of those deep competencies that I think are required that explains why we need to financially ensure that talented Canadians have a chance to pursue graduate work and that we can become a magnet internationally, and thereby, we can build Canada as a successful 21st-century country.

The Chair: Thank you very much.

Now for two and a half minutes, we go to Mr. Blanchette-Joncas.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you, Mr. Chair.

Mr. Johnson, Support Our Science previously told us that, according to a study, 38% of Canadian PhDs leave Canada to go and work abroad, mainly in the United States. They're looking for better research conditions in countries where governments decided to invest in research and development. Thirty-eight percent is a serious brain drain.

Mr. Gaffield, you said that, as a result, Canada was at risk of becoming a scientific colony. We invest in training high-level researchers, then we see them leave to create, innovate and invent elsewhere. We then become captives of foreign countries' goodwill in order to access the technology and innovation that will shape tomorrow's society.

Mr. Gaffield, what you said echoes a speech made in 1925 by Brother Marie-Victorin, a man I deeply respect. He's one of the founders of ACFAS, l'Association francophone pour le savoir. I'd like to share a passage I read. It includes an excerpt from a speech given nearly a century ago, if you can imagine:

> Sovereignty over knowledge is necessary for sovereignty over territory, the economy and national life: "We will never be a true nation until we stop being at the mercy of foreign capital, foreign expertise and foreign intellectuals; until we are our own masters through the possession of knowledge and the physical resources of our land and its flora and fauna."

What do you think of that statement?

Dr. Chad Gaffield: The Canada we created throughout the 19th, 20th and 21st centuries prioritized training and education in a public societal context. Indeed, publicly investing in a key component of society is truly important, because it is the basis from which we can go further in the private sector and in the public sector. It's fundamental.

In fact, we created Canadian universities during the 19th century, more or less. We brought in graduate students from abroad. Then, we decided we needed to develop that expertise within Canada itself. Now, the bar is even higher. In the 21st century, we say that human capital is actually the highest priority.

● (1250)

[*English*]

The Chair: Thank you very much. We're getting the most out of our time.

Mr. Cannings, bring us home for two and a half minutes, please.

Mr. Richard Cannings: Thank you.

Thanks, Dr. Murphy, for joining us from Ontario Tech University. I'm going to pick up on something you said about how Ontario Tech seeks to democratize education.

We often hear that education is the great equalizer, yet here we have a situation where, because of the stagnation of these scholarships, fellowships and other supports that students have been getting for the last 20 years, we are now selecting against students from lower-income families and other backgrounds who simply can't access education at these costs.

I wonder if you could comment on that. Why is this issue in the science and research world of Canada perhaps the most critical at this moment?

Dr. Steven Murphy: Thanks for the question. I think it's an important one.

Coming to you from the Durham region of the suburbs of Toronto, I can tell you that we disproportionately have students who are new Canadians. They are the first in their families to attend educational institutions. We do not have a lot of entitlement, or we have virtually none.

I can tell you in those situations.... We just came through convocation last week. I hear stories all the time of our young people who want to go into graduate programs and need to take time off to get enough money in order to fund those studies. It's having a very real impact.

The future of our country surrounds me, and I'm uplifted by those students every day. What we need to do is figure out a way whereby we can invest in their futures, understanding that it's the collective Canadian future.

We're not moving electric vehicles further, we're not doing things with quantum and we're not tackling climate change unless we have all of the most brilliant minds, and if we're truly committed to diversity, we have to see that there's an economic lens on this.

Mr. Richard Cannings: To finish quickly, you also mentioned that this money flows directly to students, so it would bypass some of the bureaucracy that Mr. Lobb was mentioning. This money goes to the people who need it and stays within the community.

Dr. Steven Murphy: I think that's really important.

I think that universities are fair game for saying we have too much bureaucracy, but on the research front, it's a critical point to understand that research comes into universities as restricted funds. When it comes from the tri-council, it is solely for the use of the principal investigator who won that. When it comes in for students under scholarships, it can solely be used for scholarships. It is not like tuition funding or grant funding, which we have a greater discretion over.

The Chair: That's great.

Thank you to both of our witnesses for inspirational testimony and great answers to our questions. I know that is going to help us in our study. Thank you for taking the time. As you mentioned, convocation season is a busy time for both of you. Thank you for your testimony. If there's any more information, of course, please submit it to the clerk in writing, and we'll make that part of our review as we go forward.

I have a couple of reminders before we adjourn.

Witness lists are due at the end of the day today for the study on Canadian research partnerships with entities connected to the People's Republic of China. We'll begin that study on Tuesday, so get those witness lists in by the end of the day today.

Also, we'll be meeting on Thursday, June 15, to resume this study on the Government of Canada's graduate scholarship and post-doctoral fellowship programs. We have our last witnesses lined up for two panels for that.

Is it the will of the committee to adjourn?

An hon. member: Yes.

The Chair: Nobody is fighting me.

We'll adjourn. Thank you very much.