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Chair: Mr. Lloyd Longfield



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• (1100)

[*English*]

The Chair (Mr. Lloyd Longfield (Guelph, Lib.)): I call this meeting to order.

We have a few really good panels set up for today. Thank you to our clerk for getting that going.

Welcome to meeting number 44 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, and we have a witness in the second hour who will be on Zoom.

I would like to make a few comments for the benefit of witnesses and members.

Please wait until I recognize you by name before speaking.

For those appearing by video conference.... That doesn't exactly apply right now. We'll do a reminder in the second hour.

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

I welcome our guests. From the Department of Industry, we have Nipun Vats, the ADM of the science and research sector. From the National Research Council of Canada, we have Shannon Quinn, secretary general, and Joel Martin, chief science officer.

Each organization will have five minutes for its remarks, after which we will proceed to our rounds of questions. I will signal when we're getting close to the time.

Who would like to kick us off? It's over to you, Mr. Vats.

Dr. Nipun Vats (Assistant Deputy Minister, Science and Research Sector, Department of Industry): Thank you, Mr. Chair, for the invitation.

I am pleased to join this committee once again to testify on this important topic.

I wish to acknowledge that I am working on the traditional unceded territory of the Algonquin Anishinabe people.

[*Translation*]

As you mentioned, I am the Assistant Deputy Minister for the Science and Research Sector at Innovation, Science and Economic

Development Canada. In this role, I am responsible for policy and programs related to federal funding of post-secondary research, and for fostering connections between research and its downstream economic and societal benefits

[*English*]

Regarding post-secondary research, the ISED portfolio provides direct financial support to graduate students and post-doctoral fellows through scholarship and fellowship awards funded through the federal granting agencies, the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, and in the health portfolio, the Canadian Institutes of Health Research. All three will be here in the next hour.

ISED recognizes the critical role of graduate students and post-doctoral trainees in producing the knowledge, discoveries and innovations that help build a strong future for Canada and the world. The government is also cognizant of the central role that federal scholarships and fellowships play in nurturing and sustaining Canada's top talent through support for career progression, and increased financial security and independence in their academic pursuits.

[*Translation*]

Graduate students play a vital role in the research ecosystem, making considerable contributions to scientific publications and advancing knowledge while developing their skills and knowledge base. ISED recognizes that graduate students and trainees are facing financial challenges that can be a barrier to pursuing higher education and that these financial pressures can also impact students' well-being.

[*English*]

It is important to provide a research environment that is supportive of Canada's top talent and promotes science in this country. We know that as other countries double down on their investments in science and research, Canada must continue to keep pace.

Overall, since 2016, Canada has committed more than \$16 billion to support the valuable contributions that scientists and researchers make to the health, well-being and prosperity of all Canadians. This includes targeted investments in budget 2019 to fund an additional 500 master's scholarships, as well as 167 more doctoral scholarships. In addition, parental leave coverage was extended from six to 12 months to help young researchers better balance work and family and to not disadvantage early career researchers who wish to start a family.

[Translation]

ISED also recognizes that a more equitable, diverse and inclusive Canadian research enterprise is essential to creating innovative and impactful research. To this end, the government has invested in bursaries and scholarships for First Nations, Inuit, and Métis students through Indspire.

[English]

The granting agencies are also working to increase opportunities for Black student researchers, using the funds received in budget 2022 for targeted scholarships and fellowships.

Most recently, through budget 2023, to support post-secondary students and make life more affordable, the government proposed \$813 million starting in 2023-24 to increase Canada student grants by 40%, providing up to \$4,200 for full-time students. Budget 2023 further proposes to raise the interest-free Canada student loan limit from \$210 to \$300 per week of study and waive the requirement for mature students age 22 or older to undergo credit screening in order to qualify for federal student grants and loans for the first time. This will allow up to 1,000 additional students to benefit from federal aid in the coming year.

• (1105)

[Translation]

In addition, Budget 2023 also proposed \$197 million in 2024-25 to the Student Work Placement Program to continue creating quality work-integrated learning opportunities for students through partnerships between employers and post-secondary institutions. This investment will support students in gaining the necessary skills, education, and real-life work experience to transition successfully into the workforce.

[English]

Looking forward, ISED will continue to work with the granting agencies and the research community, including graduate students and stakeholder organizations, to inform how we can improve the research environment for researchers now and in the future.

The previous work this committee has done as well as the ongoing study will certainly be valuable input.

I look forward to the discussion.

Thank you.

The Chair: Thank you very much.

Now we go to the National Research Council and Ms. Quinn.

[Translation]

Dr. Shannon Quinn (Secretary General, National Research Council of Canada): Thank you, Mr. Chair, for the invitation to speak with you today about the National Research Council of Canada. My name is Dr. Shannon Quinn, and I am the Secretary General for the NRC. I am joined by my colleague, Dr. Joel Martin, our Chief Science Officer, and Chief Digital Research Officer.

[English]

I would like to start by acknowledging that the research activities the National Research Council undertakes take place all across Canada on the unceded, shared, current and traditional territories of the first nations, Métis and Inuit peoples. We acknowledge and respect the peoples who were on these lands before us and the privilege we have to do our work on them.

The NRC is Canada's federal research and development organization. We conduct our activities in 24 locations across 10 provinces. Our scientists, engineers and business people work with universities, colleges and Canadian industry to advance research and technology and to move technology from the lab to the marketplace. We serve a unique role in connecting the diverse parts of Canada's science ecosystem. We use our research assets to respond to public policy priorities and create opportunities for Canadian businesses, and for Canadians as a whole. In 2021-22, the NRC labs worked with over 1,000 R and D clients. Through NRC IRAP, we've worked with over 9,000 small and medium-sized enterprises.

Today, the NRC is in a period of very exciting change. As we speak, we're preparing to transition NRC IRAP over to the new Canada Innovation Corporation to create even more opportunities for business innovation in Canada. At the same time, the NRC labs are undertaking a significant capital modernization that will provide researchers across the entire Canadian research ecosystem with access to the kind of modern facilities they need to do their work. This includes providing access to graduate and post-doctoral students.

As a research institution, the NRC is a partner to industry and academia. As an important part of our role in this ecosystem, we seek to provide opportunities for students and early career researchers. That said, I would like to emphasize that we are not funders of external graduate opportunities in the same way our colleagues in the granting councils are. Rather, the NRC works to provide students and early career researchers with important employment opportunities and experience working in our labs and facilities alongside our expert researchers.

In 2017, the NRC created a post-doctoral fellowship program to complement our early career research opportunities. By 2021-22, this provided valuable hands-on research training to 31 post-doctoral fellows. More broadly, in 2021-22, the NRC hired more than 400 students, ranging from co-op to doctorate levels.

Our goal is not to keep all of these researchers in house, but rather to train them and send them out into the broader ecosystem so they may contribute to the research happening in our industries and in academia. To illustrate this point is one specific example: Canada's most recent Nobel laureate, Dr. Donna Strickland, was herself a student at the NRC in her early career. She was a summer student, then subsequently a post-doctoral fellow at the NRC. She then went on to an outstanding career in academia.

Also of note, NRC IRAP has participated in the youth employment and skills strategy since its inception in 1997. YESS has provided thousands of job opportunities throughout Canada, across a wide range of sectors. This is good for the small and medium-sized enterprises, for the students and for the Canadian innovation sector in general.

• (1110)

[*Translation*]

In conclusion, as the Government of Canada's largest research organization, the NRC is aware of its responsibility to continue the ongoing work of knowledge transfer. In doing so, we are nurturing the development of the highly-qualified personnel needed for Canada's future success.

Thank you for your time.

[*English*]

Dr. Martin and I would be pleased to answer any questions.

The Chair: Thank you very much.

Now we'll go to our first round of questions of six minutes each starting with Corey Tochor.

Mr. Tochor, the floor is yours.

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

Thank you to our witnesses.

I'll start with Mr. Vats.

It was proposed in the March 2023 "Report on the Advisory Panel on the Federal Research Support System" that the Canadian knowledge and science foundation, the CKSF, be created to complement but not replace the existing tri-council funders. What is your department's stance on this?

Dr. Nipun Vats: The government is studying the recommendations of the report.

I think there's a general sense there could be more done in terms of driving mission-oriented research in having a more coordinated approach to how to engage with the research funders and how we engage internationally on science and research. A lot of the objectives of that recommendation in the Bouchard report are certainly worth thinking through, but the government hasn't yet decided on

its approach to responding to the report. I think it has acknowledged that a lot of this is very valuable in terms of the directions the report puts forward.

Mr. Corey Tochor: One of the directions they put forward is keeping STEM and the humanities united, with knowledge intended to be a large part of the represented humanities students. Has there been any consideration of the merits of splitting them further apart instead of uniting them?

Dr. Nipun Vats: One thing we've seen in the way research has evolved over time is that there has been a greater appreciation of the synergies between different disciplines of research. You see a lot of the more transformative projects that are put forward by researchers cutting across social sciences, humanities and health sciences. I think the Bouchard report does indicate there is a core focus that's needed on certain areas of research, but there also needs to be a way to bring all of those capabilities together to address the big challenges we all face.

I don't know if the idea is to separate them more but to appreciate what each of those bring to the table and then think about ways to integrate them.

Mr. Corey Tochor: Switching gears a little bit, there have been long-term concerns in the States—and our demographics aren't that much different—and a great deal of discussion lately about how universities and colleges are going to be facing an enrolment crisis with the shifting demographics of both countries. The strengthening of the economy might impact how many students we have. Does that seem likely to occur in Canada as well? If so, how would you tailor your grant programs if it bore out that the demographics would be shifting?

• (1115)

Dr. Nipun Vats: A lot of the universities, particularly for graduate-level and post-doctoral research, depend on international students to a great extent. They've added a lot of value to our research ecosystem, so I would expect there would continue to be an effort to try to attract talent to universities, not only for the benefits of revenue raising and research at universities, but also as a means to bring talented people from around the world to Canada and hopefully have them stay and contribute to the economy. I don't know if it would necessarily shift programming. There may be a need to look at how to incentivize the top international talent to come to Canada. There are certainly programs that do that today, and we'll likely have to continue exploring how to do that better, as other countries are pursuing the same objective.

Mr. Corey Tochor: Does it also weigh in a little bit that we have a smaller pool of applicants requesting funding, so the per-applicant dollar amount could go up?

An added benefit is that we may have fewer students, which helps with inflation out of control right now. By having fewer students with the same amount of money, there would be more dollars per student.

Dr. Nipun Vats: You'd have to look at the trends for the undergraduate student population, which is the largest component of revenues for universities. If you're talking about scholarships and fellowships that are targeted at graduate students and post-doctoral fellows in particular, the numbers we're talking about are not huge in terms of the overall student population.

I would expect, to the extent possible, that universities would continue to try to attract top people to pursue that internationally. It's hard to say what that would—

Mr. Corey Tochor: Being aware that we have 53 seconds left on my clock, we're going to switch gears to the NRC.

I did a bit of research, and according to the CSIS website, the NRC headquarters was a prime espionage target during the Cold War. Is foreign interference with students and professors still a concern, in your eyes?

Dr. Shannon Quinn: I would say that scientific establishments in Canada we know are a target because we have advanced research. We have some of the leading research in some of the most sought-after domains, and the CNSC is no exception. We are a part of that ecosystem that we know has valuable information and is of interest to foreign entities.

We take that very, very seriously at the NRC. It's true from a physical security point of view. It's true from a cybersecurity point of view. Certainly our security screening is very, very important to us—

The Chair: Okay.

Dr. Shannon Quinn: —so everyone comes—

The Chair: Thanks, but I have to cut you off there. I think we have the main part of your thoughts.

Thank you for the question, Mr. Tochor.

Mr. Sousa, you're up next for six minutes.

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

Thank you for the presentations.

Certainly Canada, and you referenced this in your comments, has been leading in research and innovation. We have developed some world-class researchers and we've performed, and it's been cutting edge.

We've talked in earlier discussions and other committee meetings about the commercialization and trying to bring Canada to the forefront, but certainly that initial researching effort is critical.

We, as a government, recognize that in order to cement that leadership in research and in science, we need to support the ecosystem. We need to modernize. We need to keep up the pace, and we need to face those challenges that are before us.

I appreciated your comments today regarding having commissioned a report in order to get third party review to ensure we cover the bases necessary to move forward on these initiatives and that we make informed decisions going forward. We have yet to make some of those decisions.

Mr. Vats, maybe I can start with you regarding how the federal funding for research has evolved over the years. Where are we now, where do you anticipate we're going to be and how has it evolved?

• (1120)

Dr. Nipun Vats: Thank you for the question.

If you go back, it's been a very interesting progression, from my perspective. I was a graduate student in the mid-nineties, and—

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Wait a minute. The translation is screwed up.

The Chair: Yes, our translation has flipped languages. If we could go back to English, that would be great.

I'll give you a few more seconds on that.

Would you continue, please.

Dr. Nipun Vats: There was a pretty significant investment starting at the end of the nineties and continuing for quite a period of time to build up Canada's research capabilities in terms of research infrastructure and research funding. You've seen the Canadian research ecosystem really evolve into something that's very well respected globally.

Institutions have built up their capabilities, and over time there's been an increase of funding in some larger programs as well, to really say if you have strengths at the institutional level, can we bring those to a world-class level where you're competing with the best in the world?

There was recently an announcement at the Canada research excellence fund about \$1.3 billion or \$1.4 billion, which is an example of a program that is meant to help Canadian research get to that next level globally.

You're also seeing an evolution in how institutions are working together. I think there's a recognition that even though we've invested in this strength domestically, if you're going to compete as a small country globally, you can't be a set of islands. You have to think about how you can bring your collective capabilities together to attack some of the big problems in the world and contribute to these big challenges.

There have been funding programs more recently that have tried to incentivize that collaboration across institutions. We've kind of evolved from really good research at a researcher level, to building up those capabilities in our institutions to the point where you have world-class institutions.

Can we actually get those institutions to work together effectively to be greater than the sum of their parts? The funding has tracked in that way and the way that institutions are working has evolved in that way. There's been a kind of virtuous cycle in terms of how that's happened.

Mr. Charles Sousa: Thank you for that.

Ms. Quinn, how many scholarships have you given out annually, and has it been increasing? Give us a sense of what we're talking about in terms of how many you've been doing and how the progression has been.

Dr. Shannon Quinn: The NRC is not a granting agency; that's not our role. We do take very seriously our role in using our expertise and our facilities to be able to provide excellent training opportunities for students.

Back in 2017, there was a new post-doctoral fellowship program introduced within the NRC itself. Since that time, we've ramped up to funding about.... Well, in 2021-22, it was 31 post-doctoral fellows, so we went from zero to 31.

What we've seen is that it's very good for the fellows, and it's equally good for the NRC. It brings new ideas and brings a cross-pollination of ideas from the universities into the federal laboratories. It also provides us with opportunities to be able to also create other linkages back to those academic institutions to try to find, as Dr. Vats was mentioning, opportunities to create synergies between our network of 9,000 small and medium-sized businesses, academics and federal researchers. This will help them to all work together to get to that next level of taking technology out of the lab and into the business world.

Mr. Charles Sousa: We're talking about government support.

Can you share with us the private sector's engagement with some of these endeavours and how students are being serviced that way?

Dr. Martin, we haven't heard from you. Do you have an answer for that one?

The Chair: You have about 10 seconds.

Dr. Joel Martin (Chief Science Officer, National Research Council of Canada): I don't have a direct answer, but as Shannon was just mentioning, we do have IRAP under the YESS, which is a way of connecting students to industry.

The Chair: Great. Thank you.

• (1125)

[Translation]

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

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

I would like to welcome the witnesses who are participating in our important study today.

It is always a bit ridiculous to hear members of the government claim that Canada is a leader in research. The reality, or the truth, is that Canada is the only G7 country that has lost researchers since 2016. Therefore, it is not a leader. Canada ranks 26th out of 38 countries in the Organisation for Economic Co-operation and Development in graduate graduation rates. Is that a leader? No. That is not the reality in Canada, and it is not the truth. I could talk at length about the data that show that Canada has a lot of potential, but that it has a long way to go. We have to recognize the reality, and above all, we have to tell people the truth.

Mr. Vats, it's a pleasure to have you here with us. As I mentioned, Canada is the only G7 country to have lost researchers since 2016. You clearly know that Canada has not increased or indexed its graduate scholarships in 20 years now. Has your organization studied the causes of this brain drain? Have there been any reports on that? What can you tell us about it?

Dr. Nipun Vats: Thank you for the question.

It is clear that federal scholarships have not increased in 20 years. In the 1990s, when I was a student, the amounts were—

Mr. Maxime Blanchette-Joncas: Mr. Vats, I'll go back to the question. Has your organization considered the issue? Have any reports been produced? Have there been any reflexions on that?

Dr. Nipun Vats: Do you mean in terms of scholarship amounts or in terms of our place in the world in research?

Mr. Maxime Blanchette-Joncas: I repeat the question. The question is about the brain drain. Canada is the only G7 country to have lost researchers since 2016. Canada has not increased or indexed scholarships in the past 20 years.

Has your organization looked at those two issues? Are there any reports, studies or data that you can share with us today?

Dr. Nipun Vats: With respect to scholarships, the data are there. I do not think we need to do any studies to see that the amounts have not increased. We have the numbers in front of us. So it is quite clear.

With regard to brain loss, I may not have read the same reports you have in front of you. I know that the research community in Canada is concerned about this loss. All I have heard are examples, but I do not have any data indicating that there is a genuine brain drain from Canada.

Mr. Maxime Blanchette-Joncas: Mr. Vats, the data I read can be found in the pre-budget submissions of the U15, which is the grouping of the 15 largest research universities in Canada. In the submissions for 2023 and 2022, they are named. I invite you to look at them, because it is more than worrisome; it is worrisome and alarming.

You are telling me that you do not need to prepare reports or carry out studies. What do you say to the minister and to cabinet when you try to advise them on public policy and the fact that there has been no indexation for 20 years now?

Dr. Nipun Vats: As a public servant, I explained the problem to the minister. He himself said that he was aware that there was something to fix. The government has not yet found a specific solution, but as you said and as I have reiterated, the problem is there and it is obvious.

Mr. Maxime Blanchette-Joncas: Mr. Vats, you have provided some advice on this, but I understand that there is no political will to act.

Dr. Nipun Vats: That's not what I said. I said that the government had not yet found a solution, but that it was discussing this issue.

Mr. Maxime Blanchette-Joncas: Okay.

Dr. Nipun Vats: The minister has had a lot of discussions with members of the university community, as well, to better understand the needs. There are still—

Mr. Maxime Blanchette-Joncas: I'll continue with my questions.

Mr. Vats, how long have you been the assistant deputy minister of the science and research sector?

Dr. Nipun Vats: For about five years.

Mr. Maxime Blanchette-Joncas: Okay. Are you familiar with the Miller report?

Dr. Nipun Vats: Yes.

Mr. Maxime Blanchette-Joncas: Perfect. What year is it from?

Dr. Nipun Vats: It was published in 2018, I believe.

Mr. Maxime Blanchette-Joncas: It was in 2017, more precisely. It was commissioned in 2016 by the federal government, by the same party that is in power today. You commissioned a new report, which led to the Bouchard report in March 2023, and it made the same finding: We've reached a breaking point with respect to graduate scholarships.

You tell me that we already have the data and the reports and that you are giving advice. So what is preventing things from moving forward? Explain that to us today, please.

• (1130)

Dr. Nipun Vats: I don't have a good explanation for you, Mr. Blanchette-Joncas. I would say that after the Miller report, there were a lot of investments in the research system, particularly in scholarships and grants for researchers.

The Bouchard report specifically targeted the research support system. There is a small part of the report that focuses on funding for students and researchers, and it is important, but there are many other aspects of this report that are a little different from what was in the Miller report...

Mr. Maxime Blanchette-Joncas: Mr. Vats, I'm sorry to interrupt you, but time is running out...

[English]

The Chair: We're at time now.

Thank you for the questions. We'll pick up on the next round.

Mr. Cannings, go ahead for six minutes please.

Mr. Richard Cannings: Thank you.

Thank you to the witnesses for being here today.

I'm going to continue with Dr. Vats.

We have a situation, as you described. We know the problem. You said there hasn't been a solution put forward. Is it your job as ADM to come up with that solution?

Dr. Nipun Vats: It's my job to make sure we're providing evidence to ministers on the issues and to discuss what the options could look like, but it's up to the government to think about what the best way forward on these things is.

Mr. Richard Cannings: Right. Whenever I talk to the minister about this, I get a litany of all the investments that have been made and the new funding programs for special areas of research, but it seems to me that really the basic part of research, the people who do it, has been forgotten in all this, especially the graduate students and post-docs.

I'm just wondering whether there has been a mismatch in where the government is putting its priorities. It wants to go after some of the bright shining lights of AI and things like that, but it has forgotten that basic research. I know there was an increase in funding in 2018 after the Naylor report, etc. I'm just wondering how this can happen, how we can have scholarships that aren't increased for 20 years. It just seems there's a bit of negligence going on there.

Dr. Nipun Vats: I don't have a great answer for you on that. What I would say is that when you look at investments in research funding, those are also investments in people. If you look at the percentage of graduate students who get federal scholarships and fellowships—it's important, don't get me wrong—it is a relatively small layer of those students who are actually funded to do research in the country.

The grants are another important element of that. When you look at programs like the CFREF, which we just discussed, and if you look at the increases that came out of the Naylor report, you see it varies a bit by agency. The agencies are going to be here in the next hour, so maybe they can speak to this. A large part of those grants goes to fund trainees. In some disciplines, virtually all of it is going to fund trainees.

It is fair to be looking at the scholarships and fellowships piece. I think it's a very clear measure of what a specific amount going to a student would look like, but you also can't forget that the lion's share of the funding that we think of as going to the scientists, the academic professors, is actually flowing to students and trainees as well.

Mr. Richard Cannings: We have the Bouchard report, which was commissioned by your ministry. I don't know if you commissioned it or how that happens. That has come back. It knows about all these other investments and says we have to increase these scholarships and bursaries. We have to increase the tri-council research funding by 10% per year for the next five years.

There seems to be a disconnect there. On top of this, I hear now that instead of looking at increases, NSERC and other tri-councils have been asked to search for 3% cuts per year. Where are we going to cut? It sounds like suddenly instead of increasing, we're going to see a decrease.

I'm wondering what's going on behind the scenes.

• (1135)

Dr. Nipun Vats: To start with, the Bouchard report is relatively recent. It took a while to transfer from the Naylor report to certain actions in response to Naylor. I think it's still a little early to be reading the tea leaves in terms of where this is going to go, although it's entirely up to the government in terms of what the government feels they can take action on earlier in the context of all the other things they need to think about.

In terms of the numbers that were put forward in the Bouchard report, in terms of the increases, I think they're partly a reflection of what's going on in the global scene. I think if you look at what other countries are investing in research, you see those kinds of numbers that were cited in the Bouchard report are not inconsistent with what other countries are looking at. There is some concern about Canada's competitive position. That's probably where that comes from.

Mr. Richard Cannings: If I have a few more seconds left then—

The Chair: You have about a minute.

Mr. Richard Cannings: Okay.

One of the witnesses in a previous meeting talked about advising departments across the country in science research. Lots of these departments are being forced to top up the scholarship amounts so that the students can survive. They're finding themselves having to spend more and more topping up these graduate student salaries. Now they're being advised to take in fewer graduate students. That was the advice that was given to them by someone who's a researcher in Canada, going around with NSERC, advising the departments.

Perhaps you can comment on that. That's where this is leading us. We are going to have fewer and fewer graduate students, and they're the people who are doing the research.

The Chair: We're actually out of time on that. If there's something in writing we could get, that would be appreciated.

We'll go to our next round. It looks like we're going to have time for two and a half minutes at the end for both the Conservatives and the Liberals, so they can prepare for that.

Mr. Soroka, you have five minutes, please.

Mr. Gerald Soroka (Yellowhead, CPC): Thank you, Mr. Chair, and thank you to the witnesses for coming today. I appreciate that.

Mr. Vats, I'll start off with you.

You paint a pretty picture, it seems, of how well our grad students are doing, yet that's not what they're telling us. I'm really concerned about their mental state. You mentioned they can borrow even more money, so potentially they're worried about the finances. They're not making much money, plus they're going deeper into debt.

What kind of quality of research do you think they're doing when their minds are on finances versus actually on the research itself?

Dr. Nipun Vats: I would start by saying it's important to acknowledge that the funding levels are a challenge. In my opening

remarks, I highlighted that it has an impact on people's well-being and on their mental health. I'm not trying to discount that at all.

Again, this is anecdotal, but if you look at the research, the students who are involved in the research community are still very driven to try to conduct the best research that they possibly can. In Canada, they have a very good research environment to do so.

I'm sure this committee has had some opportunity to visit some of these facilities and meet with some of the students, but there's a lot of—

Mr. Gerald Soroka: I'm not disputing that. The point is whether it's potentially going to be better. What is your department doing to try to make sure that the government is well aware of this?

You've said there are reports, yet there are no increases, definitely, in the budget.

Dr. Nipun Vats: As I said, the report came out just prior to the budget. The government has indicated that it is studying the recommendations.

I know that Minister Champagne has been pretty active in speaking with the academic community to understand the situation better. He's had a number of engagements over the last little while.

Again, there is an acknowledgement that there's an issue. It's just a question of what the best way to address it will be.

Mr. Gerald Soroka: Hopefully, in the future, they'll be addressing this. That's what you're saying.

Ms. Quinn, you discussed this a bit with my colleague.

When students or researchers are looking for more financial gains and they start going to foreign entities, such as Huawei, for computer hacking, for instance, are you concerned at all that national security is at risk with the equipment you're supplying to these students and researchers?

• (1140)

Dr. Shannon Quinn: The students or researchers who access our facilities all go through the appropriate security screening. They're all issued devices from the NRC facilities that all have the appropriate protections and so on.

Anyone working for the NRC has the appropriate cybersecurity provisions on all of their various tools that we give them, including phones and laptops.

Mr. Gerald Soroka: Yes, but we're teaching them how to hack computer systems. It's not necessarily our systems. That's what I'm talking about. It's national security. In the future, that can be used against us.

Dr. Shannon Quinn: One of the things the NRC tries to do is provide opportunities, as I said earlier, for work experience for various students, which would serve as an alternative to looking to foreign entities for funding or work experience.

Mr. Gerald Soroka: My concern is that in the future, as we keep looking for more money for research when it's not coming from the government, and they start looking at foreign entities.... You're supplying them, as you said, with cutting-edge technologies, facilities and equipment.

Are we just attracting more foreign entities to come here to essentially abuse our system and our goodwill?

Dr. Shannon Quinn: There's no doubt one of the things we're looking at is how to make sure that the very good work that's done at an academic level and within our own laboratories finds its way into Canadian businesses, also for the benefit of the broader economy.

One of the things we have put a lot of focus on in recent times is trying to create programming that will bring together students, federal researchers and businesses all together in one project. This is so you can see a direct pathway for these technologies that are under development to go all the way out into the business. It's a direct line into a Canadian business, so that it finds its way into the Canadian marketplace.

The Chair: That's great. Thank you.

We went over a bit, but I'll watch that with the next speakers.

We go to Ms. Metlege Diab, please, for five minutes.

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

Thanks to our witnesses as we continue this study.

Mr. Vats, I appreciate your testimony. I'm going to agree with you on the infrastructure and the evolution of how the institutions are now working together. I appreciate the fact that we're now incentivizing those collaborations. I know that in the part of the country that I come from, Nova Scotia, in the universities I have visited I've seen that first-hand. We have top-notch infrastructure and also wonderful collaboration happening within the province and also with institutions outside of the province.

I also appreciate the fact that you have acknowledged—I think we all do—that the funding levels are a challenge. Just this past weekend, it was Mother's Day, and I went to a barbecue where there were all kinds of post-docs and fellows, because I come from that circle, as my children are in that field. The barbecue was attended by about 12 to 15 of those post-docs and fellows. I was asking them about that funding.

I do agree with you, and I appreciate your testimony that students are very driven to do their best and to conduct the best research possible. They are extremely driven and they want to do their best. The institutions they're working in are also top-notch, I would say. I agree with you, but they still have to make ends meet, and it's difficult. I was asking them, and obviously what we're hearing here is correct. Before I was on the committee and studying all of this, I had no idea about a lot of that.

From your perspective, are there any international models you're aware of that we can look into for funding those students, post-doctoral fellows, these people who have been in the field for x number of years and are still making a pittance? Isn't "pittance" the English word for it?

For a lot of them, it has taken a decade and a half and perhaps more to get to where they are. To be frank, it's really difficult, really tough, for them to bear. I guess the question is, what else can we be

doing to help them? How can we direct the tri-councils? What else can we do to improve things for them? What are we missing?

We're missing something, and I'm just looking to see from your perspective what else could we be doing as a country and as a government. I do appreciate the fact that even though I'm a mother of two of them like that, I had no idea, so most Canadians would not know. They would have no idea of the dollar amounts and the funding and so on. What else can we do?

• (1145)

The Chair: You have about a minute and a half, Dr. Vats.

Dr. Nipun Vats: Thank you.

You asked about international models. There are things that are a challenge in the Canadian context. As an example, in other countries, there's a much more active role for the private sector in supporting academic research, and academic research for its own sake, but also in terms of the collaborations between academia and industry. You can look at a country like Germany, for example. There's a lot of that kind of collaboration and investment that happens from the private sector and that certainly does augment this.

It has been a perpetual challenge here in Canada. We have a very different industry structure, risk tolerance and size of firm, and that makes it challenging, but I think there is the question of whether we can actually bring the private sector more into this, both to support the research and also for its long-term prosperity. I think that is one element.

There has also been a lot of focus on thinking about early career researchers and how, for those who choose to stay in academia, you make that transition from graduate student to faculty member. Some countries have an intermediate stage in careers and have funding that's associated with that as you're making that transition. Again, there are different funding models for that.

Also, for those who don't stay in academia, there's how you improve those successful transitions, because the majority of graduate students don't become academics. You want to make sure they have the skills they need, in addition to their intellectual capital and their analytical skills, to actually be able to plug into the workforce more broadly.

The Chair: Thank you.

Mr. Blanchette-Joncas, you have two and a half minutes.

[*Translation*]

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

Mr. Vats, if I heard you correctly, you said that students play a critical role for the scientific ecosystem, as they do research, which leads to innovation. I also understood from what you told us that you would not have any great answers for us today about the fact that the federal government has not indexed graduate scholarships for 20 years now.

As the assistant deputy minister for science and research, if you cannot answer, who can answer that for us?

Dr. Nipun Vats: The question of why there has not been an increase in scholarship amounts is a historical question that has been around for 20 years. We could look at the decisions that have been made or not made over those years.

Mr. Maxime Blanchette-Joncas: Mr. Vats, I don't know if I should ask you the question in English.

[English]

If it's not you, who?

Dr. Nipun Vats: I'll answer in English, if I may, sir.

On the question of why there hasn't been an increase for 20 years, as I said, it's over a number of governments and cycles. It's a question that's amenable to study, but I don't have a specific response. There wouldn't be a single answer to that question.

On the question of who actually takes the decisions on investments, it's successive governments. Over time, governments have certainly invested in the research system overall. The amounts have increased over time quite considerably.

This aspect of the system has stayed stagnant. I think there's an acknowledgement that this is the case.

• (1150)

[Translation]

Mr. Maxime Blanchette-Joncas: All right. Speaking of solutions, the Bouchard report, which you are obviously familiar with, says:

As a result, the panel also urges the government to significantly increase funding for students and postdoctoral fellows to an internationally competitive level.

I mentioned earlier that Canada was the only G7 country to lose researchers since 2016. As you know, the largest research funding program in the United States has doubled its funding. I don't need to tell you how much the Canadian federal government invested in research in its last budget: it was \$0.

So I want to understand. From your perspective as a policy adviser, what do you tell the government in this situation?

[English]

Dr. Nipun Vats: There are a couple of things to that.

I think you're referring to the Chips and Science Act in the U.S. The bill passed in Congress, but the science appropriation never happened. It is true that, in the U.S. case, the science part in the Chips and Science Act did commit to a very large increase in the budget of the NSF. However, that has actually not been funded. There have been increases, but they haven't been funded.

The Chair: Thank you.

Mr. Cannings, go ahead for two and a half minutes, please.

Mr. Richard Cannings: Thank you.

I'm going to turn to Ms. Quinn.

Thank you for mentioning Donna Strickland. It's a great example of what we can do well in Canada with science, obviously. I had the pleasure of hearing Dr. Strickland speak a couple of weeks ago at a

Bacon and Eggheads breakfast here in Ottawa. Unfortunately, I think I was the only MP there to hear her.

She brought up the issue of funding graduate students and how she was supportive of their cause. It's interesting. She mentioned she had a PDF grant. I didn't know it was an NRC one.

My question is about those PDF grants you provide through the NRC. What is their amount and how does that compare with the grants provided through NSERC or any of the other tri-councils?

Dr. Shannon Quinn: I'll give you a general response while my colleague Dr. Martin looks for the numbers.

When they join us, they come on force as a work opportunity. The remuneration is more from the perspective that they're joining us in a term position on force.

I'll turn this over to my colleague Dr. Martin, who can speak a bit more to some of the salary ranges we provide.

The Chair: You have about 45 seconds.

Dr. Joel Martin: We can provide you with details on the salary ranges.

For the post-docs, we bring them in at our assistant researcher officer level. We have a scale for people we hire at the NRC. One example is that 11 of our new hires were brought in at a salary range between \$74,000 and \$103,000, depending on their level of experience.

Mr. Richard Cannings: That's well above what they would get through the tri-councils. That's all I need to know.

Thanks.

The Chair: Thank you. Those were great questions.

Mr. Blanchette-Joncas, you have two and a half minutes.

[Translation]

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

Mr. Vats, short of having great answers, I'm going to ask you some great questions and ask for the following data. I would like you and your department to provide the committee with the number of graduate and postdoctoral fellowships awarded by your council, and their values, since 2003. I would also like you to provide the committee with the evolution of the number of Canada's Graduate Scholarships for master's and doctoral students, Vanier Canada Graduate Scholarships, and Banting Postdoctoral Fellowships awarded, and their values, since 2003.

With that, we will be able to paint a picture and, of course, come back to you, although you know very well that we already have two fine reports. Indeed, the Naylor and Bouchard reports indicate that we are at the breaking point. So I don't need to tell you any more about that.

I would now like to hear your comments on the following fact. Last April, Quebec announced an increase in the value of its graduate scholarships, that is, at the master's and doctoral levels, which are administered by the Fonds de recherche du Québec. This represents an increase of about 15% at the master's level and almost 19% at the doctoral level. What makes it important for the Quebec government to increase its graduate scholarships, but not for the federal government?

• (1155)

Dr. Nipun Vats: I have spoken to the leadership of the Quebec research fund and I think the step they have taken is a good one. As I said, the government has asked Mr. Bouchard to submit a report. The government will study the recommendations and make decisions about investments in the system.

[English]

That's really where we are right now.

[Translation]

Mr. Maxime Blanchette-Joncas: All right.

I'm going to try to give you some rink time, because you're going to have to convince us. In your opinion, what are the most important recommendations from the Bouchard report, besides adding more graduate scholarships?

Dr. Nipun Vats: I would say the importance of improving coordination between research disciplines.

[English]

It's also to have a much stronger coordinated presence internationally in terms of how we actually work with our partners, and to be able to really seize the benefits of a research ecosystem—

[Translation]

Mr. Maxime Blanchette-Joncas: Don't you have anything to say about the 10% increase in funding for the three granting agencies over the next five years?

[English]

Dr. Nipun Vats: I think funding in the system is important. Whether the numbers that Mr. Bouchard has put forward are—

[Translation]

Mr. Maxime Blanchette-Joncas: Why didn't you start with that recommendation if it's so important?

[English]

The Chair: We're at time, unfortunately.

To wind this up, Mr. Lauzon, you have two and a half minutes, please.

[Translation]

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

First and foremost, I'd like to thank the witnesses for being here.

Dr. Vats, investing in higher education is critical to ensure that every dollar is well spent, effectively and efficiently. We've all heard you talk about this.

I'd like you to talk about the awarding process rather than the granting agencies. Given your key role in developing science and research policy, can you talk a little about the effectiveness of this process and your interim system for reviewing it, since the way you award these grants is constantly evolving? Can you tell us a bit about your plan to improve the awarding of grants?

Dr. Nipun Vats: First, I would say that the granting councils are perhaps in a slightly better position to answer this question than I am, because the amounts we award for scholarships are part of the funding bases belonging to those agencies.

However, when it comes to policy, we're trying to improve our ability to fund students working in somewhat more interdisciplinary fields. Sometimes it's difficult for them because their field overlaps into the jurisdictions of more than one granting council.

I will continue in English, if I may.

[English]

I think that the agencies do a very good job in delivering their traditional scholarships and fellowships. We can debate the values, but I think that, in terms of how they spend the money, they do it very efficiently.

I think the challenges are around the things that don't fit nicely within one agency or another. There are lots of research initiatives today that really cut across, and I think the agencies are working to try to figure out how to make those connections more effective across agencies.

It's a little about what's in the Bouchard report as well, how you deal with those more effectively.

The Chair: Thank you.

Thank you to the witnesses for the great testimony and to the members for great questions.

We'll suspend for a minute or two while we set up our next panel.

• (1155)

(Pause)

• (1205)

The Chair: We'll get started on our second round.

Welcome back, and welcome to those who have just joined us. We're hoping to have Mr. Strong join us from CIHR. That wasn't the security alert we just got, but if he can hear us, maybe he can join us.

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

It's my pleasure to welcome CIHR, Canadian Institutes of Health Research. So far we have Christian Baron, vice-president, research, by video conference. We have, from the Natural Sciences and Engineering Research Council, Alejandro Adem, president; Manal Bahubeshi, vice-president, research partnerships; and Marc Fortin, vice-president, research grants and scholarships directorate. From across the ocean, we have joining us from the Social Sciences and Humanities Research Council, Ted Hewitt, president; Sylvie Lamoureux, vice-president, research; and Valérie La Traverse, vice-president, corporate affairs, via video conference.

Thank you to all for coming.

This is just a reminder for those on Zoom to mute your mike unless you're addressing us, and to address members through the chair.

Thank you to our translators. We did have an issue in the House yesterday when a headset was too close to the microphone, so we had terrible feedback. Please, as a courtesy and for the safety for our translators, keep devices separate, and keep the microphone away from you.

We'll start with the five-minute opening comments.

We'll start with Alejandro Adem from NSERC, please.

Dr. Alejandro Adem (President, Natural Sciences and Engineering Research Council): Thank you very much.

[*Translation*]

Good morning, Mr. Chair and members of the committee.

My name is Alejandro Adem. I am president of the Natural Sciences and Engineering Research Council of Canada, commonly known as NSERC. Thank you for this opportunity to appear before you for a third time to discuss this critical issue.

[*English*]

Let me introduce my colleagues, Manal Bahubeshi, vice-president of research partnerships, and Marc Fortin, vice-president of research grants and scholarships.

As you know from your recent study, talent underpins the health, well-being and economic success of our country. The pool of talent supported by NSERC and the other granting agencies plays a critical role in powering research, innovation and economic development in Canada.

NSERC directly supports around 7,000 students and post-doctoral fellows through scholarship and fellowship awards, and we indirectly support tens of thousands more through grants to researchers who use those grants to provide trainee stipends. This indirect sup-

port for talent is a component of all our programs, including partnered research and research taking place in colleges and communities across the country, and accounts for over \$400 million per year.

[*Translation*]

It is important to note that the value of scholarships and fellowships offered by the granting agencies helps dictate research stipends and other kinds of compensation for trainees and fellows across the country. It is also a fact that the value of these awards has not changed substantially in a generation. For example, NSERC's doctoral award has remained almost constant at \$21,000 per year since 2004. Considering inflation, the effective award value has dropped by 42% in this period.

This poses a real challenge to students when it comes to covering their basic costs of living. We know that disadvantaged students are more likely to accumulate debt during their undergraduate degree, and may find it challenging to continue on to master's and Ph.D. level programs if financial supports are not considered viable. We also know that we are losing top talent to other countries that are able to offer significantly higher award values.

• (1210)

[*English*]

NSERC constantly re-evaluates the balance between the number of student awards it offers and the monetary value of these awards.

Recent investments by the Government of Canada have enabled the granting agencies to increase the overall number of students they support through scholarship and fellowship awards. In 2019, 600 new Canada graduate scholarships were funded across the tri-agencies. The tri-agencies are rolling out funding from budget 2022 to support over 450 Black trainees from undergraduate awards through to post-doctoral fellowships.

NSERC also recently increased award values for the undergraduate student research awards program from \$4,500 to \$6,000.

Also, to help provide greater stability for Ph.D. students, NSERC, SSHRC and CIHR have increased the duration of the doctoral scholarships from two or three years for certain awardees to three years for all.

Looking ahead, under the direction of the Canada research coordinating committee, NSERC is leading the development of a tri-agency talent strategy, and a large-scale evaluation of our talent programming will be publicly released this fall. The granting agencies are actively working together to ensure that our talent programming is responsive to the needs of today and tomorrow, preparing trainees with the skills that will be needed in the workforce of the future, and positioning Canada as an internationally competitive country. As such, we are exploring opportunities to modernize and streamline our talent programs to make it easier for applicants to apply and to ensure that programs continue to meet their objectives, while also meeting the needs of each agency's distinct research communities.

[*Translation*]

The talent supported by NSERC and other granting agencies is the bedrock of Canada's research and innovation ecosystem, and needs to be adequately supported if we are to prepare our workforce of tomorrow with the skills that will help Canada remain internationally competitive.

Thank you for the chance to share my thoughts with you today. I would be pleased to answer any questions you have.

[*English*]

The Chair: Thank you very much.

Next we'll have Mr. Hewitt from SSHRC.

Welcome to the committee.

Dr. Ted Hewitt (President, Social Sciences and Humanities Research Council): Thank you, Mr. Chair and committee members, for the invitation to speak again before the standing committee, along with my colleagues Madam Lamoureux and Madam La Traverse.

[*Translation*]

I am very pleased to appear before you today in my capacity as president of the Social Sciences and Humanities Research Council, often referred to as the SSHRC.

The SSHRC is the federal research funding agency that supports post-secondary research and research training in the social sciences and humanities. It is also responsible for the administration of many prestigious multi-agency national programs focused on research funding, such as the Canada research chairs program and the Canada excellence research chairs program. Finally, it houses the secretariat of the Canada Research Coordinating Committee, or CRCC, which I am proud to currently chair.

With respect to research training and talent development programs and initiatives, the SSHRC fosters the development of talented and creative individuals in the social sciences and humanities disciplines, whether in history, geography, international relations or business and economics. These individuals will become leaders on campus and in communities and contribute to Canada's success in this 21st century characterized by globalization.

[*English*]

In 2021-22, SSHRC supported more than 4,900 graduate students at the master's and Ph.D. levels and post-doctoral fellows di-

rectly through scholarships and fellowships representing an investment of about \$124 million. SSHRC also supported over 4,200 students and fellows indirectly through grants that were awarded to researchers at post-secondary institutions across Canada, which accounted for an additional \$72 million in support.

SSHRC, like NSERC and the other agencies, is attentive to the growing calls for increased investment in research scholarships and fellowships. The fact is that, as you know well, despite being a core component of the Canadian funding landscape, award amounts have been largely stagnant for nearly 20 years and have not kept pace with inflation. The stagnating value of awards is definitely putting a burden on research trainees and fellows, making it more challenging for them to focus on their research and develop their skills. In fact, students in the social sciences and humanities in particular face added constraints in seeking indirect sources of research funding, such as through grants, as compared with their peers in the natural sciences and health disciplines, which tend to be much better funded.

That being said, given the funds available for this purpose within our system, there has always been a tension between raising the value of awards versus increasing their number, which we have effectively done over the last two decades. It's also worth noting that the federal government is not the sole source of funding for graduate students, and nor does funding from this source account for the majority of support provided to students. Provinces and universities themselves are extremely important partners in this process as well.

Perhaps now is the time to address both these realities, as we can all agree that supporting the next generation of researchers in Canada from across all disciplines has never been more critical. It is key to sustaining Canada's leadership and strength in research and to helping us respond to global threats and seize opportunities that will create a better future for all of us.

• (1215)

[*Translation*]

How to do this is an issue that needs to be addressed collectively, both inside and outside the granting agencies. That's why I look forward to participating in today's discussion about how we might work together to better support graduate training and research.

[*English*]

The Chair: Thank you.

I have a note here that online translation from French to English isn't working.

Could we double-check that it's still okay before we go to our next speaker?

Okay. Thank you to the translators, and thank you for the check.

We'll now go to Dr. Strong from the Canadian Institutes of Health Research for five minutes.

Welcome to the committee.

Dr. Michael Strong (President, Canadian Institutes of Health Research): Thank you very much, Mr. Chair.

I would like to thank the committee for the invitation to appear before it today. Both as CIHR's president and as a scientist, I consider it a privilege to address this committee, and more so since this committee has drawn attention in its first two reports to the issue of underfunding of graduate students in Canada and in particular to the fact that in Canada we have graduate students and post-doctoral fellows living below the poverty line. Many often hold down multiple jobs in order to attain their graduate degrees and the experience necessary to join the workforce whether that be in academia or in the private sector.

As the president of CIHR, I have a unique opportunity to meet with graduate students across this country as I regularly visit university campuses. Uniformly graduate students and post-doctoral fellows clearly express their dedication to research and to making lasting impacts for the health of Canadians, but I have also heard their concerns that the failure of support at this most crucial moment in time as they embark on meaningful and engaging research careers sends a strong signal as to what the future may hold.

When I speak with their supervisors, many of whom, like me, have had rich and rewarding careers as Canadian researchers, they speak openly about the difficulties in recruiting Canadian students into the pathway of being researchers and about why many are beginning to consider training outside of Canada.

As the Government of Canada's health research funding agency, we have a mandate to support peer-reviewed research of the highest calibre. We have a bold ten-year strategic plan, and it speaks to attaining the best health for all, powered by outstanding research, a vision that is dependent on talented research teams based at universities, hospitals and other research and community organizations in all corners of this country.

In this plan we make the commitment that we will foster both health research capacity in Canada and sustainable careers for individual researchers, and we are clear that this commitment to career sustainability includes our training programs.

The vast majority of CIHR's budget is devoted to funding research, through peer-reviewed research grants on topics selected by the individuals or teams of researchers, in support of strategic research directions deemed critical by the Government of Canada.

This direct research investment has resulted in some of Canada's and the world's greatest scientific achievements. We need only look at the discovery of lipid nanoparticles 20 years ago by a Canadian, Pieter Cullis, to understand how important our contributions continue to be, or to the discovery of novel CAR T-cell therapies that will save the Canadian health system literally tens of millions of dollars while making available this crucial cancer therapy in all corners of the country. The Canadian research ecosystem is rife with such examples.

However, these same funds are also the main source of financial support for master's and doctoral scholarships and post-doctoral fellowships in that these trainees are paid directly through the grants of their supervisors. In fact, we estimate that \$129 million in support was invested through stipends to graduate students and post-doctoral fellows paid through operating grants this last fiscal year alone.

Along with our sister agencies, CIHR participates in the Canada graduate scholarship program at both the doctoral and the master's program level, investing over \$192 million over the last five years. We also see as a critical step supporting the development of our next generation of researchers to provide fellowship programs, programs that provide support for highly qualified applicants in all areas of health research at the post-Ph.D. or post-health professional degree level. These fellowships support them in developing their leadership potential and position them for success as researchers of tomorrow in a very tangible way. In the last five years, CIHR has invested over \$121 million in post-graduate fellowships.

By way of example, in early 2021 in the midst of the pandemic, CIHR launched the health research training platform pilot funding opportunity with over \$28 million in funding. In addition to providing financial support for trainees, the 12 platforms funded by this program provide the necessary support for experiences and skills needed to lead to high-impact interdisciplinary health research careers in a rapidly evolving research landscape. They provide access to interdisciplinary, interjurisdictional and intersectorial training environments so that Canada's next researchers can benefit from high-calibre mentors.

More recently, we invested \$4 million in the innovative health system impact program, which provides highly qualified Ph.D. candidates, post-doctoral researchers and early career researchers opportunities for health research.

In all of these programs, we focus on strengthening the research talent pipeline in accordance with principles of equity, diversity, inclusion and anti-racism. Our goal is to remove systemic barriers to accessing research training funding and to embrace these diverse initiatives.

• (1220)

For example, we're currently piloting an initiative that we are exceptionally proud of, which is called the CIHR research excellence, diversity and independence early career transition award, otherwise known as REDI. This groundbreaking award is an early career transition award for Black and marginalized female scholars that provides significant research support in their training programs and, in partnership with universities, funding in the early parts of their research career.

The Chair: We'll have to cut it off there. Maybe you can give the rest of your testimony as part of your answers, Dr. Strong.

Thank you.

We'll start off with our six-minute rounds. We're going to be very tight on time, so we'll be watching it closely.

We're starting off with Mr. Lobb.

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

My first question is for Mr. Adem.

Is there a role for businesses to pay more into the topic we're discussing today?

Dr. Alejandro Adem: Thank you very much for the question.

Absolutely. Encouraging businesses in the private sector to get into R and D in Canada, I think, is one of the priorities of the government. Previously I was the CEO of Mitacs. There's a partnership program for internships in industry for graduate students. We have a program called Alliance that builds partnerships between academic partners and industry, and the students work on problems from the real world, from the industrial sector or not-for-profits. There is cash on the table that they provide.

I think the more we can do of that the better.

Mr. Ben Lobb: When you provide grants to these opportunities we're discussing today, are there any business dollars coming in to match up with these dollars?

Dr. Alejandro Adem: Through our Alliance program, it's research partnerships. Indeed, there is a partnership between what we provide and a matching amount that is provided. This provides opportunities for the students and the researchers to work on the particular strategic projects, which will be a benefit to the company and to Canada.

Mr. Ben Lobb: Mr. Hewitt and Mr. Adem, is there a list of all the projects, of all the different disciplines that are allocated? Is there a list that we could have on this study that says there were this many studies or this many dollars given out to these students, and here's what they studied?

Is there a list somewhere that this committee could look at to have some basis of this?

• (1225)

Dr. Alejandro Adem: We have dashboards for our Alliance program. Maybe I'll pass it over to our vice-president for research partnerships.

Ms. Manal Bahubeshi (Vice-President, Research Partnerships, Natural Sciences and Engineering Research Council): With respect to your question, we do have information on the grants that we've provided. We also have a database that provides the awards, the award amounts, etc. We are able to furnish information if we—

Mr. Ben Lobb: Right into the granular detail as to the topic on which they're working...

Ms. Manal Bahubeshi: We can furnish the title of the project, yes.

Mr. Ben Lobb: Okay. That's good.

I would imagine that 99.9% of the topics studied are important, but I think it was the Record in Kitchener that posted this thing, and I couldn't believe it. There was a research project done, studying Dolly Parton's lyrics. I'm pretty sure there were some federal dollars involved. I don't suppose NSERC is funding any projects like that. How do we assure taxpayers there's no tri-council granting dollars going to study what Dolly Parton wrote about?

Ted, would you want to comment on that at all? Give us some context here so that we don't have any types of things like this.

Dr. Ted Hewitt: I can't comment on that particular project. I know we're certainly able to provide you and members, and anyone—and I do this quite often for MPs, as many of the members will know—with lists and topics of things that are being researched.

I can tell you that whatever is being proposed is subject to expert or, what we call, merit review. Under the criteria of the program, they're assessed in this way and funded on the basis of excellence.

I would say sometimes it's important to look beyond the titles to see exactly what people are doing and what the impact and benefit to Canada would be.

Mr. Ben Lobb: Sure. I can't complain about that.

I'm sorry, Mr. Adem. You're the guy here in person today, so you're on the hot seat here.

Not all, but some of the universities in this country, I would say, are very, and I don't know if "wealthy" is the right word to say.... They have billion-dollar endowment funds. They have big salaries. I'm not saying that's with their professors, but certainly there are big salaries in the administration.

I don't want to put you on the spot here, because probably some of these guys are your colleagues. Do you think before we go much further we need to really look at this, and say, "Look, you're coming to us for more money, but look on the other side. You have almost \$3.5 billion in your endowment fund. What are we doing?"

Do we need to have a discussion as a country on this?

Dr. Alejandro Adem: I think the university ecosystem should have discussions about that, because the support for graduate students is a combined approach, as my colleague Ted Hewitt mentioned before. A rarity is a student supported just by tri-council. It could also be teaching assistantships and funds from provincial and private donors.

What is the acceptable minimum wage for a graduate student at a university in a big city? That's something I think universities should address. There's also the element of tuition and how that factors in.

Mr. Ben Lobb: Thank you.

I have one last thing I'd like to get to, but I'm probably—

The Chair: You have 40 seconds.

Mr. Ben Lobb: Forty seconds is plenty of time.

I know all of you folks here are very intelligent. You probably have more brains in your little fingers than I have in my head. I would imagine it must be frustrating at some level to see all the money spent on some of the pork-barrel projects that the government comes up with throughout the years. We have an issue. These hard-working, intelligent people can't get a fair shake at a dollar. All they would have to do is redirect that waste—which we can't show for, anyway—to you folks and what you're trying to do for these students.

Do you have any thoughts on that? I don't want to—

The Chair: You have run out of time, Mr. Lobb. I'll have to cut you off there, but you've given us some food for thought.

I'll go over to Ms. Metlege Diab for six minutes.

Ms. Lena Metlege Diab: Thank you very much, Mr. Chair.

I want to start off by thanking all the witnesses who are here today from the three councils.

You have been here before and I'm sure you will be here again. I agree with my colleague Mr. Lobb that the talent, expertise and education you all have, I have no doubt, far outweigh that of most MPs. I'll say "most", because I don't know all the MPs, or government or anything. Thank you so much for being here and giving us your time, experience and knowledge to delve into this particular topic that obviously hasn't been looked at in this way in the last 20 years. I'm glad we're here.

I'm going to start off with two questions. Mr. Hewitt, I'll start with you, because you brought them out, but in whatever time I have remaining, I would like to have all three of you, if possible, deal with them. If you can't now, perhaps submit it in writing.

I'm going to say the two questions, then I'm going to leave it open for you to talk about them.

Last week, we heard from other witnesses about raising the value of awards versus the number of awards. We're calling them students, but some of these people are not students. These are post-doctoral geniuses, as far as I'm concerned. That's one question I have: What do we do? Quite frankly, who decides these things? It can't be government, I don't think. Who decides and how do we deal with that? I'll start with that.

The second one, and if we don't have time, I'd like to get something in writing, was alluded to a few times. What is the balance—I imagine each of the three councils is different—between federal, provincial and private sources of funding? How do we deal with that? How do we assess it? What kind of balance...? Surely it's not just the federal government that is responsible here.

Dr. Hewitt, please go ahead.

• (1230)

Dr. Ted Hewitt: Thank you for your questions.

To answer the first question with regard to the value, for the Canada graduate scholarships, I believe there are about 3,000 master's scholarships and 1,000 doctoral fellowships. Those values were, in accordance with my understanding, set when the program was established and incorporated into the budget. We don't have the ability to increase or decrease those amounts and affect the number.

For the graduate scholarships and post-doctoral fellowships our agency funds—I believe it's the same for CIHR and NSERC, and they can speak for their agencies—it's 500 to 700 of those each year. We determine the value of those. The values largely remain the same because of the conversations we've had periodically about whether we want to increase the value or maintain the number. Frankly, I can tell you that, in the past, we've said, "Look, we really want to get to as many students as we can. Right now, let's just push the number and we'll have to find a way to increase the amounts."

We took that approach partly because we realized, as my colleagues have said, that this is not the only source of funding available to students. There are provincial bursaries, as well. There is money from donations and the ability to work as a TA or in other types of activities. Sometimes universities can support the students we fund in that way. Sometimes, when we support them, they decide not to allow them access to those funds, in order to spread money around still further to fund more students.

I think that's why, as Dr. Adem suggested earlier, this is a system-wide issue we need to resolve. We need to set the reference rate of pay. I totally agree with this, and I totally agree we need to look seriously at increasing those rates.

Perhaps I'll allow my colleagues to take on the other question.

The Chair: We have less than a minute for each of your colleagues if you're going to be splitting it.

Ms. Lena Metlege Diab: Sure. One or the other can please go ahead.

Dr. Michael Strong: I'm very happy to respond to that. Thank you, Mr. Chair, for the question.

Very quickly on that, I would agree with everything that my colleague, Dr. Hewitt, has expressed there.

It is a system-wide issue. I think we do need to set what will be, obviously, a floor for all of these and to recognize there will be some variability that will not only occur geographically—that was already alluded to earlier in one of the questions—but also occur by the nature of the trainees themselves. We do look after a lot of fellowship training programs for individuals who have advanced degrees and who are coming as health professionals, so there's a bit of a difference there in what the funding will look like. That does really control the numbers. At the end of the day, there are only so many dollars.

For us, it is that balance Ted was talking about, but I absolutely agree that we need to grapple with this and to get a floor set as to what's appropriate.

The Chair: You have about 45 seconds.

Dr. Alejandro Adem: I just want to mention that we also support programs at the colleges and polytechnics. In this year's budget, there was \$108 million for that sector. A lot of students benefit from hands-on work experience and academic training, so that's a very important sector to also keep an eye on.

Ms. Lena Metlege Diab: Thank you very much.

With my few seconds left, if there's anything that we missed after this that you think would help us in this study, please, by all means, share it with us.

• (1235)

The Chair: Thank you.

There are 10 seconds.

I'm interested in the governance and how you work among yourselves. That was mentioned in the Bouchard report. A comment on how you govern yourselves between the agencies would also be something we could receive in writing.

Mr. Blanchette-Joncas, you have six minutes.

[*Translation*]

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

I welcome the witnesses joining us as part of our important study.

Dr. Adem, in your remarks, you touted the fact that the Natural Sciences and Engineering Research Council has increased the duration of its scholarships from two to three years, particularly at the graduate level, that is, at the master's and doctoral levels.

In Canada, is the higher number of graduate scholarships keeping pace with the higher number of students? How does the number of awards offered compare to the number of applications? Do you have data on the percentage of scholarship applications that are approved?

Dr. Alejandro Adem: I will yield the floor to my colleague Marc Fortin.

Dr. Marc Fortin (Vice-President, Research Grants and Scholarships Directorate, Natural Sciences and Engineering Research Council): Thank you for the question.

There are two programs: the Canada graduate scholarships master's program and the Canada graduate scholarships doctoral program.

The master's level program is administered by universities. Therefore, we don't have data on the number of applications, the pressure rate, if I may say, or the success rate.

With respect to doctoral level awards, we will gladly provide you with our data on the evolution of the number of applications and the number of awards. I can tell you that the number of awards has essentially remained constant, except for an increase in 2019, as previously mentioned.

Mr. Maxime Blanchette-Joncas: Thank you very much, Dr. Fortin.

Dr. Adem, I understand that you don't necessarily have all the data. However, right now, the duration of studies is greater than three years, particularly at the doctoral or master's level. Has your organization ever considered increasing the duration of scholarships?

Dr. Alejandro Adem: That's a good question. It's a bit of a paradox when you compare the duration of the awards and the duration of the programs. It's important to think about these kinds of things when developing a strategy related to talent or scholarships.

Mr. Maxime Blanchette-Joncas: Thank you very much, Dr. Adem.

Dr. Strong, you spoke about the importance of improving Canadians' health. The Canadian Institutes of Health Research obviously does research and innovates in health care, but personally I would like to talk about student psychological health.

Students today are living on the same budget as their predecessors did in the early 2000s. According to Statistics Canada, a cart of groceries worth \$100 in 2003 is worth exactly \$150.38 today. Higher tuition fees, gas prices and rental costs must also be considered.

In addition, a 2018 student psychological health survey conducted by the Quebec Student Union found that 58% of Quebec students were experiencing high levels of psychological distress. That's nearly two out of three students. In the general population in Quebec, we're talking about one in five. As you can see, financial insecurity can really have serious consequences.

Do you believe that pushing students into financial insecurity by granting them these scholarships is going to help them and encourage them to do more research?

[*English*]

Dr. Michael Strong: Thank you very much, Chair, for the question, and thank you to the member for that.

Clearly, my answer to that would be that we have to have the concern with regard to the health of our students as a paramount objective. A graduate degree, whether it be a Ph.D. or master's, in and of itself is a stressful period of time. It is doing research and working under very difficult conditions sometimes in terms of making sure that their experiments are done. Everything we can do to ensure that the rest of their lives and their well-being are looked after, I think, is our priority. It is part of our responsibility.

As a lab supervisor, I have students in my lab right now where I have concerns. You're right. Financial stability is important, and the ability to go home—many have children; many have families—to ensure they are stable is also important. I agree with your comment. It's important for us to be cognizant of this feature.

[Translation]

Mr. Maxime Blanchette-Joncas: Thank you very much, Dr. Strong.

Dr. Adem, you know that the Natural Sciences and Engineering Research Council of Canada embraces the values of fairness, diversity and inclusion. I want to talk to you about inclusion.

Currently, the three federal granting agencies do not have seats reserved for the student population, unlike what Quebec is doing with the Fonds de recherche du Québec intersectoral committee, which advises Quebec's chief scientist, Dr. Rémi Quirion. In Quebec, seats are reserved for the student population so that they can make their views known, because these students are an integral part of the situation.

Why is your organization not drawing inspiration from Quebec to make room for the student population on its board of directors?

• (1240)

Dr. Alejandro Adem: Thank you very much for the question.

[English]

I'll switch to English for this one.

The committees of our council, our governing council, do have students on them, including the committee on discovery research. For the senior committee, the governance council, these are GIC appointments, and students are possible, I am told, but we have never... However, we do welcome them. We had a conversation with the student associations, and they asked us if we would welcome their participation, and we, of course, said yes. That's very important for us.

I also want to mention that there is an ongoing study on talent in all the different streams of funding. It's coordinated by the Canada research coordinating committee. My colleague, Marc Fortin, is spearheading many of those efforts. Out of 18 people, seven or so are students. One of the reasons the stipends have not been increased is that the advocacy of the students is not incorporated into the governance councils.

[Translation]

Mr. Maxime Blanchette-Joncas: Dr. Adem, as president of the Natural Sciences and Engineering Research Council, do you support making room for students on your board of directors?

Dr. Alejandro Adem: Yes, totally.

Mr. Maxime Blanchette-Joncas: Thank you very much.

[English]

The Chair: Thank you.

Mr. Cannings, you have six minutes, please.

Mr. Richard Cannings: Thank you, and thank you to the witnesses for being here. It's been very interesting.

I'm going to start with Dr. Adem, because he's here in person, and we also had a chance to have a conversation about this yesterday.

I'm curious about the budgetary process. Budgets are kind of a mystery to me in some ways. Where are the decisions being made about these scholarships and grants amounts? They seem to be the same across the tri-councils, so I'm assuming it's there somewhere. Where would that decision be made to increase the amounts?

Dr. Alejandro Adem: We provide information about what the current amounts are, what the pressures are, including international comparators. Upon request from the ministry and others, we dive into crunching the numbers and the modelling as to how much money would be necessary, say, to increase a particular scholarship to a certain level.

That's the kind of process. It's a very iterative process, and at some point, the Ministry of Finance gets involved to understand what the size of the ask would be to do that.

Mr. Richard Cannings: To make it clear then, you've been pointing this out to the government, I don't know how often, on an annual basis, and it has decided not to do that. Is that what I'm hearing?

Dr. Alejandro Adem: We are part of government, so we don't advocate for funding, but we explain to our colleagues what the situation is along with the international comparators. For example, the American National Science Foundation graduate scholarship is worth \$37,000 U.S., plus \$12,000 for research expenses. That's the main comparator for us.

Mr. Richard Cannings: I get the impression that, while you're providing this information to the government to make a decision, you're also hearing requests from the government to think about getting less in coming years by going through exercises regarding budget cuts. Is that right?

Dr. Alejandro Adem: You're referring to what was announced, I believe, in the budget decision. There's going to be a cut across government, and we're part of that exercise as is every department in government.

Mr. Richard Cannings: I will turn to Dr. Hewitt.

You've been mentioning that these aren't the only sources of income for many graduate students. Some have opportunities for teaching assistantships, and there are top-ups that departments provide. It's also generally known that the share of income for universities that comes from the government has been steadily declining for 30 years or so, so universities are having a tough time. We heard from one of our witnesses the other day that she's been advising universities and university departments to cut down on the number of grad students because they're having trouble providing these funds for the top-ups that are necessary for students to basically find a place to live and feed themselves and their families.

Isn't there that real pressure to increase these scholarships and fellowships, especially if they are considered the standard for other programs?

• (1245)

Dr. Ted Hewitt: Thanks for that question.

I absolutely agree, but the reality, as I think the committee is aware, is that we're funding a minority of students. In fact, it's not a large minority of students, so in effect we can increase the rates, and we've certainly been saying that. This serves as a reference rate that can be used for students who are paid through other means, such as grants, but also perhaps as a signal to provinces as well that they need to contribute more.

I don't know whether you have plans to invite representatives of the universities to speak to you about how they fund graduate students, but I think they might be in a better position to answer that, as we know that provincial rates of support for universities have been falling, and reliance on tuition has been increasing. That tuition is also coming from graduate students, which eats into the support we provide them at the federal level.

If we don't think about solutions that incorporate all the players and all the partners, we're not going to solve the problem in a satisfactory way.

Mr. Richard Cannings: Thank you.

I'll turn to Dr. Strong and ask more or less the same question.

I also want to thank you for mentioning my friend, Pieter Cullis. Perhaps people around this table are getting bored with me bringing up his name and that example so often.

Again, we've been hearing how the number of scholarships has been increased to help more students, but that in itself doesn't help them. They still have to find extra funding to live, basically, to provide these top-ups.

I know you've answered this in some ways before, but just to reiterate, increasing these scholarship and fellowship amounts to reflect what's been happening with inflation over the last 20 years would have a very valuable impact on the lives of these students.

The Chair: Very briefly.

Dr. Michael Strong: It would have an immediate and tangible impact.

The Chair: Thank you very much.

We'll go to our next round. We have 15 minutes carved out, which will take us a little bit past the top of the hour, so we're just getting permission to be able to offer that.

Mr. Mazier, you have the floor for five minutes, please.

Mr. Dan Mazier (Dauphin—Swan River—Neepawa, CPC): Thank you, Chair.

At this committee, students have shared the hardships they are facing because of the Liberal government's cost of living crisis. Witnesses have repeatedly called on the current government to support graduate students and post-doctoral fellows. Their requests have been ignored, but they are still looking for answers.

The first question is for NSERC.

Your June 30, 2022, quarterly financial report states, "The authority of Parliament is required before the Government of Canada can spend money. Approvals are given in the form of annually approved limits through appropriation acts or through legislation in the form of statutory spending authorities for specific purposes."

Does parliamentary authority limit your ability as a body to reallocate funds in your own budget to increase the value of scholarships and fellowships?

Dr. Alejandro Adem: We can do this, but under sort of limited circumstances, and it depends on the particular program. Some of them are ring-fenced. The situation for us is that 33,000 graduate students are supported by the grants—that's indirect support—and all the international students that we bring in.... The rest are a small number supported directly by the scholarships.

The question is whether you are going to reduce the number that are supported or whether you are hoping for an increase, which is what the community tends to communicate to us.

I should also say that, because you co-operate so closely with the other agencies, we don't do unilateral actions without doing it in concert for the whole sector.

Mr. Dan Mazier: Could you provide a list of which ones are ring-fenced?

I guess that's a term of, basically, you are limited. That would be the layman's term.

Dr. Alejandro Adem: Absolutely, we can provide that information.

Mr. Dan Mazier: Why are they ring-fenced?

Dr. Alejandro Adem: Maybe I'll pass it on to my colleague with more knowledge about such things.

Dr. Marc Fortin: Those are decisions or initiatives that are announced by government in various budgets over the years.

The government will make an investment, for example, in Black scholars, better supporting Black scholars, as was announced last year.

• (1250)

Mr. Dan Mazier: Or increasing wages in general....

Dr. Marc Fortin: That could be.

Mr. Dan Mazier: Okay. That's good.

This question is for the Canadian Institutes of Health Research.

In 2021-22, your organization had a budget of \$815.5 million in discretionary funds, giving your organization the financial flexibility to support a variety of programs. Is there anything preventing you from using these funds to increase financial supports to graduate or post-doctoral students?

Dr. Michael Strong: I'll need to get back to you with a written response as to how those dollars are allocated. Many of them are already attributed specifically to programs that I would not be able to access. As for the exact amount, though, we will follow up directly with that response.

Mr. Dan Mazier: You are a supervisor, as you suggested earlier. Is there anything limiting you from paying...? When you set up your budgets, can you allocate more to the student at the end of the day?

Dr. Michael Strong: The answer to that is yes, there is nothing that would preclude me from doing that as a supervisor. The issue is that, at the end of the day, for the vast majority of funding for CIHR investigators, you have a fixed amount of funding. If you increase to the students, there is less towards the research that needs to be done in the lab as well. It's a very precarious balance.

The direct answer to your question is that there is nothing that would preclude that.

Mr. Dan Mazier: I'm sort of following up on what Mr. Lobb and Mr. Cannings mentioned.

Again, \$815 million is a lot of money. It's a lot of money floating around in the system. How much is allocated for students versus the big scheme of things?

Maybe we need one fewer pipette—I don't know—or 10 fewer. Those are the kind of questions that I can't get over that aren't being asked as you set up these budgets.

My third question is for NSERC.

In 2021, the government put in place stricter guidelines to require national security reviews for academics seeking federal funding from your organization. Can you provide in writing to this committee how many applications have been denied under these new guidelines and the reason they were denied?

Dr. Alejandro Adem: Absolutely, we can provide that information.

Mr. Dan Mazier: Thank you very much.

That's all I have, Chair.

The Chair: Thank you, Mr. Mazier.

Now we go to Ms. Bradford, please, for five minutes.

Ms. Valerie Bradford (Kitchener South—Hespeler, Lib.): Thank you, Mr. Chair.

Thank you to our witnesses for returning to our committee. We really do appreciate your input.

President Hewitt, you mentioned that, of course, federal funding is just one source of funding for these students. Obviously, it hasn't been increased since 2003.

I think you already alluded that perhaps the provincial funding has decreased. You said that the other pockets of funding are provincial funding and post-secondary institutions.

Can you tell us about the trends on those two pockets of funding and how they've increased, maintained or decreased over the years?

Dr. Ted Hewitt: I would certainly have to defer to my colleagues to put together some data for you.

I know that in terms of the process, quite often in universities—and again, it may be a question for university association reps to answer—internal policies in effect prevent students from holding, say, a federal scholarship or bursary and also other funding made available by the university.

This is also the case in Ontario, for example. It's long been the case that if you hold a SSHRC doctoral fellowship, you cannot hold an Ontario graduate scholarship. The purpose of this is not to avoid stacking, but to ensure that money can be spread around as much as possible to support more students as opposed to raising the amounts that are available to individual students. We totally understand why that's the case, but that doesn't make it okay.

We have to figure out a way—we've all said this—to raise rates that individual students are receiving within the context of that system or to allow them to have access to increased funds in order to live properly, in effect.

Ms. Valerie Bradford: Yes, understood.

Also, we know that in many other countries the private sector is much more engaged in funding research. I was wondering if you could make some suggestions as to what the federal government could do to encourage the private sector to get more involved in this.

Could there be matching funding? What would you suggest so that we can encourage our risk-averse private sector to step up, because they can benefit from this?

● (1255)

Dr. Ted Hewitt: Excuse me. Is that question for me?

Ms. Valerie Bradford: Yes, and then I also want to hear President Adem's views on this.

Dr. Ted Hewitt: As Dr. Adem mentioned, there are programs that do rely on contributions from the private sector, such as Mitacs, and I think they work very well.

Also, I would say that Canadian universities have had reasonable success in attracting industry to support projects on a contract basis. In universities, a lot of that funding is used to support students. I'm not sure what the current value is, but back in the day when I was at Western and VP of research, it was already well over a billion dollars, so I'm sure it's much more than that.

I think there are other options that can be applied as well through some of our partnership programming that Dr. Adem mentioned, and that SSHRC also maintains, where those contributions can help to support students—absolutely.

I'll stop there and allow my colleagues to weigh in.

Ms. Valerie Bradford: Yes, and I just want to say that I know the colleges are very effective at having partnerships, particularly in manufacturing and things like that, because they benefit directly from the research.

Go ahead, Dr. Adem.

Dr. Alejandro Adem: Yes, absolutely. The colleges are excellent partners for industry. We have a large program called Alliance. The budget is close to \$300 million per year. It's a partnership program with industry for not-for-profits focusing on strategic priorities for the private sector, as well as for Canada and the government priorities.

We're delivering on the quantum strategy, quantum science and quantum technologies. We're now delivering jointly with SSHRC on reducing carbon emissions in agriculture. We had one on small nuclear reactors.

There are a lot of partnerships. Indeed, everyone's goal should be to get more investment from the private sector into research, because government cannot pay for all of it. It's a mistake to think that.

Ms. Valerie Bradford: Also, it's the private sector that benefits from this.

Also, in response to our second study that we did at this committee on top talent, research and innovation, we heard that through the work of the Canada research coordinating committee we're developing the tri-agency training strategy. It aims to be “trainee-centric, evidence-based, and transparent while communicating a shared vision among the tri-agencies and upholding the principles of equity, diversity and inclusion”.

Also, the “Report of the Advisory Panel on the Federal Research Support System” wrote that the Canada research coordinating committee and other efforts haven't “fully achieved harmonization and the support system remains fragmented”.

Dr. Adem—

The Chair: I'm sorry. We've run over the time.

Ms. Valerie Bradford: Can I ask a question for him to provide it in writing?

The Chair: No. We're over the time. Thank you. We have to watch the time, because we are getting close. We do have some permission to go just past the top of the hour.

We'll go to Mr. Blanchette-Joncas for two and a half minutes.

[*Translation*]

Mr. Maxime Blanchette-Joncas: Thank you very much, Mr. Chair. I'm going to continue with my questions.

Earlier, some colleagues said that Canada was a world leader in research. I like facts so much that I did my research. Canada ranks 18th out of 34 OECD countries for investment in research and de-

velopment. It's also the only G7 country that's reduced its investments in research and development over the past 20 years. The last 20 years seems like a good number, a magic number for the government, because during that same period, the government also didn't increase its graduate scholarships.

Let's get back to the crux of today's study, which is the proportion of investments the government makes in research and, of course, how much it invests in its three granting agencies. A portion of that funding then goes to scholarships. At the Natural Sciences and Engineering Research Council of Canada, or NSERC, there's been a decrease in recent years. In 2011-12, 13.3% of NSERC funding went to scholarships, compared to 8.3% in 2019-20, a 5% decrease in eight years.

Dr. Adem, if the government reduces its investments in the three granting agencies or doesn't invest in them, as we saw in the latest budget, would you agree that it's impossible for your organization to give out bigger scholarships?

Dr. Alejandro Adem: Inflation is having an impact, and it's the most important thing in the agencies' budget. I'm a mathematician and I see the extent to which inflation is bringing down the value of the dollar in our budget. We have to do the best we can with the same amount. Compared with the National Science Foundation in the United States, for example, our situation is totally different. We have to compete with other countries, and that's very important for Canada.

• (1300)

Mr. Maxime Blanchette-Joncas: Thank you, Dr. Adem. If you had one wish for your organization, what would you ask from the government?

Dr. Alejandro Adem: I work with our colleague in the department. I want Canada to be a leader in all the sciences.

Mr. Maxime Blanchette-Joncas: What do we need to do to be a leader, Dr. Adem?

Dr. Alejandro Adem: We need to invest in people and youth in Canada.

[*English*]

The Chair: Well done.

Mr. Cannings, go ahead for two and a half minutes, please.

Mr. Richard Cannings: Thank you.

I'm going to turn to Dr. Strong and just ask about the comparators that Dr. Adem mentioned.

In your field, what are the comparators internationally that graduate students are looking at, the funding prospects in other countries? We see that, certainly, after Canadian students get their Ph.D.s or doctorates, almost half of them go abroad. I'm wondering how we could look at those comparators and make investments here to keep them in Canada.

Dr. Michael Strong: Thank you very much for your question.

I would say there are at least two aspects that need to be addressed on that.

First off, many do leave the country to get enhanced training in techniques and methodologies that would not be available here, and that's very reasonable. We want to see that happening. We want to make sure, however, that we can bring them back, so we have to make sure that the early training programs have sustainability into their first return back to Canada. I think that would be a very important one to look at.

The second is that, as a comparator, we do look very carefully south of the border. The National Institutes of Health would be our major comparator, but we also look at Europe. The Wellcome Trust Foundation is a major training program.

We do look internationally to make sure we are comparable, but the major issue for us would be not only to sustain them while they get that training but also to create the programs that would bring them back, which then would enrich our knowledge base.

Mr. Richard Cannings: In terms of that comparability, how do we stack up? It sounds like we are paying out maybe half of what the Americans are paying. Internationally, with the Wellcome Trust, how do we stack up there?

Dr. Michael Strong: We are below what would be international averages that we should be looking at with regard to funding. On the exact percentage, we could give you that breakdown by major comparators, but there's no place where we would be exceeding it.

Mr. Richard Cannings: Thank you.

The Chair: Thank you.

Thank you so much to all our witnesses.

It's been said, but your contribution to Canada's science can't be understated, so thank you for everything you are doing and continue to do.

We're going to be continuing this study on Thursday in the first hour. In the second hour, we're going to be considering the draft report, version two, on the international moon shot programs. We will be providing drafting instructions for the support of the IP commercialization report. We'll be considering our first version of the draft report on research and scientific publication in French.

A distribution was sent asking for you to give us input on those. We have a lot of work to do on Thursday.

We are adjourning the meeting. Thank you.

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