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# Standing Committee on Science and Research

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Chair: Mr. Lloyd Longfield





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• (1100)

[English]

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

Welcome to meeting number 43 of the Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format, pursuant to the House order of June 23, 2022. Members are attending in person in the room, and we have a few who are on Zoom today. There's at least one.

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

Thank you to the witnesses for coming.

Please wait until I recognize you by name before speaking. For those participating by video conference, click on the microphone icon to activate your mike. When you're speaking, please speak slowly and clearly for the benefit of our translators.

Thank you to our translators.

When you are not speaking, please mute your mike.

For interpretation, for those on Zoom, you have the choice at the bottom of your screen of floor, English or French. For those in the room, you can use the earpiece and select the desired channel.

This is a reminder that all comments should be addressed through the chair.

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

It is now my pleasure to welcome our witnesses. In person, from the Canadian Association of University Teachers, we have Justine De Jaegher, director of political action and communications. Online, from the Fédération québécoise des professeures et professeurs d'université, we have Michel Lacroix, president and treasurer.

You will each be given a maximum of five minutes, after which we'll proceed to the rounds of questions. I'll signal to you when you're getting close to that five-minute mark.

We'll get started with Ms. De Jaegher.

**Ms. Justine De Jaegher (Director, Political Action and Communications, Canadian Association of University Teachers):** Thank you so much, Chair.

Good morning, everyone.

I would like to begin by acknowledging that we are meeting on the traditional unceded territory of the Algonquin people.

Thank you for studying this issue, which is critical for the future of Canada's success in research and science. I am grateful for the invitation to be here on behalf of the Canadian Association of University Teachers. CAUT represents over 72,000 faculty, librarians and professional staff at more than 125 post-secondary institutions across the country.

We work in the public interest to improve the quality and accessibility of post-secondary education in Canada. Universities, colleges and polytechnics are essential to the preservation, dissemination and advancement of knowledge for the benefit of all.

Today's graduate students are tomorrow's leading researchers and are integral to Canada's research and science workforce. Although Canada and the world rely on this workforce to create the knowledge needed to improve quality of life and to face critical challenges, investment and planning are needed to ensure a flourishing research community today and tomorrow.

The impact of ongoing neglect in this area includes the following:

First is the slowing of Canada's research and science talent pipeline, as low award values make it increasingly difficult for Canada to attract and retain young talented researchers and innovators.

Second, academia is seen less and less as a career. The shrinking number of jobs for highly trained researchers in fundamental science is a deterrent and a brain drain. In the words of one of our members in a recent survey on the state of the academic profession, "I am losing pace with my research because the demands of my teaching intensive contract occupy so much time and any research I do is not allowed on my contract, so I'm always having to find creative ways to stay involved in research and do my own research. If I had known academia was going to be like this, I never would have pursued a Ph.D."

Third are the delays to achieving greater equity, diversity and inclusion. The limited data that we do have for our sector show that the greatest diversity of skilled researchers is overrepresented in part-time or part-year contract work, and they are therefore less likely to be engaging in research activities at all.

In my remarks, I will focus on the importance of increasing fellowships and scholarships, including the pool of research grants that are used to employ and train the vast majority of graduate students and investing in workforce renewal.

In a recent survey of our members, 65% of respondents rated the level of federal support for graduate student salaries as either poor or very poor. As we saw with the recent Support our Science walk-out and various job actions in our sector across the country, graduate students and post-doctoral fellows are at a breaking point. CAUT is in solidarity with these groups, and we echo their calls for more and better scholarships and fellowships.

Research grants must also increase. Most students are not funded via scholarships and fellowships but rather through research assistantships paid for by research grants. To improve student wages, increases are also needed to grant sizes and to the number of grants available.

CAUT to this point supports the recommendation made in the Bouchard report to increase the granting council's core grant programming by at least 10% annually for five years. This would be a first step to improving compensation and giving research funding the boost it needs.

Last, the issue of precarity and the need to renew the academic workforce cannot be ignored. To invest in graduate students, we must also grow our science and research workforce, and we are falling behind. At least one-third of faculty at Canadian universities and colleges are working in teaching-only contract positions.

In the last decade, the number of university professors working part time or part of the year increased by 79%. In our survey of the state of the academic profession, the majority of these would like to work in a position that also supports their research. Moreover, the number of assistant professorship or early career research jobs in Canada has shrunk by 18% over the last decade.

A workforce strategy is needed to support and nurture our next generation of talent. Canada is 26th in the OECD for graduate degree attainment. Without a strategy, it will be difficult for Canada to improve our standing and compete globally.

It is time to act on the clear and plentiful evidence and expert recommendations that have been made on Canada's research fund-

ing ecosystem. To support the next generation of academics, thought leaders, researchers and drivers of Canadian innovation, we urge the Government of Canada to increase the number and value of graduate student scholarships and post-doctoral fellowships, to increase research funding through the tri-council agencies and to take a leadership role to work with provinces to address the lack of renewal of our science and research workforce.

● (1105)

Thanks so much. I look forward to your questions.

**The Chair:** Thank you, Ms. De Jaegher. You were right on time.

[*Translation*]

Mr. Lacroix, it's now your turn. You have six minutes.

**Mr. Michel Lacroix (President and Treasurer, Fédération québécoise des professeurs et professeurs d'université):** Thank you.

I would like to thank the Standing Committee on Science and Research for inviting me. It's an honour to come after our colleague and friend at the Canadian Association of University Teachers, so I would like to say hello to her.

The Fédération québécoise des professeurs et professeurs d'université, or FQPPU, is the voice of 19 university teacher unions and associations across Quebec, representing nearly 95% Quebec's university professors. In addition to defending the interests of its members, the FQPPU advocates for universities as an accessible public service dedicated to the production and dissemination of critical knowledge. Those principles will inform my remarks today.

University teachers have a keen interest in bringing graduate students into the world of creation and research. First, those students are the teachers of tomorrow, who will take on the responsibility of supporting universities and other institutions in their pursuit of invention and the promotion and dissemination of knowledge. Second, those students will become the vehicles for the transmission of knowledge in their professional lives, regardless of the setting.

The federal government has an important role to play, specifically through the scholarship programs administered by the granting councils as well as programming for research grants and chairs. However, a number of statistics and recent statements are a clear sign that federal support is out of sync with today's challenges and opportunities. Accordingly, we agree with the positions expressed by CAUT, the Advisory Panel on the Federal Research Support System, which released the Bouchard report, as well as the Support Our Science group, just to name a few.

We want as many graduate students as possible to be able to focus fully on their research and to overcome the socio-economic barriers they face in accessing knowledge and joining the scientific community. That is why we are calling on the government to significantly increase scholarship awards for master's and Ph.D. students and to index the funding regularly. We have told you this time and time again: scholarships and fellowships have been stagnant for two decades, so much so that it is now impossible for a single person depending on that money to live above the poverty line. What does that mean in an economy marked by a shortage of workers and inflationary pressures? Structurally, it pushes people towards what is known as survival work and may force them to give up their graduate studies. It also puts those who come from modest means at a further disadvantage.

Furthermore, the government needs to give the granting councils the capacity to provide significantly more scholarships in all fields. Canada will need more people with the skills to replenish and disseminate knowledge in order to face the cultural, environmental, economic and social challenges that lie ahead.

Lastly, the government must increase its overall research grant budget for the granting councils. As CAUT just highlighted, much of the financial support students receive is in the form of grants. As one of our members pointed out, research grants and assistantship contracts come out of professors' funding, but the amounts are not enough.

In closing, I'd like to mention a couple more things, if there's time. It's necessary to promote greater access to the research community, distinguish more clearly between support for the next generation of talent and recognition of the rarest achievement in excellence, build the largest possible pool of researchers and leverage prestige. To do that, the granting councils should provide similar-sized grants to master's and Ph.D. students, no matter the field of research, and use awards to recognize exceptional applicants and research achievements.

We submitted a brief to the committee in December, and it ties in with this study. Supporting the next generation of researchers also means implementing a range of measures to promote the dissemination of French-language research.

The last point I want to make is this: it's important to come up with some way to work with the provinces so that the funding leads to more teachers and a more supportive framework. The number of teachers has not grown at the same pace as the number of graduate students, and the gap is significant.

Thank you. I would be happy to answer your questions.

• (1110)

[*English*]

**The Chair:** That's terrific. Thank you.

To both witnesses, thank you for your presentations. I know we'll have lots of questions.

I was remiss in not welcoming Eric Melillo from the Conservative Party, who is visiting us today.

It's always good to have you in the room.

We'll start our questions with the Conservative Party.

The first speaker is Mr. Soroka for six minutes.

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

Thank you to the witnesses for coming today.

I'll start off with you, Ms. De Jaegher.

We know that we're lacking in funding here in Canada. I'm just concerned, though. Are we able to still attract enough students or researchers into a field in Canada, or are they just going abroad seeking greener pastures, so to speak?

**Ms. Justine De Jaegher:** That's absolutely one of the concerns, the brain drain factor. You look at, for example, funding for research in Germany, which is two percentage points higher than in Canada.

Yes, we are seeing researchers move abroad for a variety of reasons, not the least of which is, of course, lack of funding. I cited that OECD statistic. We are low ranked there in terms of graduate degree attainment and also in terms of retention.

Of course, feeding all of this is the cost of education generally, which is why indexing graduate scholarships to inflation would be at least a first step in addressing that gap that's created, but there also needs to be an injection of funds to play that catch-up from 2003.

**Mr. Gerald Soroka:** Do you feel that, because of this, universities are partnering with companies such as Huawei, where there's a potential security risk depending on the research they're doing? Are they looking at this simply as funding just to survive versus flourishing?

**Ms. Justine De Jaegher:** Again, that's concerning, because over the last three decades we've seen the progressive public underfunding of post-secondary education. In the early 1990s, it was about 80% of revenues for post-secondary education that came from public sources. Now that number is less than 50%. Institutions are making up those revenues however they can, predominantly through tuition fees and predominantly through what are generally deregulated international student tuition fees, and, as you said, through private partnerships in many cases with corporations either in Canada or abroad.

It's really threatening the public nature of our institutions, the ability to protect academic freedom and a number of the other values that we hold to heart in our current system.

• (1115)

**Mr. Gerald Soroka:** I'm not disputing that we need more funding; that's not where I'm going with this. I just want to find out what other opportunities are there, such as patents, licensing or contracts with the private sector. Are those opportunities or are we beyond that because companies have gone to other countries to get that type of research because there just aren't as many dollars or potential researchers in Canada?

**Ms. Justine De Jaegher:** In terms of applied research with a particular kind of commercializable outcome, certainly there are better and worse ways of doing that in terms of partnerships. Certainly, we'd want to see partnerships that protect academic freedom and protect scientific inquiry as distinct from the aims of the private company.

I think a bigger issue in terms of our need for research funding is that we're seeing basic investigator-led research really dwindle in favour of this more applied research. This is not to say it's not needed, but we're seeing a shift in the balancing of those two streams.

Obviously, we're coming out of a pandemic, and it's often been said that if we funded only applied research, we might have the best iron lung in the world, but we wouldn't have a polio vaccine. That's really a good point for where we are now. We want to look to solutions and partnerships with industry, and sometimes that can be part of the solution, but it doesn't make up for the gap in basic investigator-led research.

**Mr. Gerald Soroka:** Would you say that we're getting to the stage where we can do the research, I'll say fairly well even with the lack of funding, but that you can't take it to the next step for commercialization or work with a company because there just isn't that opportunity to go that much further? Is that what you're saying?

**Ms. Justine De Jaegher:** No, I think we've seen more funding, the proportion of total research funding, go towards applied, commercializable research efforts. I think what's lacking in our ecosystem research-wise is funding for both applied and investigator-led, but in particular, basic investigator-led research. That's where we're really lacking. Some of that research will result in commercializable outcomes, but by funding only, or increasingly only, research with what is purported to have a clear commercializable aim, we are lacking some of that basic innovation.

**Mr. Gerald Soroka:** That's been a prime example during COVID. We saw a lot of times when, instead of going with re-

searchers right here in Canada, we go abroad for our own needs. Do you feel that we're going to be losing out in the future to such opportunities where even Canadians don't even look to Canada to solve their solutions any more? Is that a potential?

**Ms. Justine De Jaegher:** Absolutely, that's a concern, yes. It's getting harder and harder to imagine the incentive for really smart, innovative researchers to want to stay in Canada, given the fact that we haven't seen an increase to their basic funding packages since 2003.

Anecdotally, I received a Canada graduate scholarship 10 years ago, and the value of that scholarship is the same as someone going to grad school today. Of course, over the last 10 years, we've seen a huge increase in the cost of living generally and perhaps most poignantly in tuition fees, which have outpaced increases to both housing and food.

**Mr. Gerald Soroka:** Are there other opportunities? We've talked in the past about potentially assisting students with housing to make it a little more cost-effective for them to attend universities.

What other opportunities are there, besides direct funding?

**The Chair:** We might have to hold that answer, unless you can give it to us in writing. Maybe there will be another opportunity in the next questions.

**Mr. Gerald Soroka:** I would appreciate it if she could submit that, please.

**The Chair:** Thank you, Mr. Soroka, for the questions.

Next up, we have Ms. Metlege Diab from the Liberals.

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

[Translation]

Good morning and welcome to the witnesses.

[English]

Madam De Jaegher, I am going to allow you to answer that question, because that was part of what I wanted to go with.

I think we on this committee recognize that more funding is needed for graduate and post-doctoral researchers, for researchers in general.

What else can the government do—or other than government—to help them, other than direct funding? Is there anything else we can do?

**Ms. Justine De Jaegher:** Absolutely.

We're talking a lot about Canada's research ecosystem. Today, the focus is on scholarships and fellowships for graduate students and post-docs. We're also talking about basic research funding, research funding through the tri-council agencies, to ensure that our members, in many cases, are able to hire graduate students at fair wages on stipends to help conduct their research. That's a big part of the research ecosystem.

Beyond the research ecosystem, we have a bit of a general post-secondary ecosystem. That's where, of course, there can be increased funding, and ought to be increased funding, for things like the Canada social transfer, which is currently how we provide operating funds federally to our post-secondary institutions. We'd like to see dedicated funding to our sector, not unlike the Canada health transfer, dedicated funding beyond the Canada social transfer for operational funds, and, of course, an expansion of student grant programs generally to help with things like tuition fees.

To the point about housing, again, it's things like acting on some of the things outlined in the national housing strategy and ensuring the specific needs of students are being met around shorter-term rentals in the oftentimes very high-rent areas associated with colleges and universities.

I think it is an issue that requires a multipronged approach, tackling it from multiple different angles. Ultimately, it's about cost of living beyond just the need for driving innovation and research.

• (1120)

**Ms. Lena Metlege Diab:** I have a follow-up question and another one. I'm going to ask them both at the same time.

If you had a stream of this operational funding, or if it increased, how would it help these graduate and post-doctoral...?

I also want you to comment on something you talked about. I am extremely interested in this. I wrote it down. It's about the shift in the balancing of the two streams. You described it as “applied commercialization research” versus “basic investigator-led research”. I am extremely interested in the latter.

Can you give us examples of the second one? I think it's valuable and important. Could you talk about those who are doing research and also teaching in our institutions, the value of that, but also the conflict? What can you tell us to help us in this committee?

**Ms. Justine De Jaegher:** In short, an increase in public operational funds for colleges and universities ought to result, and has historically resulted, in lower tuition fees, because institutions aren't having to seek out private user fees, private partnerships, etc., to fund the basic mandate of the institution.

To point out basic investigator-led research, the example we like to go to, which is obviously very timely and has been for a long time, is around vaccine technologies. The basic science underpinning mRNA vaccines and all vaccines has been the result largely of research that has been investigator-led, that has not been strictly directed toward a particular outcome. Of course, they have had wonderful outcomes, in this case, vaccines.

We need scientists and researchers to be able to conduct that research in an unfettered manner in order to make the very innovative discoveries that have fuelled things like vaccines, for example.

**Ms. Lena Metlege Diab:** We have a bit more time.

Are these researchers paid the same when it comes to...? You talked about the shift in the balancing. Are you talking about the funding? Are you talking about the value society is seeing in all of these? Are we looking to commercialize everything too much these days?

**Ms. Justine De Jaegher:** Yes, in terms of the funding received by researchers, it doesn't necessarily differ too much, whether it's investigator-led or applied. The difference is what strings are attached to receiving those funds.

Are they required to establish a particular outcome that is commercializable or not? Is it narrowly confined to a particular research area or things of that nature?

Again, it's not to say that.... Many commercializable innovations in our society have been the result of basic research, but it's a question of whether we're framing the nature of the research at the outset when providing funding. That's okay in some cases, but we think it's gone too far in that direction.

**Ms. Lena Metlege Diab:** What about research and teaching?

**Ms. Justine De Jaegher:** A big issue for our members of course is that an increasing number of Canadian academics are working from contract to contract, from semester to semester. Those contracts generally are teaching-only contracts, so there's no research as part of that academic job. Really, the heart of the academic job traditionally has been a mix of research, teaching and service. We believe that's the model to move forward with, and it's one that has been eroded.

• (1125)

**The Chair:** Thank you very much.

[Translation]

We now go to Mr. Blanchette-Joncas for six minutes.

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

Welcome to the witnesses who are contributing to today's important study.

The last time graduate scholarships were indexed was two decades ago. Mr. Chair, I defy you to find one thing that hasn't gone up in value in the past 20 years. I put the question to the government, and I'm still waiting for an answer. I think it's still looking.

For two decades, we haven't been supporting the next generation of scientists. That makes for great problems and even greater consequences. We could spend the whole day going through the list: financial insecurity, mental health effects, the labour shortage, the appeal of the job market and the brain drain. Without graduate students and post-doctoral fellows, there is no next generation, there is no science. Without science, there's no innovation, not to mention the loss of our scientific sovereignty.

The report entitled "Investing in Canada's Future: Strengthening the Foundations of Canadian Research", more commonly known as the Naylor report, was commissioned by the Liberal government in 2016. The report flagged problems with Canada's scholarship ecosystem when it came out. They were known then.

Trying to make itself look good once again, the government commissioned a new report five years later. The "Report of the Advisory Panel on the Federal Research Support System", known as the Bouchard report, came out on March 20, 2023. It, too, addressed the scholarship problem, saying this about government awards for university research trainees:

As a result, they have not kept pace with increases to the cost of living nor with research trainee compensation trends around the world. This situation has significantly eroded Canada's position as a global hub for the attraction and retention of research-enabled talent and this erosion will be accelerated by the increase in investments by our global peers.

I'm not making it up. It's in a report the government, itself, commissioned. I could go on and on, and of course, I could give you concrete examples to show why Canada is at the bottom of the pack and why action is so desperately needed.

Although I'm very glad that the committee is doing this study, I don't know how many more studies, reports, consultations and panels it will take for the government to understand this: if it doesn't do something now, it will be too late. Our neighbours and competitors are desperate to snap up the best and brightest. As you know, scientific research doesn't just happen in a tiny room in the dark. It happens on the world stage. While our competitors sprint ahead, we are crawling along at a leisurely pace.

Nevertheless, I'm going to ask some constructive questions about the current situation. They are for Mr. Lacroix.

I'm very glad you're here today, Mr. Lacroix.

You said the government needed to increase not only the amount of federal scholarships, but also funding for research overall. It's true that most students are funded not by federal scholarships, but by research grants provided to the professor they are working for.

If all the government did was increase the value of scholarship awards, how do you think it would affect those researchers?

**Mr. Michel Lacroix:** Thank you for your question.

If only scholarship amounts went up and grant amounts didn't, it would likely create a huge gap between students receiving scholarships and those who depend solely on research grants. It's already

hard enough for these students to successfully complete their studies. They absolutely need support. Not only does it mean less financial insecurity, but it also affects their ability to join the scientific community when they have to rely on professor-funded research grants.

**Mr. Maxime Blanchette-Joncas:** Thank you, Mr. Lacroix.

Do you have any statistics on how many students receive federal scholarships versus how many receive research grants through their professors, and even how many receive nothing at all?

**Mr. Michel Lacroix:** Unfortunately, I don't have those figures with me, but I will get them to you as soon as possible.

There are federal and provincial grants, as well as funding for scholarships and for research grant contracts. Answering your question is a bit tricky. I would need more information.

Are you asking only about federal scholarships and grants, or are you asking about provincial scholarships and grants as well?

It doesn't matter how you'd like it broken down. I would be happy to follow up with the information.

● (1130)

**Mr. Maxime Blanchette-Joncas:** I'll gladly give you more information, Mr. Lacroix. I'm asking about anything that falls under federal scholarships. That will also give you an opportunity to shed light on your reality.

Mr. Lacroix, according to Statistics Canada's Postsecondary Student Information System, on average, master's students need 2.13 years to obtain their degree, and Ph.D. students need approximately 4.84 years.

The Canada graduate scholarships master's program and the Canada graduate scholarships doctoral program provide funding for a maximum study period of two years and three years, respectively.

I'd like you to talk about the impact of imposing a limit on master's and Ph.D. students. They take longer to figure out their research project than the full duration of the funding.

Should the scholarship cover a longer period?

**Mr. Michel Lacroix:** Yes, it would be a great idea to ensure that funding was not abruptly interrupted in the middle of the graduate student's research. The issue is complex, but one thing is very clear. In most fields, three years for Ph.D. studies is not enough.

**The Chair:** All right. Thank you.

**Mr. Maxime Blanchette-Joncas:** Mr. Chair, I would just like to ask Mr. Lacroix to kindly provide his answer to my first question in writing.

[*English*]

**The Chair:** Okay. Thank you.

Now, for six minutes, we have Richard Cannings from the NDP.

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

Thank you to the witnesses for being here today.

I'm going to start with Ms. De Jaegher.

We all agree here that the fact these scholarships and fellowships haven't increased in 20 years is unbelievable, but there are many other factors that aggravate that. There are many other factors behind what universities are going through, what students are going through, what your members, the teachers and professors, are going through.

I want to go back and look at some of the historical context. You touched on this just a few minutes ago. You mentioned how, historically, the government investment in post-secondary education has been declining. I don't have the numbers in front of me, but it has gone down from 75% to 45%, and with that we have rising tuition.

There are some figures around the inflation that's happened in the last 20 years, but I'm just wondering if you have more specific inflation numbers for students. They are looking at housing, at food and at tuition. Tuition has gone up astronomically. Do you have numbers that combine those three things and compare that to real inflation and at what rate these scholarships should be increased?

**Ms. Justine De Jaegher:** Absolutely.

In the early 1990s, we saw a major cut to the Canada social transfer from which Canadian post-secondary just has never recovered. There's been a steady decline in public funding as a share of total revenue for universities and colleges since then, and as I said earlier, the difference is being made up predominantly by tuition fees and increasingly by international student tuition fees.

Last year we issued a report, which I am happy to share with the committee, on the affordability of post-secondary education. It did find that tuition fees over that same period have well outpaced increases in both housing and food. Housing, notably, has also well outpaced the cost of inflation, so that's telling.

Really, what we've been advocating for on the graduate student scholarships point of things is we would like to see the awards increased by \$185 million in 2023 and then by an additional \$55 million per year ongoing to increase both the value and the amount total of awards.

We do also support our science requests around indexing those awards to inflation to make sure that we are at least addressing and capturing inflation moving forward.

• (1135)

**Mr. Richard Cannings:** Moving now to the idea of the brain drain, I've seen statistics. Thirty-eight per cent of Canadian graduate students end up going overseas for various reasons. Part of that is funding for research. Maybe there are other factors, like the precarity issues you talked to.

Do you have more information on why students are moving overseas and the loss we are facing? I ask because we've invested millions of dollars in educating these people.

**Ms. Justine De Jaegher:** Absolutely.

We can share more data as well, but I'll say anecdotally from the recent survey we conducted of members, part of it is there's a pipeline of academics, if you will, of early career researchers and graduate students who ideally will become Canada's full-time academics in the future.

In addition to the erosion of the real value of graduate student scholarships, we've also seen an erosion of that academic job. Even students who perhaps want to pursue their graduate studies in Canada are looking down the road and saying, "Well, this is not an industry in which I can have a career in Canada, so I'm going to build my skills up elsewhere." Again, we're seeing it's now roughly a third of contracts that have no research at all for our members, and they are determined from semester to semester and contract to contract. There's absolutely no job security there.

It's all part of the same conversation. The graduate student scholarships absolutely need to increase, but we also need to protect the nature of the academic job in Canada to make sure that folks want to do their innovative research here as well.

**Mr. Richard Cannings:** I have one minute, and I have one more question.

The United States has always been our competitor and neighbour. Can you comment on recent investments the United States has made into research, specifically in universities?

How does that compare to Canada and how might that exacerbate the situation we find ourselves in?

**Ms. Justine De Jaegher:** Under the Biden administration, there have been significant investments made in research, including basic research.

I'll also note that the stipends for graduate students are substantially higher in the United States. The common retort we'll hear to that is of course tuition fees are higher in the United States, but they are actually increasingly shrinking if we look at the public colleges and universities in the United States, rather than also having data that encompasses the private system.

Stipends for post-docs, for example, in the United States are \$53,000 a year, whereas they're \$45,000 here. That is a pretty significant difference—

**The Chair:** Thank you.

Now we'll go to our next round of five minutes each, starting off with Mr. Tochor from the Conservatives.

**Mr. Corey Tochor (Saskatoon—University, CPC):** Thank you so much.

Thank you to the witnesses for the testimony so far.

Madam De Jaegher, you talked about inflation. We know that right now, 1.5 million Canadians are relying on food banks and one in four Canadians is missing meals to deal with runaway inflation.

What other stories are you hearing from members and students about how they're dealing with inflation?

**Ms. Justine De Jaegher:** It's huge. Speaking to graduate students specifically, as I said, they have that additional burden of tuition fees that have absolutely been skyrocketing above even the cost of housing. The cost of housing is huge. The cost of groceries is huge. A lot of times it comes down to, "Am I going to choose between groceries or paying my rent this month?" We hear those stories.

It's really a shame, because we want those folks, our members and graduate students who will hopefully become our members, to be able to focus on their studies and on their research work that is, hopefully, going to create the innovations we need to address some of the major issues we're facing, from climate change to food security and any number of issues. That's where we'd like to see their energies focused, not on making ends meet.

**Mr. Corey Tochor:** You talked about rents. We know that nationally, rent has doubled in the last eight years. Does that impact the students' ability to conduct themselves? Typically, you have a roommate in university. Have you heard of students being added to rental units just to make ends meet? How are students actually making ends meet?

• (1140)

**Ms. Justine De Jaegher:** Yes, absolutely. There's a higher proportion of students who are living with more and more roommates, certainly, in smaller and smaller spaces. We hear this a lot in particular from international students, who are paying three to four times more in tuition fees every year, and face that higher amount of cost of living.

It's all part of the cost of living challenge. A big way we can address it, at least around this table, is by increasing the direct funding these students get. Of course, there are other ways to tackle these many issues, including supporting housing initiatives, but that's one concrete way we can support students.

**Mr. Corey Tochor:** The next government... If you had two choices—index the supports as they are now but have a new government that doesn't worry about inflation, or have a government that keeps inflation flat—which one of those scenarios would you prefer?

**Ms. Justine De Jaegher:** I'm going to provide perhaps an annoying answer in that we actually....

Again, it's a serious issue that we're seeing in our sector. We can't dilute it to one solution. At the end of the day, we need to be looking at cost of living across the board—certainly housing, certainly food and certainly tuition—but we also need to be looking at direct funding, making sure they're at least keeping pace with inflation and ideally addressing the backlog in funding from 2003 onwards.

I'm afraid I cannot choose one. I think it will require many solutions.

**Mr. Corey Tochor:** We're hearing the desire for change. One, the indexing of supports has eroded all the buying power and research abilities in our university facilities. More and more groups believe we're on the wrong path right now. We can't have runaway inflation at the rate it is at right now, because it affects every part of our society. Many times, people don't think of students or faculty in universities, but it is more challenging.

Is there a region in Canada that is doing better than other regions right now? Is there a province or a specific institution that could be held up as more of a poster child, if I can use that verbiage, of what other institutions should be looking at, such as switching some of the dollars spent from administration more to teaching? Are there examples like this that you're aware of?

**The Chair:** You have about 25 seconds.

**Ms. Justine De Jaegher:** You know, honestly, across the board we're seeing this challenge. There is not really a standout province. If we look at Quebec, for example, there are some additional pathways to permanence for contract academic staff through the *chargés de cours* system. That's perhaps worth highlighting. I'm sure my colleague could speak to that as well.

Again, it's not enough. We ultimately need to see more pathways to permanency for academics across this country. We know that's something that they want from the survey data we have.

**Mr. Corey Tochor:** Thank you so much for that.

[Translation]

**The Chair:** It is now over to Mr. Lauzon for five minutes.

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

I'd like to thank both witnesses for being here. I wish I could have been there in person, but I have a bit of a sore throat and cough, so I'd rather participate remotely.

My question is for both witnesses, Ms. De Jaegher and Mr. Lacroix.

The first witnesses we heard from during our study were mainly student groups. They spoke about the disparity in award amounts, mental health, funding and the scholarship system. Let's break that down piece by piece.

Mr. Lacroix, as I said, students stood up to tell us about the disparity in award amounts. That's not something you address in your recommendations, but can you talk about that?

**Mr. Michel Lacroix:** To some extent, the recommendation to increase the number of awards would alleviate some of that disparity. The other point that was made had to do with the disparity between the award amounts available through the various funding mechanisms. For example, the size of the Vanier Canada graduate scholarship is much bigger. That is why, at the very end of my remarks, I recommended distinguishing between scholarships—which give students the ability to focus fully on their research—and the use of awards to recognize a recipient's achievement in excellence. That would put students on more of an equal footing.

• (1145)

**Mr. Stéphane Lauzon:** You agree, then, that scholarship policies and programs could be enhanced. Recommendations could be made to improve the system.

Why do your recommendations focus little or not at all on the systems in need of reform? They focus on funding, not on the approach. Would you mind talking about that?

**Mr. Michel Lacroix:** The fact that the funding is limited necessarily leads to hyper-selection, so there's a problem. Awarding more funding and giving more awards helps to counter that. At the end of the day, all graduate students should receive support. We would readily agree to moving in that direction, so that every graduate student could work on their research full time.

**Mr. Stéphane Lauzon:** Thank you.

Ms. De Jaegher, you talked about some of the circumstances students face today that they haven't in recent decades. You talked about how they impact students, specifically how the housing shortage, higher rents and more expensive food costs put a strain on students.

In your recommendations, you mention a 40% increase in Canadian scholarships in 2023-24. Could you talk about the importance of reconsidering students' needs, in terms of housing and other necessities?

**Ms. Justine De Jaegher:** Yes, of course.

Our recommendations today primarily address funding for graduate scholarships and grants.

When the Canada social transfer is reviewed—hopefully, in 2024—we will definitely put forward broader recommendations on the post-secondary education system, specifically regarding provincial transfers and student grants. Those recommendations are forthcoming.

As I said, it's a post-secondary education system, not just a post-secondary research system, but both need better funding.

**Mr. Stéphane Lauzon:** Can you talk more about the impact on mental health of the various realities you mentioned? How do you,

as teachers' representatives, feel about the increasingly tough circumstances students are faced with today?

[*English*]

**The Chair:** I'm sorry. Unfortunately, we've run out of time on that excellent question.

We're going to move to two and a half minutes, starting with Mr. Blanchette-Joncas.

[*Translation*]

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

Mr. Lacroix, further to what I asked you earlier, I'd like to know whether you could get back to the committee clerk with the number and percentage of master's and Ph.D. students receiving federal funding, as well as the number receiving provincial funding? I am mainly interested in researchers and those who receive no funding, so I can draw some comparisons.

Ms. De Jaegher, I'd like to ask you, as well, to send us any statistics you'd like to share. The information will help paint an accurate picture for us and inform potential recommendations.

Mr. Lacroix, you talked about the importance of implementing the recommendations in the Bouchard report—the “Report of the Advisory Panel on the Federal Research Support System”—commissioned by the federal government and released on March 20. One of the panel's recommendations was to increase the three granting councils' total base budgets by 10% over five years.

I'd like to hear your views on the importance of not just increasing scholarships and indexing them to reflect the cost of living, but also ensuring that we have the means to match our ambitions. I'm talking about greater support for the three granting agencies.

**Mr. Michel Lacroix:** Thank you very much.

As my colleague just said, it is a system and all the elements are important. Research grants are crucial for supporting the next generation of researchers, particularly through assistantships or scholarships created by sharing a portion of research grants, as is the case in many universities, it should be noted. In a number of institutions in Quebec, researchers work together to offer scholarships to students through their grants. If this is not increased, there will be fewer and fewer grants, and fewer and fewer students will be able to benefit from these grants.

• (1150)

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

How much time do I have left, Mr. Chair?

[*English*]

**The Chair:** You have 35 seconds.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** I will certainly use them.

Mr. Lacroix, we've talked about the importance of increasing scholarships, indexing them and playing catch-up. Quickly and concretely, what would be the impact and the importance of doing that immediately?

**Mr. Michel Lacroix:** The benefits would be considerable, and this is especially important. I strongly urge people to do so.

[*English*]

**The Chair:** Thank you very much.

Next we have Mr. Cannings for two and a half minutes.

**Mr. Richard Cannings:** Thank you.

I'm going to turn to Ms. De Jaegher, and follow up on that same question.

Although we're mainly talking about the scholarships and fellowships which haven't been increased in 20 years, that's just a portion of funding for grad students, where they get their pay for doing that research. Much of it comes directly out of researcher grants that are, again, supplied by the same tri-councils. That's why most groups have been saying, "We can't just increase and index these scholarships. We have to increase the number and amounts of the actual research grants."

Is there any relationship, or do you have any data, on the pay that students get from within those grants versus from the scholarship and fellowship track? Are students paid based on what the researchers see other students getting?

**Ms. Justine De Jaegher:** Yes, and we can certainly pull some data for you. I don't have that in front of me, unfortunately. Absolutely, a big part of this has to be research funding through the tri-council agencies, because a majority of the funding that graduates receive is not through these direct scholarships, which are, of course, valuable as well, but is through research stipends, paid for by faculty and academic staff.

The reality is that research funding is also not indexed to inflation, so we've seen our members having to pay lower and lower stipends, or hire fewer graduate students at higher stipends to do the same work. Again, it's both sides of the same coin, really, in terms of underfunding.

**Mr. Richard Cannings:** My apologies if I missed this in your testimony, but do you have specific recommendations around those research grants? I know the U15 group wanted to see them doubled, for instance. Does CAUT have specific asks about that?

**Ms. Justine De Jaegher:** We do endorse the recommendations actually made by the Bouchard report, which was cited earlier. That's a 10% increase, annually, for the next five years. We'd also like to see funding ongoing from there. We've recommended at least \$185 million ongoing in terms of increased funding, plus some additional funding for EDI initiatives, dimensions programs, etc.

**The Chair:** Thank you.

The Conservatives and Liberals can each have two and a half minutes.

Mr. Tochor, please ahead.

**Mr. Corey Tochor:** I'll be sharing my time with Maxime. Maxime can have the two and a half minutes.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** Thank you very much, respected colleague.

Mr. Chair, I will continue my questions with Ms. De Jaegher.

I listened carefully to your presentation. What saddens me even more than all the data is that you said that you may not have continued your studies at the graduate level had you known that it was so difficult and that the financial support was inadequate.

Mr. Chair, what message is being sent to the next generation today by putting young people in a precarious situation that hurts their mental health? What Ms. De Jaegher said today is very important.

All of this data has given you a good picture, Ms. De Jaegher. As a professor-researcher, could you tell me more about the role that master's and doctoral students play in laboratories or in scientific production in general?

• (1155)

**Ms. Justine De Jaegher:** Their role is critical to the research conducted by our members, especially since they have a variety of service, research and teaching responsibilities as part of their academic careers. We would like to see more funding for research-related scholarships in general so that our members do not have to choose between paying minimum wage to several graduate students to support them in their work and paying a higher salary to one or two students.

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

There is a perception that students are just training while in graduate school, but as I understand it, they are doing much more than that. They actively contribute to scientific research and teaching activities at our universities.

In your opinion, what will be the threats to the Quebec and Canadian scientific ecosystem if master's and doctoral students abandon their studies or go elsewhere for lack of financial support?

**Ms. Justine De Jaegher:** I will give you an example.

We have seen cases of underfunding among francophone researchers in minority settings, for example at Laurentian University. This has resulted in our francophone minority researchers losing jobs and research scholarships.

That is why the post-secondary system and the research system need to be looked at, as it is all connected.

[English]

**The Chair:** Thank you.

Mr. Collins, you can wrap this up. You have two and a half minutes.

**Mr. Chad Collins (Hamilton East—Stoney Creek, Lib.):** Thanks, Mr. Chairman, and welcome.

Ms. De Jaegher, I want to address the issue of housing, which you raised earlier. We've heard from witnesses on a number of recommendations in terms of increasing the value of contributions and increasing the number of people who receive graduate scholarship and post-doctoral fellowship program support, so there will be some consistent recommendations that flow through to the committee. We'll have discussions about that later.

One thing we haven't looked at is support from other ministries on how we can assist graduate students with their studies and with the cost of living issues they're dealing with. You mentioned housing. McMaster University is just finishing an \$80-million 30-storey building in downtown Hamilton to support post-graduate students. It has become a recruiting issue for the university. When students can't find housing, they look for other opportunities.

How can the government assist in terms of providing housing support outside of the traditional funds and programs that we're talking about? How do we look to other ministries to provide support to ensure those housing issues or affordability issues which you referenced earlier can be addressed in a more wholesome way?

**Ms. Justine De Jaegher:** I won't profess to be a housing expert, but I understand that certainly improving the supply of affordable housing in Canada is absolutely crucial. That will help drive prices down and ultimately provide more Canadians, including students, a safe place to live. I would draw particular attention to international students who are here and were sometimes recruited with largely a false promise of a safe place to live while they're pursuing their studies and then end up in rooming houses that are overcrowded and pretty terrible conditions.

I'd look to housing advocates who have spoken to the subject more eloquently than I can. Certainly, increasing the housing supply in Canada has to be a major part of that, including in areas where there are post-secondary institutions.

**Mr. Chad Collins:** With that support, look at providing financial support to post-secondary institutions as it relates to the projects they have under way in the area of housing.

**Ms. Justine De Jaegher:** It could, yes, absolutely. Envelope funding for housing could go a long way.

At the end of the day though, ideally we'd like to see a system where institutions are funded adequately to provide all of their operations including their core academic ones, but things like housing as well. We are looking forward to the Canada social transfer review next year.

**The Chair:** Thank you.

Thank you, Ms. De Jaegher and Mr. Lacroix, for your testimony. There were great questions and great answers. I know the analysts will be doing their job to pull this all together for us. You can sub-

mit any additional information to the clerk if we haven't covered everything that you'd like to have covered.

We're going to suspend briefly to change panels. If you're online, please stay on. We'll see you in a few minutes.

Thank you.

• (1155) \_\_\_\_\_ (Pause) \_\_\_\_\_

• (1200)

**The Chair:** We will get started. It's great to have the witnesses here in person and also a full gallery. Welcome to the people who are also witnessing the witnesses.

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

It's now my pleasure to welcome our witnesses.

As an individual, we have Sarah Laframboise, executive director, Support Our Science. From the Canadian Black Scientists Network, we have Maydianne Andrade, professor. We also have two people from Science and Policy Exchange, Gavin Douglas, co-president; and Julia Messina-Pacheco, vice-president.

Each of the groups being represented will be given a maximum of five minutes for their remarks, after which we'll proceed to the rounds of questions. I'll signal you when we're getting close to time.

At the end of the meeting, we have a request for a project budget that we'll have to go through. We're going to have to leave a few minutes at the end of the meeting so that we're able to do that. We are looking at about 12:55 to wind things up.

For now, we will start off with our first witness, Sarah Laframboise, as an individual.

• (1205)

**Ms. Sarah Laframboise (Executive Director, Support Our Science, As an Individual):** Good afternoon. Thank you for having me here today.

My name is Sarah Laframboise, and I am a Ph.D. student studying biochemistry at the University of Ottawa. I'm also executive director of Support Our Science, which is a grassroots organization unified under the mission of increasing funding for graduate students and post-docs in Canada.

I am honoured to be here today and would like to thank this committee for its work in honour of science and research. I had the pleasure of speaking to you on your top talent study almost exactly a year ago. I am thankful to the committee for including our calls for graduate students and post-docs in that report.

It is frustrating, however, that in the year since my appearance there has been no action by our government to solve these problems. During this time, we've had 7,000 scientists and 40 scientific associations sign an open letter. We've had 3,500 signatures on a petition that MP Richard Cannings delivered to the House of Commons. We rallied on Parliament Hill in August. We spoke to MPs, ministers, media and the public about our cause and sent over 2,000 emails to our MPs, but this wasn't enough. Budget 2023 contained no new funding for graduate students and post-docs.

Last week, nearly 10,000 graduate students, post-docs, faculty and supporters walked out of 46 different institutions across Canada. Today, I brought some from the Ottawa crew with me. I'll ask them to stand for a moment.

They should all be doing their research right now. They should be in their labs. I should be in my labs, but we all came here today to show you how critical this is to our community.

Many of these students have helped me launch a national survey investigating graduate students' finances, which painted a bleak but very clear picture of the financial realities of being a graduate student in Canada.

Eighty-six per cent of graduate students have experienced stress and anxiety about their finances. Nearly 40% of students have difficulty paying for necessities like rent and food, and 31% have considered leaving their schooling due to financial concerns. For a country that boasts about our innovation, this is unacceptable.

While other young adults are starting families and investing in their futures, graduate students and post-docs are struggling to just get by.

You will hear many times in these meetings that the scholarships for graduate students and post-docs have not changed in 20 years, but what exactly does this mean for Canada?

This means that every day we are losing our highly trained scientists to the United States and Europe where they don't have to live in poverty and will make two to three times more money than they would here in Canada. This means that our businesses are losing highly skilled workers. This means that every day, we are failing Canadian innovation by defining who can take on the financial challenges of higher education and excluding those who can't. This is a lost potential on a personal level and a national level.

Eleven years ago, I decided to pursue a career in science. As a first-generation student, I self funded my education and took on \$100,000 in student debt to be where I am today. When my partner and I hit difficult times early on in my master's degree, I nearly had to drop out of my program when I couldn't make my tuition payments.

I'm 28 years old this year, and I can't buy a home because I don't have an income in the eyes of a bank. I have often worked two to three jobs at a time to subsidize my income. I have no savings, and I rely on my partner's income for stability. I look around, and my peers and family think I'm the smart one, but in reality, I feel like the one left behind.

I am just one example. There are thousands more with their own stories of struggle, inequality and crippling debt. Some have gone

as far as living in vans and doing clinical trials just to make ends meet.

Every year that the government doesn't invest in graduate students and post-docs, we are telling the brightest minds in our country that they don't matter, that they don't belong in Canada.

I would like to end my remarks with some clear and strategic recommendations. First, we ask that scholarships and fellowships be increased by 50% to match inflation over the last 20 years, and index these awards to prevent this from happening again in the future. These scholarships set a benchmark for how much we should award the best scholars in Canada.

Second, we ask for a 50% increase in the number of graduate student scholarships and to double the number of post-doc fellowships to allow for more to benefit from these awards directly.

Finally, we call on the government to implement the Bouchard report and increase funding to the tri-councils by 10% per year for the next five years in order to increase grant funding. This will allow increases to graduate student and post-doc pay through their supervisors, leaving a lasting impact on the whole community.

Thank you for your time. I look forward to answering questions.

● (1210)

**The Chair:** Thank you, Ms. Laframboise.

Now we will turn to Ms. Andrade from the Canadian Black Scientists Network for five minutes.

**Professor Maydianne Andrade (President and Co-Founder, Canadian Black Scientists Network):** Thank you very much, Mr. Chair.

Thank you for inviting me here. I'm a university professor at the University of Toronto. I'm also here as the president and co-founder of the Canadian Black Scientists Network. I represent over 600 Black people in Canada who are pursuing or who have higher degrees in STEM, science, technology, engineering, mathematics, medicine and health. They work across the country and across sectors.

I'm here because I want to emphasize that supporting and fostering the work of emerging scientists is critical for Canada's innovation ecosystem and that we're "at a breaking point". This was stated quite clearly in the 2022 report from the advisory panel on the federal research support system, so I'm going to take that as a given: We are at a breaking point.

I will also take as a given the government's repeated emphasis on the importance of science and innovation for addressing the pressing global challenges that are affecting Canada and other countries, and ensuring that we remain competitive on an international scale.

The piece that seems to be missing from all this is the understanding of how research actually gets done on the ground and how innovation arises from research. In fact, the majority of the hands-on research is being done by graduate students and post-doctoral fellows in our system. I can say without hesitation that in the sciences, this is the pattern of every single major research university and lab in the country, every single one. It's graduate students and post-docs who spend most of their time at the bench or in the field. They are the backbone of our science and innovation ecosystem now, and they are the potential for us to be successful in the future.

Once that's understood, it should be clear that investing in infrastructure or in large research consortia is simply not enough. In the end, it's the people who actually do the work who will ensure the success of those investments. When the government asserts that science and innovation is a priority by pointing to things like CFI or CFREF, their words ring hollow. That's because right now, instead of supporting the people who are doing the work within those constructs and supporting their continued excellence, we are pushing them out of science by paying them poverty-level wages.

Our current system is a massive filter. It's a filter that is filtering out people as a function of their finances, not as a function of their excellence and not as a function of the likelihood that they might be the next Canadian Nobel Prize laureate. We are filtering out people who can't take the mental load of living in poverty, those who don't have credit ratings that allow them to take out loans and those who are unable to manage incredibly challenging research agendas while holding down several jobs. We are filtering out mature students who have dependants. We're filtering out anyone whose family can't help support them through this without massive debt.

We know that in Canada, Black families, many families in rural communities, indigenous families and others from marginalized groups simply do not have the financial resources to allow their children to follow this path. We have built a system where, as you heard, more than 40% of graduate students describe their financial situation as tight or struggling. For Black students, that goes up to above 50% of students.

Recently a friend said to me, "I know you're passionate about this." I went to the Support Our Science march. It was one of only two I've been to in 53 years, so I'm not a regular demonstrator. My friend asked, "What would you say to a struggling single mother in rural Canada who asks why their taxes should pay the salary of someone doing something that they couldn't dream of doing?" I would say, "Do you want your children to be able to pursue that if they have talent, in 2023 in Canada, regardless of your financial situation?"

That 's not just for that child. That's for the benefit of Canada. Novelty and innovation live in every community. I was born in Jamaica. My family immigrated here when I was little, about two. I was fortunate in that I knew that my parents supported my education. When I discovered a passion for biology, I knew they would have gone into debt to help me get through graduate school, but I

was fortunate in that I got a large fellowship from NSERC. It was the largest one they offered at the time. It was just a little over \$21,000 31 years ago. A master's student starting now makes \$17,500. That's less than I made 31 years ago.

Even with that fellowship, when I finished my Ph.D. at Cornell and I thought I'd like to start a family, I had a choice: If I wanted to do a post-doc and have a family, I had to stay in the United States, because Canada would not compensate me in a way that would allow me to start a family. I was fortunate that I was hired at U of T and didn't have to make that choice, but a lot of people do. They leave Canada. We are losing talent by the bucketload under the current system.

That's why the Canadian Black Scientists Network joins with our colleagues. As you just heard, we're all in alignment, actually, with the requests and demands in the Bouchard report.

• (1215)

We need to have an increase in the support for our emerging scientists.

The government's own advisory panel said the "current support for graduate students—the researchers of tomorrow—is at a breaking point", which is where I started.

As we have this conversation, it's critical to centre the knowledge that this breaking point is the breaking point for our science and innovation ecosystem. Join us in making sure we can reverse that.

**The Chair:** Thank you very much.

Mr. Douglas or Ms. Messina-Pacheco from Science and Policy Exchange, the floor is yours for five minutes.

**Ms. Julia Messina-Pacheco (Vice-President, Science and Policy Exchange):** Thank you, honourable Chair and esteemed committee members, for the opportunity to speak today.

My name is Julia Messina-Pacheco.

My colleague, Dr. Douglas, and I are here today representing Science and Policy Exchange. It is a non-profit advocacy group run by graduate students and post-doctoral fellows in Montreal.

Our aim is to foster the voices of the next generation of researchers in evidence-based decision-making at the interface of science and policy. I am also speaking to you today as a Ph.D. candidate who has dedicated 12 years to pursuing post-secondary education. Of those 12 years, I have spent seven as a graduate student. That is seven years that I, along with the vast majority of graduate students in Canada, have been under-supported and forced to make difficult financial compromises.

My own research focuses on pancreatic cancer. It is a devastating disease that affects thousands of Canadians and their families every year. I have devoted years of hard work to studying this disease because I am passionate about improving patient outcomes, and I am also driven by a genuine love for science. However, this passion and the pursuit of knowledge have left me in a situation where I struggle to afford necessities such as rent, groceries and the ability to start a family.

It takes many years to earn a master's or doctoral degree, and the process is much more like a job than traditional schooling. The support provided through stipends and fellowships should offset the cost of living and enable us to focus on the research that Canada depends on. It is essential to recognize that science thrives because of the unwavering commitment and the tireless efforts of graduate students and of post-doctoral researchers. They form the backbone of Canadian discovery, innovation and economic growth. However, federal scholarships and fellowships have remained stagnant for two decades. These funding mechanisms have failed to keep up with the 48% inflation and the 38% increase in tuition costs during that time.

The consequences of this inadequate funding are severe. Federal scholarships hold significant prestige and serve as benchmarks for what universities consider reasonable minimum stipends. Unfortunately, these benchmarks for master's and doctoral students fall below the poverty line.

According to a recent report published by the Institute for Research and Socioeconomic Information, the minimum amount required for a single person in Montreal to live with dignity is \$32,535. After tuition, university fees and insurance, my doctoral funding leaves me with only \$20,000 per year to live on.

Inadequate funding also compels graduate students and post-docs to seek better financial opportunities in the U.S., in Europe, or elsewhere, where they are paid stipends that reflect their merit and that adequately cover the cost of living. Canada is falling behind its global counterparts in retaining talent. If Canada genuinely values scientists, it must ensure that pursuing a Ph.D. is a period of skill development and a stepping stone to greater achievements and not something to financially recover from.

Dr. Douglas will now outline our specific recommendations.

**Mr. Gavin Douglas (Co-President, Science and Policy Exchange):** Thank you.

My colleague has just highlighted the key issue: Canadian graduate and post-doctoral awards have not been adequately corrected for inflation since 2003, as we all know.

An increase in tri-agency graduate scholarships and in post-doctoral fellowships is crucially needed to adjust for the 48% inflation that has occurred over this period. Please note we specify that a distinction be made for doctoral awards, as we recommend that PGS D awards be increased to \$35,000 to align with the current value of the more prestigious CGS D awards. In addition to this increase in monetary value, an increase in the total number of awards is needed.

Canada's population of graduate students and post-doctoral fellows has vastly outpaced the number of awards provided. To help address this issue, we recommend that the number of tri-agency graduate student scholarships be increased by 50% and that the number of post-doctoral fellowships be doubled. We appreciate that federal research funding agencies cannot allocate funds they do not possess. Therefore, in line with recommendations from fellow witnesses, and the recent "Report of the Advisory Panel on the Federal Research Support System", we strongly recommend that tri-agency funding be increased by 10% every year for five years with funding specifically allocated for graduate student stipends and post-doctoral fellow salaries.

These changes are needed to ensure that Canadians with high research potential are encouraged to receive advanced training and ultimately to explore the job market here in Canada instead of moving abroad where they may be more appropriately compensated.

Thank you for the invitation to speak today. We would be very happy to answer any questions.

• (1220)

**The Chair:** Thank you, witnesses.

We're right on time, but I'm looking at the clock and we have about 32 minutes for our questioning rounds. What I'm going to propose is that we have the first round at five minutes each and then trim off some time on the second round as well, so that we can get in at five to the hour, as I said at the beginning.

Could we start off with Mr. Mazier, please.

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

Thank you to the witnesses for coming out today. This is really good.

My first questions are for Science and Policy Exchange. I'm going to ask a series of yes-or-no questions. Hopefully, you can answer accordingly.

Can you confirm that your organization submitted a pre-budget consultation in 2018 calling on the Liberal government to increase graduate and post-doctoral awards, yes or no?

**Mr. Gavin Douglas:** Yes.

**Mr. Dan Mazier:** Did the government act on this request?

**Mr. Gavin Douglas:** No.

**Mr. Dan Mazier:** Can you confirm that your organization submitted a similar 2020 pre-budget consultation calling on the Liberal government to increase the value of student post-doctoral awards?

**Mr. Gavin Douglas:** Yes.

**Mr. Dan Mazier:** Did the government act on that request?

**Mr. Gavin Douglas:** No.

**Mr. Dan Mazier:** I think you know the next answer.

Can you confirm that your organization called on the Liberal government in the 2022 pre-budget consultations to increase the value of graduate student and post-doctoral awards?

**Mr. Gavin Douglas:** Yes.

**Mr. Dan Mazier:** Did the government act on that request?

**Mr. Gavin Douglas:** They did not, no.

**Mr. Dan Mazier:** I find this quite surprising, because the government knows how to spend money and run deficits.

Why do you think the Liberal government has ignored your request and has failed to listen to your voices?

**Mr. Gavin Douglas:** Well, first of all, this has been going on since 2003, this long-running process, so I would say it has been a failure of several governments over that time period.

I think it's a misunderstanding about what's needed for academic research and, as we've alluded to, the amount of federal funding in our research ecosystem is just really falling behind that of our international competitors. I believe it's a misunderstanding about how we should be prioritizing for research funding, fundamentally.

**Mr. Dan Mazier:** When you're asking this particular ask and no one listens, why do think that is? Is it just a misunderstanding or is it not a priority? Are they telling you one thing and not following through or what?

**Mr. Gavin Douglas:** Clearly, it is not a priority, and I believe that's an incorrect assessment of the situation, because of the importance of being able to compete on the international stage with our research. I believe that's something that we just have to get across, and I believe we have evidence to show that it should be a priority, so I think we can point to that.

**Mr. Dan Mazier:** Okay. Thank you.

Canadians across this country are feeling the impacts of the generational cost of living crisis. Those on fixed incomes, including students, are suffering because of the government's inflationary policies.

Last week, we heard from students who shared heartbreaking stories on the realities they are facing. One of three graduate students is living on less than \$1,300 a month. Students are turning to food banks, as they can't afford the rising cost of groceries. Students are signing up for counselling, as they are struggling to afford to live, and students are actually living in homeless shelters, as the cost of rent has doubled.

Ms. Laframboise, can you describe how the cost of living crisis, combined with the government's funding freeze, has impacted the well-being of students?

**Ms. Sarah Laframboise:** I think we've seen very clearly over the last few years, and in talking to graduate students myself, that students are struggling in many ways. They're struggling mentally, physically, emotionally and financially.

I think financially is a big one that could be changed from the government's perspective as well, and this would impact a lot of these other ways. Mental health is a huge concern for graduate students. As you heard, 87% of graduate students have stress and anxiety about their finances alone. That's just about their finances, so imagine the stresses they're feeling because of so many other reasons. I would emphasize that right now, across the board, coast to coast to coast, graduate students are really struggling, and they're feeling the impacts of this.

I think it's really easy for us to sit in this room right now and not see that and not see them, but they are the foundations of research. They are the hands on the ground. They are the frontline workers of research.

I just emphasize that if they struggle, the whole ecosystem struggles and innovation in Canada struggles, and we will feel the impacts of that for generations to come.

● (1225)

**Mr. Dan Mazier:** I guess it's fair to say, though, that inflationary prices are definitely putting a strain on everybody.

Ms. Andrade, did you want to add to that at all on what this is causing for students?

**Prof. Maydianne Andrade:**

Aligning with what my colleagues have said, I'd also say that, from the flip side, we are advising people to take fewer graduate students, because we need to be able to support them at a level where they can live. I've done external reviews for departments where the graduate students generally like the program but are struggling in these ways. We advise that they sometimes halve the number of graduate students they take in, which is going to have very negative effects upstream on the knowledge economy.

**Mr. Dan Mazier:** It's going to dry up the pipeline.

Thank you very much.

**The Chair:** Thank you, Mr. Mazier.

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

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

Thank you to our witnesses and to the gallery of students. We don't normally have standing room only in our committee room, so welcome to you all.

Ms. Laframboise, welcome back. As you mentioned before, you participated in an earlier study on top talent, research and innovation. I am sure you are aware that, as a result of that study, this committee made four very specific recommendations, four, five, seven and nine, which made recommendations to address this underfunding situation.

I just wanted to mention that. I'm sure you're aware, but I wanted to assure the students and everyone else here in the room that you were heard before. I do feel like we got a bit of lecture. I understand your frustration.

Building on your testimony the last time, you said:

Only 33% of graduate students are actually supported directly through tri-council awards from one of the three federal granting agencies. The rest are supported indirectly through stipends provided from their supervisors' research grants or departments.

What sources of research funding are there for graduate students beyond master's and doctoral grants and scholarships?

**Ms. Sarah Laframboise:** Students can be funded through a variety of different ways. I think the complexities of this are probably why they haven't changed in a really long time. The scholarships are a small aspect of it. In our survey, we found that 67% of students received a stipend directly from their supervisor. This would be directly from that supervisor's research grant. Funding coming their department or faculty was at 45%, then 20% had a federal award, and 11% had a provincial award. Those numbers are going to vary depending on the data source, obviously, but, in our survey, this was the breakdown of how students were funded.

I think it's important to understand where that money comes from when it comes from a department or a faculty member; it's coming through those grants. At the end of the day, almost all research that comes from the tri-councils is because they are either feeding through a graduate student indirectly or directly.

**Ms. Valerie Bradford:** I understand. Thank you for clarifying that.

For master's and doctoral students receiving stipends and paid from their supervisors' research grants or departments, what salary range and average can they expect? How does that work fit into their own studies and research?

**Ms. Sarah Laframboise:** We surveyed all students who got stipends, whether it was directly or indirectly through their tri-councils. On average, we found that master's students were making \$19,000 per year, and Ph.D students were making about \$23,700 per year. This would be taking into account students who were funded through the scholarships and directly through their supervisors.

**Ms. Valerie Bradford:** Thank you.

Professor Andrade, I'll go back to that same study we did, which was very informative.

Andrea Wishart was a Ph.D student from the University of Saskatchewan. Building on her testimony, I was wondering if you could answer how other jurisdictions set scholarship and bursary values for graduate and post-doctoral researchers.

**Prof. Maydianne Andrade:** There is a variety of different ways they do it. There are some places—I believe it's Norway, and I should have had this nailed down—where they have a standard across all fields as a function of your level. You come in as a master's student or in first year of your Ph.D, and you get a standard stipend. It builds up as you move through the program, just like it would in any other field where you gain expertise and your work

becomes more valuable as you get trained. That kind of approach is very common.

Of course, in places like the United States, some institutions have very deep pockets, so they also provide funds out of, let's say, donations from alumni, etc., that can supplement these kinds of sources.

Then there are TAships, teaching assistantships. In our system, that happens as well. In other jurisdictions, there's a limit on how much TAship you do, whereas, in Canada, quite often people make up the difference of not having to go to a food bank by doing many, many hours of TAships, which means less time for their research.

• (1230)

**Ms. Valerie Bradford:** With our system here in Canada, because we have multiple jurisdictions, the provinces and territories are responsible essentially for operating costs for post-secondary, so there's a great variance across the country as well. It's hard to get universal standards.

How do post-doctoral fellowship monetary values impact in early career research?

Oh, I think we know that, so I'm going to drop that question. I already know the answer. Never ask a question that you know the answer to.

Mr. Douglas, this one's for you.

The government recently announced \$1.4 billion through the Canada first research excellence fund. While that may not solve the problem, how do investments like these support researchers?

**The Chair:** You have 15 seconds, please, Mr. Douglas.

**Mr. Gavin Douglas:** These are excellent investments, but they are insufficient for tackling this key issue. It is not that we don't value what the government is doing in funding this infrastructure, and other elements of academic research, but it is insufficient for this key issue.

In the recent federal support system report, there was reference made to the potential for brain drain which is really unprecedented in Canadian history, so it really should be a priority.

**The Chair:** Thank you.

[*Translation*]

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

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

First of all, let me acknowledge all the people who have come here today. I think you see the importance of this study.

Let me humbly point out that I am the first university graduate in my family. I understood what it was like to have to work while studying. I also understood what it was like to dream of going to university. I worked for almost 10 years, Mr. Chair, to save up for my dream of going to university. Today, when I look at these people, I am very proud that they are standing up to send a message to the government, of course, but also to say that things have to change. I thank them from the bottom of my heart.

I will continue with my questions, not forgetting the presence of the people here, particularly Ms. Laframboise, whom I want to thank for her leadership in the Support Our Science movement.

I was going to forget something, but that would be impossible. Last week, I was with them on Parliament Hill, as thousands of students from nearly 50 universities across Canada came to protest to ask the government to take action on scholarship indexing. These students and these people know who was there with them. Government representatives were invited, and I can confirm that they were not. I cannot ignore that. Today, I hear some of government representatives saying that they already know about the problem and they understand it. I'm not sure they really understand it. In any case, if it was so important to them, they would have been there with the students. So much for understanding priorities.

I will turn to you, Professor Andrade. As you said so eloquently, Canada has reached a breaking point in science and research. But I think the situation is even more serious. I think Canada is past the breaking point in science. Canada is the only G7 country to have reduced its investment in research and development as a proportion of its gross domestic product over the past 20 years. It is the only G7 country to have lost researchers since 2016. The federal government is condemning its best and brightest to live below the poverty line during their graduate studies.

I'll give a very concrete example. A basket of service goods that cost \$100 in 2003 costs \$150.63 in 2023. That is a 50.63% increase. How much have scholarships been indexed over the past 20 years? The answer is zero. Understandably, the math is pretty simple.

Budget 2023 was a perfect opportunity to respond to the investments of our competitors, including the United States, who announced major investments in research, but we have invested zero dollars. This is a complete and utter abandonment of our researchers and students.

Professor Andrade, what can you tell us about that?

• (1235)

[English]

**Prof. Maydianne Andrade:** I think there is a problem with understanding the way research is done. I, like my colleagues, applaud the investments in large complex grants which allow people to come together across fields. Multi-disciplinary research is the answer to the pressing problems of our times. It's no longer stay in your lane, but again, it needs to be understood that it's not the PIs who write those grants and who are doing the work at the bench. It needs to be understood that this amounts to exploitation of young people.

It is important that the 2023 budget did not see these issues as being sufficiently important to change the direction of the budget, and that's why we're here. That's why people who haven't protested in the past are here. That's why the Canadian Black Scientists Network is aligning with our colleagues, because we are, quite frankly, desperate.

[Translation]

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

In your presentation, you also explained that it was extremely concerning that highly qualified people had to make such a heart-breaking choice—to continue their education or to leave Canada to go, for example, to the United States. You mentioned that it was more attractive to study there, where conditions are apparently better.

Could you compare in detail the conditions for post-doctoral students in Canada and the United States?

[English]

**Prof. Maydianne Andrade:** Right. I will just say quickly, first I want to make it clear these aren't people who are seeking a lucrative career. Most scientists don't get a lucrative career and don't expect it. They just don't want to be below the poverty line. They want to be able to have a family, etc. The stipends are just much higher. There are more places where they waive your tuition fees. There are more places where there's subsidized housing, especially when you start looking at smaller institutions in Canada that can't afford that.

**The Chair:** Thank you for doing that briefly.

It's over to you, Mr. Cannings, for five minutes.

**Mr. Richard Cannings:** Thank you, and thank you to the witnesses for being here and for the young researchers for witnessing all this, as well. It really means a lot to us.

I'm going to start with Dr. Andrade.

It's good to see you. I think we last saw each other at the entomological congress in Vancouver last year, so it's nice to see you here in Ottawa.

I really like the way you framed this situation where you pointed out that it's grad students who do the work. People do the work, and then if the government says that research, science and innovation is a priority, then naturally people should be that priority. Also the system is a filter, and it's not filtering based on talent, it's filtering based on ability to pay through other means. That leaves so many people behind.

I'll give you a couple of minutes to expand on that.

**Prof. Maydianne Andrade:** Right. I actually surveyed our members, and a lot of young people did come forward. There were several classes. There were international students who had come here hoping to make a life in Canada doing important research in things like conservation, cancer research, etc., who said, this isn't what I expected. Some of them were post-docs who had previously been in the U.K. and had families. They came here and said, I actually can't live this way. I have to leave Canada. So there's that. We're losing the ability to draw in new talent.

Then there's the homegrown talent, the people grew up in rural Canada. This was actually fairly common. They said, "My family has to pay for me to get to a major centre where there's a university in the first place, and then I can't afford to live there. I need to just get a job." It's very, very common.

We're trying to raise money for fellowships ourselves, and that's just not an easy thing to do when you're a not-for-profit.

**Mr. Richard Cannings:** Thank you.

Ms. Laframboise, thank you for the work you've done on this issue and for helping organize the walkout that happened last week. You've been involved in this for awhile. You've outlined some of the things that you've done, the letter, the petition, rallies last year, the rallies and walkouts this year.

I assume you've met with government representatives. I'm wondering what response you get from them. What are their answers to your direct ask? For instance, what was the response to the petition? Can you tell me so I have some idea of why this is not happening.

• (1240)

**Ms. Sarah Laframboise:** What happened last Friday with the CFREF announcement is a perfect example of what the government's reaction to this has been. It's easy to say that we have invested in science, we have these great infrastructure projects that are no doubt going to happen and will provide some sort of infrastructure for science, but it goes back to what was said earlier. These institutes will be empty. There will be no students to come and work there who can actually afford to be there anymore.

Last year when we did the rallies, we spoke on the *Quirks and Quarks* podcast. Minister Champagne was quoted on there saying that he was our ally and we were going to hold the throne of Canada's innovation. I completely agree. That's what I want, too. I think we can't do that without investing in graduate students. We can have all these great infrastructure projects, micro projects and these little investments into microscience, but graduate students are the ones doing this. As long as their pay does not change, nothing else is going to change.

**Mr. Richard Cannings:** I'll turn to Dr. Douglas and Ms. Messina-Pacheco to get more background on how our system compares to the United States.

We've had the big CHIPS investments in the States that have seen huge increases in research support and what that means.

I'll give you a chance to elaborate on the draw of Canadians to the United States or what are our competitors doing.

**Mr. Gavin Douglas:** Absolutely.

I'll start and then I'll pass it over to my colleague.

One aspect is just that the U.S. NSF graduate research fellowship program is the equivalent to the tri-agency grants. The equivalent in Canadian dollars is just under \$50,000 per year. It gives you an idea of the difference in these prestigious scholarships that students are receiving.

I believe my colleague can speak to the rest of your question.

**Ms. Julia Messina-Pacheco:** Thank you, Gavin.

As others have mentioned, the percentage of GDP that Canada's investing in research and development is far below the OECD average. That is a direct comparison to other countries that are equivalent to us and to what they are putting into their researchers that we absolutely are not.

**The Chair:** Thank you..

If there are detailed numbers you'd like to send in to the clerk, then please do that.

In the second round, we're going to trim 20% and go to four minutes, four minutes, two minutes and two minutes.

We'll start with Mr. Soroka for four minutes, please.

**Mr. Gerald Soroka:** Thank you, Mr. Chair.

Thank you to the witnesses.

I'll ask one quick question.

The Prime Minister and this government stand before Canadians and say that they're here for Canadians, that they have Canadians' backs and are going to make lives better. Do you believe this statement to be true in your situation?

Anyone who wants to answer it can answer it.

**Ms. Sarah Laframboise:** The short answer is no. I think that maybe he thinks—

**Mr. Gerald Soroka:** I'm just looking for short answers, please.

**Ms. Sarah Laframboise:** I think he thinks it is.

**Mr. Gerald Soroka:** Okay.

**Prof. Maydianne Andrade:** I think there's an opportunity for the answer to be yes. That's why we're here.

**Mr. Gerald Soroka:** That's a very political answer.

**A voice:** It's a very political question.

**Mr. Gavin Douglas:** I agree. I think this is a political question.

I would say that, in our particular case, obviously we do not agree.

**Mr. Gerald Soroka:** That's fine.

I'll cede my time to Mr. Maxime Blanchette-Joncas.

[*Translation*]

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

I will put my questions to Ms. Laframboise.

Ms. Laframboise, you know that Canada ranks near the bottom of the 38 OECD countries. In fact, it ranks 26th in its graduate graduation rate. However, we are well aware of the consequences of not indexing scholarships for almost 20 years now. They include economic insecurity and effects on students' mental health, as well as brain drain.

I would like to hear your perspective as a representative of the Support Our Science movement. Students who do not have parents who can support them financially often have to give up on a university education. This is what I did for many years, almost 10 years; I worked to save money to achieve my dream of going to university. How can a G7 country discriminate between students from privileged families and others? I am thinking of students in remote areas in particular, who often have to move, pay rent, work to survive and pursue their university dream.

Do you have any data showing that some people give up on graduate school because of a lack of financial support?

• (1245)

[*English*]

**Ms. Sarah Laframboise:** I think it comes down to who we are allowing to do a graduate degree now.

I look at myself as one example of many other stories that exist. Should it cost \$100,000 in debt to get a Ph.D., especially if we're looking at my prospects for a career? If I wanted to continue on in science, I would do a post-doc, make \$45,000 a year and continue to start paying off my debt.

These students in post-docs are young adults. They are in their late twenties and early thirties. They often have dependants. They want to invest the same way their peers do. They want to be functional young adults in society. That's not possible right now.

You're right. It's going to eliminate people who don't want to take on all of those burdens. In our survey, this was shown many times.

Home ownership is one that comes to mind. This was brought up in the committee before. Eighty per cent of our graduate students rent. Only 10% own their homes. These are students in their early thirties. This is unprecedented compared to the national averages, which we are already concerned about. I think examples like this show just what that impact is on the students and post-docs.

[*Translation*]

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

I've met many people who thought about giving it all up, and others who unfortunately had to resign themselves to the situation.

I would like you to tell me today, as a representative of the Support Our Science movement, what students have to say about the urgency of taking action immediately.

[*English*]

**Ms. Sarah Laframboise:** Well, they're feeling the direct impact of this right now. They're living it.

Every year that we don't invest is one less student who will continue on doing this and one less innovator who we're going to get at the end of the day. Who knows who we're losing. It might be the next cancer researcher. We don't know.

**The Chair:** Thank you very much.

Mr. Sousa, go ahead for four minutes, please.

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

Thank you for your presentations, your passion, your engagement and the people you brought with you to provide support.

Notwithstanding the cuteness of the opposition, there is a collaborative effort by all parties to try to do what's best for our families. I have kids and nephews, and I have members who are Ph.D. students. They're struggling. They're trying to make a go of it and getting by somehow. Some of them have moved to the east coast. They were teachers or professors, and they went through the process you're engaging with.

Certainly, the government has increased funding and infrastructure, beyond other things. Whereas the opposition asked for cuts, we've actually been increasing...but not nearly enough, which is why you're here and why we called this meeting. We want to see this improved. We really do.

Professor, you said something I want clarified. What makes Canada competitive? You're saying we're not, so what is it that's missing? Obviously, you made recommendations and we heard you. What makes us competitive versus the United States, Australia and elsewhere?

**Prof. Maydianne Andrade:** I have to say that I actually think Canadians do a lot with a little. Our grants are small, yet we punch above our weight on an international scale, so that's great.

However, there's a gap between science and innovation in Canada, right now, relative to other countries. That's been shown in numerous reports, including some from the CCA. What we need is more going into the pipeline, because you don't know where the innovation is going to come from that will result in a COVID vaccine. That was someone who toiled in the trenches for decades with very little payoff and who actually lost her grants in the United States.

We need more people with new ideas in order to make that jump into something that's innovative for a challenge we haven't even met yet.

**Mr. Charles Sousa:** Julia and Gavin, I sense we're over time.

The recommendations were put out. What's the total amount involved here? What are we asking for? When you increase the number of students and applications, and when you increase the 40% to 50% funding, how much of a dollar value are we talking about, and would the opposition support it?

**Mr. Gavin Douglas:** The second question I will defer to people with political expertise.

• (1250)

**Mr. Charles Sousa:** I'm kidding.

**Mr. Gavin Douglas:** I will speak to the first part.

The current tri-agency budget for 2022-23 was \$3.72 billion. For our recommendations, based on increasing the tri-agency awards and number of awards, it would be \$134 million. When you're talking about the increase to the tri-agency budget, a 10% increase corresponds to about a \$441.7-million increase starting in 2023-24. That would be compounded over five years.

**Mr. Charles Sousa:** You're saying \$3.7 billion, which we're giving now—

**Mr. Gavin Douglas:** Yes.

**Mr. Charles Sousa:** —and you want to go up to \$5 billion. That's 20%, right?

**Mr. Gavin Douglas:** Well, that is essentially...eventually, yes, if we do that 10% increase compound.

**Mr. Charles Sousa:** Julia, do you have anything more?

Good luck, by the way.

**Mr. Gavin Douglas:** This may seem like a large number, but it corresponds to 20 years of neglect. That's why a large investment is—

**Mr. Charles Sousa:** I'm not questioning it. I'm just trying to get specifics.

I'll ask you this, Julia Messina-Pacheco: As a Ph.D. candidate, you know what you're getting into. You want to make certain you have a good quality of life as you proceed.

**Ms. Julia Messina-Pacheco:** Absolutely. So far, that is not looking good.

As Professor Andrade mentioned, we do not get into this business because we think it is lucrative. We know it isn't. In fact, we have data to show that the median salary of Ph.D. holders in Canada, across all disciplines is about \$80,000 per year. When you look at science disciplines specifically, you're looking at only \$50,000 per year.

**The Chair:** Thank you, Mr. Sousa.

Next we have Mr. Blanchette-Joncas for two minutes.

[*Translation*]

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

I always like to have data. I'm a very factual guy, but you know, it's kind of futile when you know that a government invests zero dollars. It's not hard to do better than zero. When \$134 million, \$137 million or \$162 million could be invested, zero dollars doesn't make much difference. When we are the only G7 country to have reduced our investments, when we compare our gross domestic product with that of other G7 countries, we don't need to know how many millions of dollars have been invested. When we're the only G7 country losing researchers, we know that, too.

I'm going to put my questions to the Science and Policy Exchange representatives. We talked about the United States, which is very attractive. They have decided to double—I did say double, Mr. Chair—the budget of their largest five-year funding program through the CHIPS and Science Act. This means that our ambitious and talented researchers will end up going south to do their research. Canada is at risk of becoming even more of a scientific colony. I have quoted Dr. Chad Gaffield of the U15 network, who came to the committee to present his views.

I would like the Science and Policy Exchange representatives to tell us what they plan to do about this situation.

[*English*]

**Mr. Gavin Douglas:** I actually missed the key part of the question. I apologize.

[*Translation*]

**Mr. Maxime Blanchette-Joncas:** What do you plan to do about this situation?

We're listening to you.

[*English*]

**Ms. Sarah Laframboise:** I'll just add quickly to give an example of what this looks like.

A Ph.D. student in the United States right now with an NSF grant will make \$65,000. The awards in Canada are \$21,000. That alone is going to drive people away.

The National Institutes of Health gives a \$52,000 salary for a Ph.D. student and a \$70,000 to \$85,000 salary for a post-doc. This is incomparable to Canada. This is nearly double the salary, so it makes sense that they're not staying in Canada.

**The Chair:** Thank you.

We're wrapping up with two minutes for Mr. Cannings, please.

**Mr. Richard Cannings:** Thank you.

I'm going to turn to Dr. Andrade, again, just to get some more details.

I was a bit surprised to hear that you've been talking with departments or researchers about taking fewer grad students. I assume that concurrent with that would be a policy of paying them more so they could live a dignified life. I just wanted to get the details on that.

Just to follow up on that, if everybody started doing that, how would that affect our science ecosystem in Canada?

**Prof. Maydianne Andrade:** Every graduate and undergraduate department in the country has to be reviewed periodically by external reviewers. It was in that context that colleagues from the University of Alberta and Western University went to an institution that I won't name and discovered how desperately poor their graduate students were. Scientists take a long time to change. They were still accepting students at the levels they had previously, even though their grants had flattened out and expenses had gone up.

Our recommendation was that they have to pay these students a living wage, that they have to give them more money, which means taking fewer students. For most of the institutions I've seen across Canada, I would have the same recommendation.

I think that even though we're slow at making change, as this kind of movement makes it more and more clear to PIs that their students are struggling to this extent—going to food banks—this is going to happen across the country. It's going to gut our innovation ecosystem.

• (1255)

**Mr. Richard Cannings:** Thank you.

**The Chair:** Thank you.

We have a minute that Mr. Cannings has given me.

I'm thinking back to the 1970s, when I was studying. I remember those years and the years of early marriage, cashing in the beer bottles so we could get gas for the car to go and watch a non-black and white TV. The solutions need to be in front of us and we need to find those solutions together.

Thank you to the witnesses for working on this problem with us and to the guests that have come to see us deliberate on this. We

will continue our deliberations on this study. We'll move forward and get a report back that will be public. We'll continue to work together. Thank you for that.

We're going to move to the next part of the meeting, which is a fairly brief part, hopefully. It's the project budget for the study that we're doing.

We have circulated a budget. For parliamentary studies like this, the budget in front of us is \$23,000. It's to help the people to come as witnesses and to pay for the running of the meeting. Do we have agreement around the room?

**Some hon. members:** Agreed.

**The Chair:** Great, thank you. Thank you to the clerk for preparing that.

Mr. Mazier.

**Mr. Dan Mazier:** Mr. Chair, I have point of order.

I just have a motion I want to put forward on the written response from UBC and Calgary. Could it be made public?

**The Chair:** Any written responses that we get will be put on our website. We'll make sure they're public, as well.

**Mr. Dan Mazier:** Thank you.

**The Chair:** Thank you.

The next meeting is on Thursday, May 11. We'll be resuming this study. We'll also be providing drafting instructions to support the IP commercialization report, which was the work we did previous to this study. We will also be considering the international moon shot programs draft report. That's the work ahead of us on Thursday.

Shall we adjourn?

**Some hon. members:** Agreed.

**The Chair:** Thank you.

Thank you again to the witnesses from both panels and for the great questions from the members.

The meeting is adjourned.





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