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Chair

Ms. Marilyn Gladu

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• (0845)

[English]

The Vice-Chair (Ms. Pam Damoff (Oakville North—Burlington, Lib.)): I don't normally get to do this. I'm going to call the meeting to order.

I'd like to welcome our witnesses today to the Standing Committee on the Status of Women. We're studying the economic security of women.

Let's start with Larissa, and we'll work across that way. You have seven minutes.

Ms. Larissa Vingilis-Jaremko (Founder and President, Canadian Association for Girls in Science): Thank you for inviting me here. I am Larissa Vingilis-Jaremko, and I am the founder and president of the Canadian Association for Girls in Science, CAGIS.

CAGIS is a national volunteer-run science club for girls aged seven to 16. Chapters hold monthly events for members during which we explore a variety of science, technology, engineering, and mathematics, or STEM-related topics. During these events, we bring girls to the workplaces of women and men in STEM fields to get a behind-the-scenes view of STEM in action and do plenty of fun hands-on activities. These activities are based on inquiry, exploration, and experimentation in small group environments.

For example, in past events we've been engineers designing, building, and testing bridges in a wind tunnel; ecologists sampling plant communities in forests and fields; computer scientists programming code to have robots execute movements; and mechanics fixing cars. We initially emphasized that STEM is everywhere and related to everything. We have even challenged our members in the past to find topics that do not involve STEM, and we've used these to plan additional events such as the physics of figure skating and the chemistry of art conservation.

These events expose girls to a wide range of STEM topics and they build self-efficacy by having the girls themselves build, explore, and design rather than reading about it in a textbook. This hands-on approach to learning helps to consolidate knowledge and make associations that STEM is fun. Additionally, bringing girls to the workplaces of women and men in STEM fields helps to foster a sense of belonging within the lab or field environments and exposes girls to a diverse set of role models in STEM fields.

CAGIS has received many honours for its excellence in science promotion, including the NSERC Michael Smith Award for Science Promotion.

I founded CAGIS when I was nine years old because I noticed that girls in my class hated science. They dreaded science class and thought they weren't smart enough or the right fit for STEM fields despite having high grades. Instead, they wanted to be cheerleaders and pop stars. They also associated scientists with the typical Albert Einstein image, an old man with crazy white hair, a lab coat, and glasses.

These were very different perceptions and interests from my own. My mom is a research scientist, and my dad was an engineer, and we regularly used STEM to explore, experiment, and help answer my endless questions. As a result, I thought that STEM was fun, and I couldn't understand why my friends didn't share this perception.

I also started to notice inequities in my class. For example, one day my teacher asked a volunteer to help her set up an experiment from a science kit. Naturally, I volunteered. I had the exact same science kit at home, and I knew the experiment perfectly. However, my teacher told me, "No, Larissa, I need a boy to do this."

I wanted to change my friends' and my teacher's perception of STEM and of scientists. I started by inviting women in STEM who were friends of my mom into my classroom to talk about their careers and do fun, hands-on activities with us. However, I realized that my friends at other schools had the same negative and stereotypical view of the sciences, so I decided to start a science club, the Canadian Association for Girls in Science.

Since our humble beginnings, we have spread to have chapters across the country, and we've reached thousands of girls. I'm proud to announce that we're currently celebrating our 25th anniversary.

I would like to say that the stereotypes I noticed during my childhood have disappeared, but sadly, they have not. I regularly go into science classes and ask children to close their eyes and imagine a scientist. When I ask them to describe what they see, the majority still describe the old white man with crazy hair, a lab coat, and glasses. He is often socially awkward and isolated. My experiences with children are consistent with research findings on children's perceptions of scientists. These stereotypical portrayals of scientists continue to permeate the media in a variety of forms, including characters on TV shows like *The Big Bang Theory* and *The Simpsons*, and even children's toys, which are becoming increasingly gender divided.

Media portrayals of scientists can influence students' interest in entering those fields. For example, female undergraduates who read an article that refutes stereotypes of computer scientists and states that the field is no longer dominated by male computer geeks express an increased interest in majoring in computer science. This is compared to women who read an article confirming the stereotypes, and women who read no article at all. Thus, media portrayals of scientists can influence interest in pursuing the sciences. Other research has demonstrated that watching videos profiling scientists improves school children's attitudes towards the sciences.

• (0850)

Additionally, visits from female scientists, reading articles about women in STEM, and teachers profiling women in STEM decrease stereotypic associations and improve attitudes toward women in STEM among female and male schoolchildren.

Role models are important. Providing children with a non-stereotyped and diverse role model in the sciences can influence perceptions of scientists and interest in pursuing STEM fields. Additional research indicates that hands-on activities, project-based science, co-operative learning, and mentoring programs that connect girls to scientists improve learning and attitudes toward STEM.

To summarize, hands-on activities, co-operative learning, project-based learning, and exposure to female role models in STEM fields have been shown to improve attitudes toward the sciences, increase girls' interest in STEM fields, and/or improve learning outcomes in STEM.

Although I didn't know it as a child, I simply designed a club that I thought would interest other girls. These are all elements that CAGIS uses in its approach, which has been very successful.

Why is it important to remove barriers and facilitate girls' interest in STEM?

Women remain under-represented in STEM occupations in Canada. This under-representation affects women's economic security. According to Statistics Canada, wages are higher on average in natural and applied sciences, fields in which women are under-represented, compared with those in health care and elementary and secondary education, fields in which women are overrepresented. Thus, facilitating women's access to STEM fields has the potential to improve women's economic development and security in Canada.

It's additionally important to remove barriers and facilitate girls' interest in STEM because we live in a knowledge-based society. In order for Canada to maximize its potential, we need the best and brightest working on innovative new ideas and continuing research and development. We cannot afford to exclude any sector of our society.

I have described some of the challenges involving gender-role stereotypes among children and how they affect girls' perception of STEM professionals and associated career aspects. I have also described a variety of evidence-based interventions that are successful at changing perceptions and facilitating STEM interest among girls and young women. Science promotion that utilizes these interventions needs to continue.

Childhood is where the problem begins, but there are several additional steps that young women must navigate before they're able to enter STEM careers. Systemic barriers continue at the post-secondary level. Following high school, youth interested in STEM careers enter college or university, depending on the field of interest. Following this, students go on to an apprenticeship, enter the workforce, or they continue their education with a master's degree or a Ph.D.

However, implicit stereotypes continue to affect women's opportunities. For example, in a study published in the proceedings of the National Academy of Sciences, science professors at large research institutions were give application materials from students applying to be lab managers. Each application was randomly given either a male or a female name. The male applicant was rated as more competent and more hireable than the female applicant, who was identical. The faculty additionally assigned a higher starting salary and more career mentoring to the male applicant.

I was expecting 10 minutes. I know it's seven minutes. I'll wrap this up here.

We need to continue the work in STEM, but the work has to be at all levels, from childhood all the way through to working women in STEM.

Thank you.

The Vice-Chair (Ms. Pam Damoff): Thanks, Larissa.

I've been involved with the CAGIS group in my community.

Ms. Larissa Vingilis-Jaremko: In Oakville.

The Vice-Chair (Ms. Pam Damoff): Yes.

We've done a Tour Des Trees bike ride. I also helped build a canoe, which was amazing.

Thank you for all the work you're doing.

Ms. Larissa Vingilis-Jaremko: Thank you for your involvement with CAGIS Oakville.

The Vice-Chair (Ms. Pam Damoff): We'll move on to Isabella.

Professor Isabella Bakker (Distinguished Research Professor, York University, As an Individual): Thank you, and good morning.

I would like to focus my remarks this morning on how we might rethink the current macroeconomic policy framework to facilitate the greater economic security of all women in Canada.

Macroeconomic policies are important because they impact how the whole economy works by shaping the availability and distribution of resources, including the level of demand, growth, employment, rates of taxation, and interest rates.

Macroeconomic policies, as currently practised, however, are not gender-neutral but rather gender-blind. They fail to recognize, first of all, that women's contributions to the economy are systematically underestimated, and, second, that there's an unpaid care economy, which falls largely on women's shoulders. Conventional macroeconomic households are assumed not to produce but to consume and to save. Household work is not costed since it does not earn income.

Bringing a gender perspective into macroeconomics therefore involves us seeing national output, that is, the creation of wealth, as the interaction of four sectors: the private, the public, the domestic, and the voluntary. Therefore an important dimension of gender-equitable macroeconomics is to integrate unpaid work into the formulation and evaluation of macroeconomic policies, recognizing it as using scarce resources such as time, and therefore regarding it as productive work that is necessary for other economic activities to take place.

This means that the full picture of the economy requires us to collect data that includes time spent on unpaid work, and also to measure what might signal shifts in women's entry into and exit from labour markets, and resulting changes to women's income due to time spent on care.

Doing this would also allow us to identify what economists call a false economy, which is often the result of prevailing macroeconomic policies that focus on reductions in government spending. False economies offer short-term savings through cuts in social services, for example, that may yield increased costs to society and the economy down the road in terms of greater need for families to rely on social benefits, which end up costing the government more to fund. In other words, short-term budgetary savings may end up creating larger budgetary expenditures.

With these preliminary remarks, let me now turn to the role of the public sector in eliminating gender bias, and I'll briefly just cover two areas: government spending and tax policy.

In terms of government expenditure, a problem in the conventional macroeconomic model is that only certain kinds of investment are viewed as productive, whereas others, such as salaries for doctors, nurses, and teachers, are seen as current expenditures or means of boosting consumption.

A recent seven-country report cited by the World Economic Forum, which used two separate modelling exercises, found that government expenditure or government investment in social infrastructure, including education, health, and care work, will produce more bang for the buck than will physical infrastructure projects like bridges and highways. For example, in the U.S., research has shown that an investment of 2% of GDP in social infrastructure raises employment by about 3.4%, compared to 1.2% for similar investments in physical infrastructure. The economic logic behind these findings is that social infrastructure is much more labour intensive than is physical infrastructure. Care jobs are much more likely than construction jobs to employ women.

A gender-equitable macroeconomic policy needs to look at fiscal stimulus from those vantage points and determine the appropriate fiscal sustainability level of public investment, taking into account medium- and long-term benefits of such spending.

I know you've already heard from other witnesses about tax policy, so let me just end with some observations on maximizing fiscal space.

Fiscal space is defined by economists as the room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the sustainability of the economy.

● (0855)

The current trend in tax policy that favours wealthier men, through increased consumption taxes, decreased rates for corporations and higher-income individuals, and comparatively low taxes on wealth and property, shrinks the fiscal space available for social investment.

For example, some preliminary research with my colleague from Osgoode Law School, Lisa Philipps, who is a tax expert, in which we used Statistics Canada LAD data on tax expenditures, shows that high-end tax expenditures, such as the stock option deduction, exacerbate gender inequality, since women form the majority of filers in the first seven deciles of the tax bracket, while men form the majority of high-income earners in deciles eight and above.

In order to actually know the impact of tax policy decisions not just on income deciles but on various groups of women and men, we need gender-responsive budgeting to guide fiscal policy decisions and to monitor public spending and taxation.

Budget 2017 was a start, but the gender statement had virtually nothing to say about taxation. We need a gender-based analysis of taxation as part of the government's continued review of tax policy. I believe this would significantly enhance a gender-equitable macroeconomic framework.

Thank you.

● (0900)

The Vice-Chair (Ms. Pam Damoff): We'll now turn to Janet.

You have seven minutes.

Ms. Janet Currie (Co-Chair, Canadian Women's Health Network): Hi. My name is Janet Currie and I am representing the Canadian Women's Health Network, CWHN. It's a national network that has articulated women's health needs and has worked in partnership with Health Canada for many years around policy and program recommendations and implementation.

Our organization believes that health is a human right and that the greatest contributor to poor health is poverty. It is not simply a linear relationship but poverty affects many social determinants such as housing that also affect women's health. In addressing women's poverty through income tax related or other measures, we are concerned that the effects of poverty on health be considered as a very important related issue and that a very broad policy and program approach be used rather than simply economic measures.

I want to talk a little about the effects of poverty on health. As I said, they are both direct and indirect. Some of the direct effects of poverty on health are shortened life expectancy. Women who are poor live fewer years than women in middle- and upper-income brackets. Poverty exacerbates deaths and chronic disease from diseases such as HIV/AIDS.

Poverty affects housing security. Women who are poor are frequently homeless or live in precarious, substandard housing that exposes them to poor ventilation, overcrowding, exposure to mould and vermin, and other factors that lead to a higher rate of infectious diseases such as tuberculosis.

Poverty affects food security. In Canada, 22% of food bank users are single-parent families, most of which are women. With food insecurity comes malnutrition, lack of appropriate food nutrients, which ironically leads to obesity and predisposes women to higher rates of diabetes, which in turn predisposes them to higher rates of cardiac risk.

You can see that it's not a very simple issue to address, because it's cumulative; it's multi-level, one thing leading to another.

Poverty is associated with high rates of depression. As you know, we have a depression epidemic in Canada. This concerns CWHN because women make up the highest proportion of those who are diagnosed as depressed. They are prescribed two-thirds of psychiatric drugs, which are very potent, have very potent side effects. Women who are depressed often cannot resource other services that might support them, such as therapy or community support services. So we are very concerned about the rates and the interrelationship of poverty on depression and anxiety.

Poverty exacerbates chronic diseases. An example is a woman who smokes. Poverty is associated with smoking among women; women smoke because they're very stressed and anxious. So poverty predisposes women to heart disease and lung cancer. If you add in food insecurity, you have a predisposition to diabetes and malnutrition. Suddenly you have a woman with one or two chronic diseases and these also have cumulative effects.

Poverty also restricts women's choices. Women who are poor often live in neighbourhoods that tend to be violent and may increase their risk of being involved in criminality and addictions. Poverty also limits women's choices in terms of getting the services they need in the community to improve their health, such as dentistry. In terms of other preventative services, women who are poor often do not access prenatal care or yearly Pap smears.

In terms of our recommendations, when we are addressing issues such as income security, while it is very important to take economic measures such as tax measures, and we certainly support those, we also think that we need to address the effects of poverty on health and take a social determinants approach to looking at poverty. This involves looking at government policies that are much broader than income-related policies, and I just want to say that this is a very good segue from Isabella's talk.

● (0905)

For example, as austerity measures began to be promulgated by governments, women bore the brunt. Women work in education and in health, and they were the first to be laid off. They are extremely

vulnerable populations, so addressing this requires a labour policy. It requires policies that support contract workers. It requires some efforts to involve corporations in providing benefits to women who lack these benefits.

In closing, I would urge you to take a broader approach to income security.

If I could just say one more thing, we started with a description of the Canadian Women's Health Network. All the centres of excellence for women's health, including CWHN, were defunded in 2013 as a result of the federal government's austerity policies. I understand from Health Canada that they will not be replacing the women's division within Health Canada and they will not be opening up a women's contribution fund again, as the ministry of women's equality has done. I would suggest that to address income issues, this has to be a partnership with Health Canada, and I would really urge you to stress this to Health Canada, as we have done.

Thank you very much.

The Vice-Chair (Ms. Pam Damoff): Thank you very much.

We'll now turn to questions.

Ms. Ludwig, you are first.

Ms. Karen Ludwig (New Brunswick Southwest, Lib.): Thanks to all of you for your very interesting presentations. There is definitely a link between all of them together.

I want to say that in looking at government policies as a whole, I think you've identified a key aspect of the unintended consequences in terms of how we don't often realize the structural biases that come into policies. The 2017 budget, Isabella, as you've mentioned, is certainly a good start. It's the first time that we've ever had a gender lens look into a budget. From talking with colleagues, I certainly know now that once you realize the impact on women in regard to policies, as a legislator, you cannot look back. Thank you.

I'm going to start off with Ms. Currie on the social determinants of health. So often, we hear people say that if you give someone free tuition, or if you just do this, why is it that they can't finish school... I would like you to give us a bit more depth in terms of the social determinants of health, not only for women but also for the children they're raising, and for their communities.

Ms. Janet Currie: Well, I think poverty itself is a social determinant, and it relates to other social determinants, such as poor housing, living in poor neighbourhoods, a lack of child care, and a lack of home care for elderly parents. These all act in combination to limit women's choices and to make access to and use of income measures, which may be very positive, very difficult to do.

As an example, to follow up on what Isabella said, again, because of economic measures, women are burdened more and more with the care of family members—either sick children or parents. This has been a state responsibility that has been put on the backs of women. Tax measures, income support measures, and labour policies to support women in that role are fine, but if there's no home care, or no affordable home care.... Being affordable is one issue, but if there is no home care available, or if it has all been privatized.... This is the other issue: many services have been privatized.

Those are the kinds of impediments that prevent women from taking advantage of what may be extremely positive measures. Also, as you say, poverty is multi-generational. Once women are impoverished, their children are impoverished, and many of the health effects, such as chronic infections, pass down to children. It's the weight of the burden, I guess, that I think social determinants cause.

• (0910)

Ms. Karen Ludwig: Thank you.

My next question is for you, Ms. Bakker. Certainly, when you look at the area of volunteer work, when young people are encouraged to go out and get experience, it is often suggested that they get involved in volunteer work. When we look at the changes under the previous government regarding Statistics Canada and the long-form census, we can see that certainly that element of data has not been consistently collected.

I'm hopeful that with the renewal of the long-form census we can collect the information on volunteer work. I know that over the years, from the research that I've done.... I mean, where would we be today without the volunteerism in our communities and without the impact that it has in our economy? I thank you very much for bringing that up.

Do you have a suggestion in terms of tax policy? We might give a credit to volunteer work.

Prof. Isabella Bakker: I don't have a specific suggestion regarding that. I think it's something that's important to look into. As I tried to make clear in my remarks, if the government is reviewing tax policy as it is, I think it's important to look at both dimensions—the distributional implications of a certain change in terms of offering a credit or taking away credits and also the overall level of revenue—because those two things work in tandem. I think it's very important, when we talk about economic security, that we keep in mind those two dimensions of changes in tax policy.

Ms. Karen Ludwig: Thank you.

Larissa, thank you for your presentation. I could go on and on with questions, including how you ever started this as a nine-year-old. It's absolutely fantastic.

In terms of the work you are doing, you mentioned the negative stereotypes out there regarding women in science. Are there good examples or good portrayals that you could suggest to us—outside of yourself?

Ms. Larissa Vingilis-Jaremko: Bringing videos of actual women scientists into schools and having visits from actual women scientists have both been very successful in terms of breaking stereotypes. I've noticed that there have been changes in the media over the past

several years. Women are often being portrayed as scientists on TV shows. TV has been identified as one of the strongest areas that shift perceptions about scientists and the sciences.

It's not happening enough. There are still so many stereotypes out there. If we're talking about it particularly from the perspective of the media, which can shift children's perceptions so strongly, I think it's important that actual scientists be represented in the media. For example, on a lot of science shows they have actors playing scientists. When you have an actor playing a scientist as the host of the show, they're more likely to make a stereotypical representation, because an actual scientist knows what it actually means to be in the sciences.

Ms. Karen Ludwig: Okay. Thank you.

In terms of your association, it's your 25th anniversary. Do you have any data you've collected in terms of how many young girls have been impacted and how many people have been involved with your program over the last 25 years? As well, did you receive any funding for that?

Ms. Larissa Vingilis-Jaremko: We have received funding over the years from NSERC on several occasions through their PromoScience grants. A number of companies have given smaller donations, and individuals have given smaller donations. We don't have formal data on the exact number of girls who have gone through. I wish we had been.... Actually, maybe we should apply for a grant to collect that. We do have all of our old databases and membership lists. We haven't counted up the exact numbers, so it's hard to give an exact estimate, but it's probably over 10,000.

As far as other data is concerned with respect to our program, we do regular surveys of our members to make sure we're in keeping with what interests them and to make sure we're hitting our landmarks.

• (0915)

The Vice-Chair (Ms. Pam Damoff): Thank you.

Ms. Harder, over to you.

Ms. Rachael Harder (Lethbridge, CPC): Thank you for being here and for giving us an opportunity to ask you questions and better understand this important topic.

Larissa, I'm wondering if you can talk to me a little bit about the factors you notice that would attract young women or girls to STEM. What would encourage a young person to pursue this?

Ms. Larissa Vingilis-Jaremko: There's been a lot of research demonstrating that it's not actually a lack of interest among girls, it's the barriers they face as they move forward within STEM careers. A lot of the representations that I mentioned are big barriers.

It's been indicated that having more accurate role models who are from a diverse group maintains girls' interest in STEM and helps them foster a sense of belonging. Hands-on activities, co-operative learning environments, and project-based learning maintain their interest. A lot of outreach programs do these as well.

Ms. Rachael Harder: At what point do you notice a shift away from the interest in science, because at the end of the day, we don't see a lot of women enter STEM as adults. I'm wondering when and why that switch takes place?

Ms. Larissa Vingilis-Jaremko: It happens continually. It starts in childhood but it continues all the way up to the point that women are looking to enter STEM careers. The leakiest point of the pipeline is the post-doctoral fellowship.

Ms. Rachael Harder: That's interesting.

Ms. Larissa Vingilis-Jaremko: Currently the Ph.D. is typically followed by one or more post-doctoral fellowships in Canada, which are contract positions where Ph.D.s work in research labs, continuing to do research, and continuing to apply for tenure-track positions, which is what they're trained to do. In a tenure-track position, they would set up a research lab and study within their area of expertise.

Although, as I mentioned, a disproportionate number leave at all stages, women leave the post-doctoral level more than at any other stage. This is in part related to the corporatization of the universities. There was a 25% decrease in the number of tenure-track professors across Canada over a 10-year period, from 1999 to 2009. That is shocking because concurrently the numbers of students have been increasing and over that same time period, the ratio of students to full-time faculty increased by nearly 40%.

So instead universities have been hiring sessional professors who are contract Ph.D.s teaching, but those tenure-track professor positions are the positions that many of our young women in STEM are trained for. So having those tenure-track positions disappear means that many women don't have anywhere to go. If the research jobs continue to disappear, we're going to continue to lose a generation of STEM researchers, and that's probably going to affect young women disproportionately.

Ms. Rachael Harder: Thank you very much.

In your estimation, are there things that the federal government can or should do to increase the participation of women and girls in STEM, and if so, what could our engagement look like?

Ms. Larissa Vingilis-Jaremko: That's a good question. I think one thing is to continue to support programs in science promotion, and there are already a lot of great programs out there, so that support needs to continue.

I'm also going to turn to other countries that can help us explore this question. There's a great report by Simon Marginson that explores how different countries have been dealing with attracting women into STEM. The report states that France and Norway are two examples where equity legislation was enacted that encouraged the diversification of girls' professional choices. An important part of the strategy extended legislation to top-level appointments in academia and positions on decision-making bodies such as research councils. Important elements of this included procedural transparency, standardized selection procedures, widespread publishing of position advertisements, head-hunting qualified women, and monitoring gender-disaggregated data on hiring outcomes. They compare this to Canada, because they've had a greater increase in women in STEM compared to Canada, which hasn't enacted this type of legislation and hasn't been focusing on the topic quite as much.

So I think that's one area in this country where we can improve.

• (0920)

Ms. Rachael Harder: Thank you very much.

Ms. Bakker, could you comment a little further on our fiscal and monetary policy here in Canada? Could it be used to advance the economic well-being of women, as far as you're concerned?

Prof. Isabella Bakker: Absolutely. I think Janet already alluded to some dimensions of that.

I think what I was trying to suggest in my comments was that we need to rethink, adopt a different way of framing our fiscal and monetary policies to bring in the understanding that there are structure biases that unfold sometimes in a way that's not necessarily intentional.

In particular, given that the government has put so much emphasis on infrastructure spending over the next 10 years, I think it would be important to rethink social infrastructure investment as something that's productive to the economy, because essentially what you're doing with public sector investment is generating more resources directly. You're giving it to the people working in that social infrastructure sector, which means not only are you sustaining them today but also tomorrow. It could generate greater revenues for government as well as enhance the fiscal space I talked about, so I think that's a really important dimension to think about at the same time as you're debating physical infrastructure projects.

Secondly, as I tried to suggest, the idea that what goes on outside of the formal economy is something we should not really think about when we're formulating fiscal policy is, I think, false. It has been shown through research that it actually underestimates what the contribution of unpaid work or the voluntary sector is to both the private and the public sector. I think it's really important to think of time use in the unpaid sector as performing a useful function, because essentially it is creating labour for the formal sector. I think that conventional economists kind of assume that labour appears and do not think about what it takes to get that worker to their work site.

The Vice-Chair (Ms. Pam Damoff): We'll go to Mr. Johns, for seven minutes. Welcome to the committee.

Mr. Gord Johns (Courtenay—Alberni, NDP): Thank you, Madam Chair. Thank you for your incredible leadership and for being here today. Your very important recommendations today will, hopefully, lead us to some successful decision-making.

One thing we haven't heard enough about is the gender wage gap that persists in all areas of the economy. I think we talked about the inequity that's happening. Where I live in British Columbia, two-thirds of the people who are earning minimum wage are women.

Janet, can you tell us what you think about whether the government should introduce federal pay equity legislation, and how to deal with this injustice, then maybe give me some thoughts on that?

Ms. Janet Currie: I definitely agree with that policy, but I would say also that one has to look at the placement of women in the economy. Getting back to Isabella's point, many women are involved in the care industries. When government restructurization and privatization occurred, provincial governments particularly divested themselves of their role in many of these services, which are education and health services primarily. This is where the bulk of women are employed, and these are low-wage sectors. The implication of that was that many women were put in part-time, contracted-out positions, without benefits.

I would say we need to again take a more holistic approach, not only in terms of wage equity but in terms of policies and programs that either lead women to or support women in full employment, or support benefit packages for women who are in contract positions. Again, education and health care sectors are fundamental to our economy, and women have been and are working in them more, as well as more and more on a volunteer basis. I would say we need to be strengthening the employment areas where women are over-represented and providing not only income support measures but policy measures that support a living wage and more self-sufficiency and decision-making among women.

• (0925)

Mr. Gord Johns: Under Quebec's universal child care we saw an increase in the number of women in the workforce by 70,000 people in 2008.

Isabella, you talked a lot about rethinking our monetary policies and investments, and rethinking our social investments.

I would like to hear you elaborate a little more about where you would like to see those investments go, as well as the importance of ensuring women have access to affordable, quality child care so they can re-enter the workforce.

Prof. Isabella Bakker: Well, I'm sure, as many other witnesses have testified, that's key, and it really underscores all different groups of women having an equal footing with men in the labour market. I think it's very key to bring in some kind of affordable day care. We have a situation in Toronto where people are spending \$30,000 or \$40,000 a year, and the second income is virtually going towards child care.

In terms of bringing more women into the workforce, I just saw some very interesting comments last week from Janet Yellen in the United States, who is the chair of the Fed down there. She made a comment about how, precisely, women face those kinds of child care barriers and other responsibilities, and it's stopping them from participating in the labour force. She estimated that, if women in the U.S. were participating at the same rate as men, it would raise the GDP of the U.S. by 5%. I think it makes good economic sense to bring women in and hopefully bring them into better jobs.

Also, what I was trying to suggest is that social infrastructure investment in health, education, and care sectors is really a job multiplier. It's a greater job multiplier than physical infrastructure. I think it also enhances fiscal space, and you can target it in a very gender-specific way by targeting, for example, the care sector.

Mr. Gord Johns: Isabella, you mentioned that the current taxation models are not gender-neutral because they favour the wealthy, the majority of whom are men. A previous witness in this

committee also testified that Canada's UN gender ranking fell from number one in the world to number 25 in part because of Canada's unfair taxation policy.

You cited the stock option loopholes in particular. What changes would you like to see in the taxation policy in budget 2017 to better reflect the needs of women?

Prof. Isabella Bakker: That's an important question. Yes, I believe that was Professor Lahey who you heard from on that.

I think, in terms of the stock option, from the preliminary research my colleague and I are doing using the StatsCan raw data, we found that men were 6.5 times more likely to take up that option precisely because of the way in which they are situated in terms of the tax and income deciles.

I think there needs to be a general review of all tax expenditures. I know that's a thorny issue, but I think it has to be done, not just from the perspective of income deciles, but also from the perspective of men versus women. There have been a lot of very interesting studies recently that have shown, especially at the top end, what is happening in terms of tax expenditures reinforcing their economic position. There has been nothing done on men versus women, so that's what we're starting to do.

I would say it's very important for the government to be doing that because the government has the resources through Statistics Canada and through Finance to really start using a gendered lens as well as an income lens when they are making decisions about tax policy.

• (0930)

Mr. Gord Johns: Janet, you talked about the budget cuts for women's organizations and partnering organizations with government and the impact of that. Can you talk about that?

Ms. Janet Currie: Well, in the cases of the centres of excellence for women's health, there is no independent voice that is able to work in partnership with government agencies and the community to support an analysis of women's health issues. For example, one of the last projects we did looked at girls and women in terms of alcoholism, particularly the impact of alcohol on young women and the role of the corporate sector in encouraging the use of alcohol by women. Again, that is related to poverty, because indigenous populations are being targeted particularly.

There are women's health voices, of course. Many of them are supported by the pharmaceutical companies, or to some degree they're funded by pharmaceutical companies, so we are concerned that there is a real loss of an independent voice on women's health in Canada.

Really, the budget for all the women's centres of excellence was very limited.

The Vice-Chair (Ms. Pam Damoff): I'm sorry but that's your time.

We're now going to Ms. Vandenbeld.

Ms. Anita Vandenberg (Ottawa West—Nepean, Lib.): I want to thank all of the panellists for their interventions. My first question is specifically to Larissa, although if the other witnesses would like to answer as well, they can.

Just last week the Minister of Science Kirsty Duncan announced a new government policy regarding Canada research chairs, federal funding for research, that said that within two years universities will have to have diversity policies. In fact they have to have the policy by December, and then within two years they need to reach targets in terms of the number of women and other equity-seeking groups that are receiving research funding. Right now we know that for women it's about 30% of the just over 1,600 posts that are available. For other equity-seeking groups it's 1% for indigenous women, 1% for women with disabilities, and I believe about 15% for visible minorities. You spoke about Norway and France and other countries that have legislation in this regard. Do you think essentially forcing universities to meet actual hard targets or face losing their funding is going to make a difference?

Ms. Larissa Vingilis-Jaremkó: I think it will, but if the number of tenure-track positions continues to decrease, it will still have a limited impact, because the number of jobs available for young scientists in general is still decreasing compared to the number of scientists who are graduating. In many fields there is no industry for scientists. The place where scientific research occurs is within the university. I think that's a great piece of legislation, but I think there has to be something that is a better connector between the post-doctoral fellowship or the Ph.D. and the point of getting a tenure-track position.

Ms. Anita Vandenberg: Is there a role for the federal government in that regard, perhaps from the international examples that you gave?

Ms. Larissa Vingilis-Jaremkó: I would like to see better federal oversight of universities, because if the number of tenure-track positions has been increasing, perhaps the federal government could legislate that the funding be contingent upon having a certain proportion of students to full-time faculty, or something along those lines. Additionally, there are several countries in Europe that have national education strategies and they track the number of students entering different programs compared to the number of jobs that are expected thereafter. Canada doesn't have anything like that, but there is also a lower youth unemployment rate in those countries. I would also like to see Canada with some sort of federal education strategy whereby it can better track the number of students going into different fields in relation to the jobs that are available for them.

• (0935)

Ms. Anita Vandenberg: Do the other witnesses want to comment on that?

Ms. Janet Currie: I think it is a structural problem at the university level. Ironically I'm a Ph.D. student now. I'm working in the faculty of medicine, and I certainly have observed among my fellow Ph.D. students real questioning and a sense of despair around what their future will be. Many Ph.D.s are working as sessional instructors, which is a very good option for the university, but these are dead-end jobs and they're very poorly paid. I think some kind of policy and pressures need to be put on the university to support women going into tenure-track positions. I think it's related to the

corporatization of the university as well. It's a complex issue, but certainly I do see it, among my fellow students, as being a big problem.

Prof. Isabella Bakker: I agree with the other two witnesses, and I would just add that I think, from the perspective of my own university, there are two things that are interesting in terms of the Canada research chairs, CRCs. We have very few, and that's because the funding model is based on the research monies that a university is able to raise. We don't have a medical school and we've just recently gotten an engineering school. The other kind of gatekeeper I've seen is the way in which research is interpreted and encouraged. Oftentimes, for example, research that's feminist—for example, I do feminist economics—is disparaged by the economists; they don't see it as research. That kind of validation of credentials in research is really important, and there has to be an openness to diversity of voices in research. I think that's one of the gatekeepers.

Ms. Anita Vandenberg: I'll continue with Ms. Bakker. I'm a York University alumni in history, not in the sciences. Although I joined the science club in grade 10, I lost interest over the course of my high school years, probably due to the socialization that you mentioned, Larissa.

You mentioned tax policy and the need for a gender lens. We did a study here in this committee on gender-based analysis, and it was very evident that when you put on a gender-based analysis, you do see the links in ways that may not always be evident. I know this was the first time ever that there was a gender lens put on the budget. One of the challenges was the lack of desegregated data, the fact that it was very difficult to actually measure some of the things in order to be able to do that analysis. Where do you see the gaps? What would be ways that the federal government could ensure that we can even do the GBA on the budget or on tax policy to be able to have the data to do that?

Prof. Isabella Bakker: I see the difficulty in some areas in terms of data, but I think there are always ways in which to maybe get around that a bit by doing approximations. For example, if one has a sense of the number of women versus men employed in a sector, one can do some approximations that way. It would also be important for the government to actually see how much money it is putting into the gender equality goal. It's not just what Status of Women is being funded, which I think is \$27 million, but to maybe introduce something like a gender equality marker, which is what the OECD has for tracking overseas development aid.

The Vice-Chair (Ms. Pam Damoff): That's your time, I'm sorry.

We're going to go to Mr. Warawa for our last five-minute round.

Mr. Mark Warawa (Langley—Aldergrove, CPC): Thank you to the witnesses. I found it very interesting and informative.

My son is a doctor of microbiology, and he was in the position of deciding, do I continue on in academics and doing the research, or do I go to industry? It's a difficult choice. He stayed in his research, but it's very competitive, looking for those research funds and it's becoming more and more difficult. Whether it's a man or a woman, it's a difficult field to be in.

I have a question for Ms. Bakker in regard to supportive roles. You've alluded to people who are working, but unpaid, and making it possible for someone else to work and make those funds. Could you elaborate on that a bit?

● (0940)

Prof. Isabella Bakker: I think that, unfortunately, sometimes we still think of a breadwinner model, when in fact what we've seen is that most rich economies have moved towards a two-earner model. The question then is, how does one facilitate that, in terms of all of those other needs that need to be taken care of? The daily needs of feeding people, of clothing them, and of teaching them. I think that is the dimension we have to get into the picture. We have to first of all recognize that that's a key dimension, and that women do that more than men, and then that forecloses a whole series of options, which as Janet said, may skew them much more into lower paid work, often care work. I think that's a barrier we could address through various means.

It's very interesting. Ontario is now doing this minimum income study, and it'll be interesting to see the results. I know that from the Manitoba results, the effect of the policy was to encourage more young women to stay at home with their children, and the effect on young men was to encourage them to go into education, to improve their education. I think we have to trace those kinds of incentives to see whether they are serving men versus women in the long term.

Mr. Mark Warawa: In a family structure, one person would be staying at home, male or female, making it possible for the other person to work. In that structure, say, there's a \$70,000-a-year income, as opposed to two people working and getting \$70,000.... The argument, then, was for income splitting for families, showing value to the person who is staying home and providing that support. What are your thoughts on that? The previous government had income splitting for families to acknowledge the very importance of the person who provides that foundation. It's still \$70,000, but you're recognizing, through income splitting, the value of that person who's providing that foundation.

Prof. Isabella Bakker: It's an interesting example. I don't know how many people that would speak to—the \$70,000—because in terms of average family income, that's pretty high.

My sense of the research is that with more and more women getting educated or engaging in training programs, they want to move into the labour force. Equally, there are some men who wish to also spend time with their children at an early stage.

If we look at some of the policies that Larissa alluded to in some of the Nordic countries, it's actually incumbent on both men and women—or the other partner in a household relationship—to take parental leave, otherwise they will lose it. Those are incentives that could be built into social policies that will be very important in changing the social norms around child-rearing.

Mr. Mark Warawa: Do you agree with income splitting?

Prof. Isabella Bakker: I don't really, no. I think that it would be better not to use the tax system in that way.

Mr. Mark Warawa: Thank you.

The Vice-Chair (Ms. Pam Damoff): You have 15 seconds.

Mr. Mark Warawa: That's fine.

● (0945)

The Vice-Chair (Ms. Pam Damoff): We're going to suspend while we prepare the video conference.

● (0945)

(Pause)

● (0945)

The Vice-Chair (Ms. Pam Damoff): We're reconvening. All our witnesses are ready.

Welcome to all three of you, and thank you for being part of our meeting today.

We will start with Danniele Livengood. Welcome, and you have seven minutes.

Ms. Danniele Livengood (Director, Society for Canadian Women in Science and Technology): Thank you, Madam Chair.

I am here representing the Society for Canadian Women in Science and Technology, SCWIST. We are honoured to be called upon to comment on your study about women's economic security and equal participation in the Canadian economy.

Based on over 35 years of supporting women in science, technology, engineering, and math, SCWIST will seek to address items (d), (e), and (f) of the study proposed pursuant to Standing Order 108(2).

Over the years, much effort has been put toward addressing the skill sets of women by providing them with training to make them effective in high-paying and leadership positions. However, skills are no longer the primary issue keeping women out of these positions. Access to these positions is the main issue.

Women are excluded from positions that could provide them with an equal measure of economic security, and in STEM fields this is largely due to gender biases against them. No amount of women's empowerment, education, or skills will increase women's presence if access is denied. Addressing women's lack of representation in key growth sectors and leadership positions requires changing the system, not the women.

We would also like to recognize that many Canadian women face additional economic challenges due to other aspects of their identity, such as race, ethnicity, religion, abilities, gender identity, sexual orientation, immigration status, and age. In recommending supportive policies for women, we hope that these other facets will be positively influenced by the improvement in our culture overall.

Access to these key positions is influenced by Canadian culture. This culture is upheld at the government level, the corporate level, the community level, and the individual level. We have made recommendations for how to influence culture at these various levels to benefit women.

First is the level of government. We recommend the implementation of non-partisan, gender-based analyses of all economic and social policies, and increased funding commitments to conduct these analyses. Ensuring that all policies are scrutinized for their short- and long-term impact on women would prevent existing policies from hindering new efforts.

We also recommend applying the “comply or explain” policies that have been enacted in the U.K., Germany, and the Netherlands. We should expect that companies in Canada meet certain pay equity and leadership diversity standards. One way for the government to do so is to amend procurement policies to require that organizations are compliant with standards that ensure the full participation of women.

We recommend that federal funding programs reward collaboration rather than competition and hold their applicants accountable for the diversity of their team and the impact their proposals will have on women.

This applies to media projects, which help shape the cultural norms in Canada. This applies to entrepreneurial or small-business funding, as women have been shown to receive significantly less investment for their small businesses than men, despite being a more secure investment. Of course, this applies to research funding, as women are less likely to participate in competitive application processes, and the competitive culture of winners versus losers only upholds the perception that singular minds are more valued than the collaboration of many diverse perspectives.

We need policies to regulate the media, especially advertising, with respect to their representations of women. Canada has developed extensive, high-quality Canadian content in both official languages. We can and should require that Canadian media respect and support diversity. Media is an essential piece of what builds our culture and, thus, our personal biases. If we want a future where more women are leaders in high-paying and male-dominated industries, we need to show Canadians that it's normal.

We need a federal policy on child care and family leave to ensure the full participation of women in the economy. This would help retain women, slow the departure of young workers, and save money on hiring and retraining. Giving women the support they need to stay in the workforce while raising a family would allow them the opportunity to compete for leadership positions and maintain their salary trajectory while not being burdened with the high cost of child care.

• (0950)

Next, we have actions recommended for the corporate level. As with the government level, we recommend a “comply or explain” approach for public consumers as well as stakeholders to keep companies accountable for having diverse leadership teams.

To comply with such standards, corporations will need to address their hiring, retention, and promotion practices to ensure that there

are not biases inherent in these systems. Blind hiring, family-friendly policies, supportive policies for dealing with incidents of harassment, and intentionally diverse succession planning are all things that would support women's full participation in the workforce.

Third, we have a number of recommendations for the community level. We need to support and expand programs that create networks, provide role models, and ensure mentorship opportunities for women in male-dominated industries. SCWIST's makepossible.ca, an online skill-based mentoring platform, is a result of intentional investment by Status of Women Canada that further supports women to pursue STEM careers. While we ask the government and corporate levels to explore new ways to influence culture, we must also keep up the grassroots work that has gotten us this far.

We recommend that communities actively engage in an open and ongoing conversation about the instances of behaviour that do not support a culture of inclusion. Keeping a dialogue going will allow community members to share these struggles and collaborate on how best to address systemic biases.

And finally, at the personal level, we need to come to terms with our own biases. Everyone has them. We recommend the Harvard implicit bias tests, because knowing is sometimes a surprising first step.

At each level, we need to build a culture where women are given access to these important positions. If we give them access, they will no longer be seen as the problem, but rather as the key to the innovation required to solve many problems, both global and Canadian.

Thank you.

• (0955)

The Vice-Chair (Ms. Pam Damoff): Thank you very much.

We'll now move to the Canadian Centre for Women in Science, Engineering, Trades and Technology, with Ms. Armour.

Ms. Margaret-Ann Armour (President of the Board, Canadian Centre for Women in Science, Engineering, Trades and Technology): I very much appreciate this opportunity to make a presentation in front of the standing committee on behalf of the Canadian Centre for Women in Science, Engineering, Trades and Technology. Because that's quite a mouthful, we call it the WinSETT Centre.

The centre works in partnership with people across the country, stakeholders, on the retention and advancement of women in the fields of science, engineering, trades, and technology. We've heard that there are a minority of women in these fields, so we know that a lot of work needs to be done to change this situation.

The fact that there are so few women affects the careers of the women themselves, because they're seen to be such a minority in the area and they're often working on their own with no other women around, but it also affects the careers of young women. We know, more and more, how important role models are. Often I hear young women say, "Oh yes, I saw someone who is in a leadership role in science or engineering, and that let me know that I could do it." If we don't have women in these leadership roles, we're sending a subtle message to our young women that they don't belong in these fields, and we certainly don't want to do that.

The other problem that has been alluded to is that where there is a very marked minority of women, the culture of the workplace tends not to be very supportive of these women. Again, we know that it very much affects the retention of women in these fields.

In terms of some statistics, this, to me, was quite astonishing: in 2011, only 29% of women between 25 and 34 who had a degree in science, technology, engineering, or math were working in the natural and applied sciences. So only 29% of them were working in the field in which they had their university degree. That's compared with 52% of men with degrees in these fields who were working in the areas in which they had their education.

One of the problems we are concerned about is how it affects the economic security of women if they are not going to continue in the field of science, engineering, trades, and technology. If they feel that they cannot do so and that they have to move into another field, they're likely to take a lower-paying job. They're perhaps less likely to be economically independent. I think that particularly for women in the trades this is a problem.

We know that because of the situations they sometimes find themselves in, if they decide that they can no longer remain in their trade, it often means that they also do not have financial security and cannot leave an abusive relationship. So we're looking to encourage women into leadership, advancement, and also stability in their chosen field.

Of course, more and more we know that a management team that is diverse, not just gender diverse but culturally diverse also—but we are most concerned with gender diversity at the moment—is very good for the Canadian economy. Companies with gender diversity in their management and board teams tend to have higher productivity, greater return to shareholders, and the other thing I find interesting, a stronger philanthropic commitment to our society, which is again important.

We in the WinSETT Centre have been very active in trying to change the situation. We believe in knowing what the research says, but then very much in taking action.

● (1000)

We've developed a series of workshops, the titles and substance of which really have depended on what women in the SETT fields have

told us they need. I've had the privilege of attending many of these workshops and seeing what they can do.

I would quickly share with you a couple of stories. One of the workshops is called Negotiating for Success. Women don't tend to negotiate in quite the same way as men. For example, in university faculty positions, if you don't negotiate your initial salary very well, then we know the women tend to have lower salaries to start with in a faculty position. That means they never catch up. They're doing just as well in promotions and incrementation of salary, but they started lower so they never catch up.

In general, women need to learn the techniques of negotiation. At one of the workshops, one of the guest speakers provided what I thought was a very valuable tip to the women there, and this was that it's often difficult for women to go and ask for a promotion. We believe it's very important that women are not forced into a style they're not comfortable with.

This woman, who was an engineer working in an engineering company, said that what she did was go to her supervisor and ask what she needed to do to get a promotion. Her supervisor said, "I'll have a look and I'll get back to you." In a few days her supervisor came back to her and said that she should have had her promotion, that she had done everything she needed to do for a promotion. I thought the women in the group felt that this was something they would be comfortable doing, rather than demanding. It's a very small thing.

The Vice-Chair (Ms. Pam Damoff): I'm afraid that's your time.

We'll move on to Ms. Franz-Odendaal from Mount Saint Vincent University.

Professor Tamara Franz-Odendaal (Professor and Chair for Women in Science and Engineering, Department of Biology, Mount Saint Vincent University, As an Individual): Thank you very much. I'm honoured to be invited to present at this committee.

My name is Tamara Franz-Odendaal. I'm a full professor at Mount Saint Vincent University in the biology department. I'm also the NSERC chair for women in science and engineering for Atlantic Canada and have held this position since 2011. I serve on the boards of CCWESTT and Science Atlantic. The views I present today are my own and are based on my experience as a woman in science and through my chair position.

You heard last week from my colleague Dr. Catherine Mavriplis, the NSERC women in science and engineering chair for Ontario, so I will take this opportunity to raise points different from those raised in last week's session.

In 2011, I launched a program called WISEatlantic that aims to provide girls in grades 7 to 9 access to female role models in SETT and also to provide professional development opportunities to women in SETT, such as the ones we've just heard about from Margaret-Ann Armour. Through these activities, in just a few years we have enabled 3,000 girls to meet with 250 women in SETT and have provided professional development opportunities to almost 500 women in these fields.

Today I would like to make just four points.

The first point concerns maternity leave. I bring to your attention today the position of post-doctoral researchers. I am an immigrant to Canada and came to Canada with my husband in 2003 to complete a post-doctoral research appointment. This post-doc period is a critical and essential training period that is required after one's Ph.D. if one hopes to secure an academic position. During this period, I, like many other women, chose to start a family.

A recent national post-doctoral survey highlighted that there are currently inconsistencies in the classification of post-docs by provincial governments and institutions. Post-docs may be considered employees, trainees, students, or independent contractors. Because of the financial pressures I felt, both as a newcomer to Canada and since no EI was available to me, and because of the intense work pressures to not stop the productivity of my research career, my daughter went into full-time day care at three months of age.

The decision to start a family while on an academic track invariably takes place during the latter part of a Ph.D. during one's post-doc—typically a three- to six-year period—which is also a time when one is interviewing for jobs, or during the very early years of a faculty position. These are all periods that are extremely stressful, particularly when one feels the additional burden of needing to have a valid and continual publication record.

Not all universities have stop-the-clock policies, and not all funding agencies do either. Universities and funding agencies need clear guidelines for the options for female researchers who fall pregnant during these critical periods. At present, too many women are afraid to tell their supervisors that they are pregnant because of the responses they will receive. I have heard this first-hand from several women in the last few years. They are too afraid to reveal during the hiring process that they have a family. Post-doctoral researchers are our future researchers, and we should ensure they are treated fairly, especially with respect to maternity leave.

This brings me to my second point, which is about unconscious bias. Unconscious bias training with respect to gender in SETT is not a rigorous part of the training provided to hiring or promotion committee members within the university establishment. It's also not a rigorous part of the training provided to our future science and math teachers.

The reason I bring this up within the university setting is that at the current rates of promotion of female faculty, it will take over 800 years in some disciplines to reach equal male-female ratios. At present in Canada, fewer than 15% of STEM full professors are female. Studies have shown that having female professors in mathematics, as in the other STEM disciplines, does positively affect

the female students in the class and has negligible impacts on the male students, who do not face similar stereotype threats.

Educational institutions should provide rigorous unconscious bias training to committees that ultimately make the decisions about the diversity within the departments. There are many improvements that could be made. Capturing the breadth of the candidate pool during the hiring process and requiring that institutions report the diversity of faculty in each degree program in their annual report are some examples. In addition, university and college programs are subject to periodic review, and perhaps the body that oversees the quality of SETT programs, including accreditation, should be mandated to look at the diversity of faculty within departments.

● (1005)

The reason I bring up unconscious bias training among our science and math teachers is that I'm still hearing from female university students that teachers are steering them away from SETT disciplines. At present, the responsibility for career awareness has been sidelined to the role of guidance counsellors, who have little time to keep up with what employers are looking for or to make themselves aware of the myriad of SETT career options that are available to youth. They do not realize the unique skill sets that women bring to these disciplines and that employers are starting to look for.

Outreach programs become all the more important when teachers and parents are not aware of the opportunities within the SETT fields for female students. If we can provide better STEM career awareness within schools, and train our teachers about unconscious bias and stereotype threat, I believe we will have more female students pursuing these careers.

I will end today by highlighting the work of NSERC's chairs for women in science and engineering program, established in 1996. At present, there are only five chairs for the whole of Canada. The work we do has a high impact. We are each serving a large geographical area, often in multiple provinces. Each discipline—science, math, engineering, computer science—faces different challenges.

There is much work that needs to be done at the grade 7 to 9 level, at the university or educational institution level, and in the workplace. If every university in Canada had a women in STEM chair who could advise on hiring and promotion and run professional development programs such as the ones I mentioned today, I'm confident that we would see significant changes in the number of female STEM researchers at our universities.

Thank you for allowing me to speak today. I'm happy share any of the studies I've referred to.

• (1010)

The Vice-Chair (Ms. Pam Damoff): Thanks to all of you for your presentations.

We'll now turn to Mr. Serré for the first round of questions.

Mr. Marc Serré (Nickel Belt, Lib.): Thank you, Madam Chair.

[Translation]

My thanks to the three of you for your presentations and also for your preparation for today's meeting. I know that this must have required a lot of work on your part. Thank you very much for providing us with this information.

My first question is for Ms. Livengood.

You briefly talked about mentoring. Previous witnesses told us that there are not enough promotional videos about female scientists, not enough female scientists who visit our schools to talk about what they do, and not enough coverage on them in the media. In your presentation, you said that we need to be better informed about female scientists, and that Canadian media, in both French and English, must be encouraged to improve the way in which female scientists are represented.

Could you tell me whether you have some specific recommendations for the federal government with respect to the media and mentorships for women?

[English]

Ms. Danniele Livengood: Yes, absolutely I believe in mentorship, but I think that really, when we're talking about media, we're talking about role models. We're talking about making a woman scientist or CEO a normal thing to see every day.

I actually have to compliment Tamara, the NSERC chair, for the videos that they have produced of women in various STEM fields. When it comes to media, I also work for one of the other NSERC chairs, and we produce a podcast interviewing women in STEM. We need to just make that thing the norm, so that every day when you turn on a television, you don't see a woman CEO, you see a CEO who happens to be a woman, and people aren't making a big deal about it. You happen to see a woman reporting on a scientific topic, but she's not the first woman to do something, she just happens to be a woman who made her career in SETT.

That's the kind of thing that we're looking for, getting to the point where we see the people doing these things as just people. There is no qualifier. There's no, "She's a woman. Isn't that great." We just want it to be normal. For many of us who work in STEM, it is, but when we work with the outside world, we still hear those backward ideas about how there's a difference in ability between the genders.

[Translation]

Mr. Marc Serré: Thank you.

My second question is for Ms. Franz-Odendaal.

[English]

It relates back to the NSERC research chairs and the targets of 30% that we're looking at as a government. Even that is low. Half the universities across Canada, it appears, can't even achieve half that target. We need some drastic measures. What do you specifically recommend that the federal government could do to change this immediately?

We heard earlier about the Ph.D.s, the tenures, and the challenges of a more corporate university that seems to impede women even further as chairs or at the Ph.D. level. What recommendations would you have specifically for the federal government to change this immediately, without imposing quotas?

Prof. Tamara Franz-Odendaal: I think one would be to require universities to report the diversity of the main faculty. Often universities haven't even thought about that. When you ask for a list of the female science faculty, the dean of science writes, "Oh, gee, I didn't realize I had so few."

They're not aware because they do not have to report that data. I think that would be a major step.

Then, as I mentioned earlier, the studies that oversee and provide accreditation to programs could be mandated to look at diversity of faculty within universities. It could be pointed out to universities that they're not meeting the bar.

• (1015)

Mr. Marc Serré: Thank you.

My third question is for Ms. Armour.

Earlier, you indicated corporate management team diversity, or lack thereof, and you indicated the benefits of that. Are you aware of our government's Bill C-25? Do you have any comments on that bill moving forward?

Ms. Margaret-Ann Armour: Yes, I am aware of Bill C-25. I certainly agree that this is critical for the Canadian economy: increasing the diversity of management and board teams. There's so much evidence now of the difference that makes to the effectiveness of the company, whatever it's doing.

Mr. Marc Serré: My last question here is for Ms. Armour on data. What data do you believe we should be collecting, as the federal government, to help support the lines that you're talking about?

Ms. Margaret-Ann Armour: I agree with the kinds of comments that have been made by Tamara: that we need to collect the data so people recognize what's going on, so people recognize that there are so few female CEOs of engineering and technical-related companies, for example. That has to be made available to the public so that people know about it.

Within the universities, again I agree that the statistics need to be very clear to everyone within the science and engineering faculties. The driving forces need to come from the academic officers, the provosts, the people in positions of decision-making, the people who can really make a difference, the people who can say that this has to change. Then it influences the deans and those of us who are working on the ground, trying to actually make a difference.

It's the same kind of thing with regard to companies. We need advocates within the companies. We've noticed with our work what a huge difference that can make. Again, if government can make it clear that these figures are available and if the advocates within companies who make a difference are given the credit for so doing, that could help enormously.

The Vice-Chair (Ms. Pam Damoff): That is your time. Thank you very much.

We're going to turn to Ms. Harder for seven minutes.

Ms. Rachael Harder: Thank you.

My first question here is for Ms. Livengood.

In 2013, you received some funding to run a three-year mentorship program. The mentorship program was entitled Make Possible: Together We Create Opportunity. Can you expand on what was accomplished during that time?

That time is coming to an end now. Clearly, mentorship has been identified as a very key factor in encouraging women and girls to enter STEM and entrepreneurship, and in giving them the support that is necessary to be successful in these fields. I'm curious as to what has been accomplished in those three years.

Ms. Danniele Livengood: We still refer to Make Possible as being in beta form. We're still making upgrades to the platform. Essentially we have over 800 members on the platform ranging from high school students all the way up to CEOs, and not just in Canada; we have a few international members as well.

With the platform, we hope to create a very open and supportive collaboration space in which people can trade skills. We really found that people didn't want to set up a super-formal mentorship like, "I'm your mentor, and you're my mentee, and you're committed." They didn't want that. They wanted to be able to find people who would help them foster the skills they were trying to build. We ended up basing our structure around this and allowing people to share skills by finding people with those skills or offering to share skills.

This also removed a barrier that we often see, which is that people of a certain age or skills ability think that they can't be mentored and they can only be mentors, that they can only teach; they can't learn. Social media or optimizing your website are things that some of the older generation were looking to learn, but often there wasn't a venue for them. We found that our platform was a good way to connect people based on skills and take out some of those other biases, like age or level of education, so people could connect and support each other.

The platform also really focuses on visibility, providing those role models. If you're looking for a woman in STEM or a man who's supportive—we do have a lot of men on there as well—then you know they're there, and they're available to talk. They want to talk.

I've had countless coffees just chatting with people through the platform. Really it's focused on making connections and building skills.

• (1020)

Ms. Rachael Harder: As the funding for this program comes to an end, would you say that it's necessary to renew that funding going forward in order to be able to provide this program, or would you say that there are some changes that are needed that would be more effective?

Ms. Danniele Livengood: Renewing the funding is something that obviously would be helpful. We could make improvements to the platform with our own budget and investment over a number of years, but obviously a further investment on a larger scale would allow us to make those improvements faster, roll it out further, and have it be a bit more stable. It's still in beta. We still don't consider it a final product, so additional funding would obviously benefit the program.

Ms. Rachael Harder: Thank you.

Ms. Armour, you said that 29% of women with science degrees are now working in the field as opposed to 52% of men with science degrees. I'm interested in this comparison. Why would you say only 29% of women as opposed to 52% of men work in the field in which they have a degree, within the science departments?

Ms. Margaret-Ann Armour: I think many of the women who got science and engineering degrees, in either natural and applied sciences, probably started working in the industry in which they have their degree, but gradually felt that they were not comfortable there, that they were not progressing, that they wanted to move to something else, so that 29% largely reflects those people who have moved from the industry in which they were initially educated into something different. That's a concern.

Ms. Rachael Harder: Would you say that a lot of that simply has to do with biases that are communicated to women as well as social barriers that are put in place that prevent them from upward mobility?

Ms. Margaret-Ann Armour: That's certainly part of it. A large part is the culture of the workplace, where women feel uncomfortable. We keep hearing from women. In fact, one group of women asked us to have a workshop on navigating the politics of the workplace. I'll never forget that first one I went to. There was a group of about 30 women, actually from one company, and the trust built very quickly, and it was suggested that nothing that was said in the room would go outside of the room. So stories were told, and at the end of the day, the women said, "Oh my goodness—it's not me. It's the workplace." They had realized that there were many people feeling the same effects of the workplace—the harassment and the put-downs. A lot of the time they're not intentional; they're just intended to be fun, but that's not what they are. Many of them are indeed, of course, serious harassment. The culture is important.

Ms. Rachael Harder: Ms. Armour, one of the challenges I have as a legislator, listening to the various testimonies that we've heard around this committee table, is that I see so much of the challenge lying in the attitudes of those in the workplace, particularly the men in the workplace, in the way they treat their female colleagues. This is a matter of the heart or a matter of the intellect—I think both—as well as your emotional and psychological capacity. That is not something that can necessarily be legislated.

As legislators at the federal level, what can we do to close this gap between men and women in the workplace when it comes to STEM?

• (1025)

The Vice-Chair (Ms. Pam Damoff): It's going to have to be a very short answer. I don't want to have to cut you off again.

Ms. Margaret-Ann Armour: All right, thank you.

I think that talking about these issues is one of the most important things that legislators can do, making people aware of the culture, the systemic biases, the unconscious.... I keep coming back to this.

Also, it's allowing groups like ours to work with the women and men who are the decision-makers in the companies, to try to change that culture and get the advocates.

The Vice-Chair (Ms. Pam Damoff): Thank you very much.

We'll now turn to Mr. Johns, for seven minutes.

Mr. Gord Johns: I have a question for Ms. Livengood.

You mentioned the need for child care to remove barriers for women, as well as improving parental leave policies.

Do you support a “use it or lose it” policy of parental leave for the second parent? Previous witnesses, including some from the OECD, have recommended “use it or lose it” to encourage men to participate in child care.

Ms. Danniele Livengood: I do believe it is a good choice to pursue the “use it or lose it”, just because so many don't use it.

If we make it more normal that fathers take leave, that they're involved in the child-rearing process, then it will no longer be a risk that young women employees carry. It will be a risk that all employees carry. They all will take leave. They all will support their families. It will just be something that is inherent with having employees rather than being a risk that women carry by themselves.

Mr. Gord Johns: Thank you.

Ms. Armour, I live in a community in the Alberni Valley on Vancouver Island where one-third of the children are living in poverty. In fact, we have a teenage pregnancy rate that's 300% above the provincial average in B.C. as a result. It's really a crisis situation.

You noted that women need economic security in order to leave situations of domestic violence. We have high domestic violence in our community. Local shelters have noted that when women leave an abuser, they often move into poverty, which sometimes forces them to return to a situation of violence.

Do you agree with a paid domestic leave policy, so that women have time to leave abuse while being economically supported?

Ms. Margaret-Ann Armour: Very strongly, yes.

I think one of the worst things that can happen to a woman is not being able to leave an abusive relationship because there's nothing for her to do. So having some means of support while she leaves that relationship....

Also, it's reflected in the support that women have in their initial education, seeing people within the community who've been able to go on and get a good-paying job. What a wonderful role model that person is, especially if it's someone within the community who people can identify with.

So yes to support for leaving a relationship that is abusive, but it's also looking forward to providing some means of education that will lead to financial stability for the woman.

Mr. Gord Johns: Thank you.

Ms. Franz-Odendaal, you spoke to the challenges you faced as a mother while doing your post-doctoral work. I'm concerned that these issues are not limited to one sector only. Budget 2017 increased the amount of time that women can take parental leave, but stretched the existing benefits over a longer period.

Do you think that the federal government should do more to ensure that all women have access to maternal leave that provides sufficient benefits?

Prof. Tamara Franz-Odendaal: Yes, absolutely. I think that's a very important move to make.

There are far too many women who have been forced to go back to work and are having to find child care for their infant.

Child care is another huge barrier in Nova Scotia. My daughter was on a wait-list when I was three months pregnant, and she only got in to day care when she was two years old. Some of the placements were that long.

It's incredibly stressful not to have that maternity leave coverage.

Mr. Gord Johns: Thank you.

Ms. Livengood, living in British Columbia we both know that the housing situation is terrible. Certainly on Vancouver Island we're now feeling the spillover from Vancouver. The lack of affordable housing often means that women are not able to leave shelters when they are ready. Women who don't have access to housing are often faced with the decision of taking themselves and their children into poverty or returning to an abuser. What kinds of investments would you suggest seeing in affordable housing to address this issue, and how urgent is it?

• (1030)

Ms. Danniele Livengood: As you said, in British Columbia, especially in the Lower Mainland, we're seeing that housing crunch. I think investments in affordable housing are really important. The crackdown on empty rental space by Vancouver has been very useful.

I would say, especially in the spirit of the study we're discussing today, we need to empower women across Canada but also in B.C. to make a living wage that will support the kind of housing the market has available, through some of the things we talked about, such as decreasing biases in hiring and promotion and ensuring they can make the wage they require to live. I think the living wage campaign here in B.C. is really effective in showing that to have a two-parent, two-child home you have to make about double the minimum wage to afford to live in the Lower Mainland, and that's not even in Vancouver proper.

Mr. Gord Johns: That's great.

The equity hiring of women and indigenous individuals during the construction of the Vancouver Island highway was a great success story, being able to boost the number of women employed in infrastructure projects. Do you think this model could be applied elsewhere?

Ms. Danniele Livengood: Absolutely. I think quotas can be useful, and they can be problematic. If you address the kinds of job postings you're putting together and seeing who is being attracted to them, as well as how you're evaluating—blind hiring, removing identifiers that people have biases against, such as names or places of education—then you don't necessarily have to have a quota. As long as your applicant pools are representative of Canadian culture and diversity then quotas are less needed, but sometimes they are a necessary step to seeing that the talent is out there.

The Vice-Chair (Ms. Pam Damoff): Thank you, and that's your time.

We'll now turn to Mr. Fraser for seven minutes.

Mr. Sean Fraser (Central Nova, Lib.): Thank you very much, Madam Chair.

Ms. Livengood, I have a lot of questions I would like to get through. If we could keep the answers tight it would be very helpful.

One of the things you talked about at length was access to opportunities in different professions that are typically dominated by men. I was a lawyer before I got into politics, and I saw this firsthand. I was unintentionally the direct beneficiary of the old boy's club, so to speak. There were partners at the firm who saw themselves in me. We'd meet casually; they'd give me a file, and it really helped with the partnership track. Coming out of law school it was probably fifty-fifty men and women who were hired for articling positions; at the partnership level it was at least three-quarters men, seven or eight years later in their career.

We talked a little about the "comply or explain" thing we could do to get more gender-balanced representation on corporate boards. Are there other measures we can take in the private sector to help create opportunities, formally or informally, for women to advance at that mid-level and senior portions of their career?

Ms. Danniele Livengood: I think you hit the nail right on the head, talking about the partners seeing themselves in you and thus giving you that special treatment; we call it sponsorship. That person put specific time into sponsoring you to the position of partner; they invested extra time and effort. Until we have fifty-fifty women at that partner level, so the women see themselves in other women, I think it really comes down to those leaders to recognize what we've heard

plenty about: the business case for having a diverse team, diverse leadership, and how it benefits your business. I think clients could also put a bit of pressure on organizations like this to step up their diversity. But it takes that individual decision to value this and make that intentional effort. I cited diverse succession planning being an intentional effort. If you say we're going to make sure to groom fifty-fifty, then you're going to have more people ready to step up into those positions.

• (1035)

Mr. Sean Fraser: Before I touch on succession planning, do you think it would be effective for the federal government to launch some kind of public education or awareness campaign to help make the business case, so that business leaders better understand that having more women at senior levels in their companies or partnerships or firms is an effective way to help their business succeed?

Ms. Danniele Livengood: Absolutely. I think the largest corporations in Canada are aware of this. I don't think they are really the target of that kind of educational campaign, but you'd be surprised how many medium and small businesses we still meet that need to be convinced of this.

Mr. Sean Fraser: With respect to succession planning, I sense there's a major opportunity here. I'm from Atlantic Canada, where we have an overrepresentation of seniors per capita as compared with every other province. This means that many small and medium-sized businesses have an owner who is thinking about succession or potentially just about retiring, locking the door, and throwing it away. There's a great opportunity, if we can inspire young women to become entrepreneurial and take over these businesses, to help achieve gender equity in business.

Are there steps that you think the federal government can take to help encourage gender-balanced succession planning?

Ms. Danniele Livengood: Women are often really fabulous entrepreneurs, and there are plenty of them out there. I think the key to a program like that would be in making the connection, facilitating that connection space, and providing incentives for them to relocate themselves and their families. Women entrepreneurs are out there; it's just that they're not getting as much money as anyone else. Perhaps this would be a good campaign, to get them started with some funding in an established business.

Mr. Sean Fraser: Okay.

You talked as well about the importance of potentially regulating media to help break stereotypes about what a successful woman in Canadian society looks like, getting away from the prototypical depiction of success that can often be discriminatory against women.

I think it's a great idea. I am a little hesitant to have the government tell media what they should or should not do, because I think strong and independent media are an essential pillar of democracy.

Would it be possible to achieve the same end by launching a digital literacy campaign to help the consumers of media understand what they're seeing and to identify stereotypes?

Ms. Danielle Livengood: That's an interesting proposal. I think that people who want to be digitally literate are, and the people who aren't haven't chosen to become so. I'm not sure that kind of campaign is going to solve the problem.

It is tricky to say that government should regulate the media. I agree with what you said about there being free and independent media. I think, rather, we should look at what media the government is funding and ensure that the funding aligns with these values. Making intentional efforts to create media that support these values is a good investment, but not necessarily policing all media.

Mr. Sean Fraser: At the opening of your remarks you talked about prior efforts that have been poured into training women. You said something that stuck with me. You said to change the system, not the women, which I think is a very interesting way to put it. I want to highlight as well, though, that we're in a time when disruptive technologies are changing industries, and individuals across Canadian society are going to need to upgrade their skills. I assume you didn't mean to exclude the possibility of training women to take advantage of new industries, rather than trying to make them fit a different mould.

Could you comment on the importance of the government's ensuring that women are beneficiaries of training to take part in 21st-century industries?

Ms. Danielle Livengood: Absolutely.

The main focus there was, as you said, to emphasize this "change the system, not the women" approach. We've benefited directly from the WinSETT Centre and their workshops; they're wonderful. Such things still need to happen, but it's not all that needs to happen.

To address the changing economy and the changing disruptive technologies, however, is I think not a women's issue; it's everyone's issue that is going to affect many different people across Canada. While we should make sure that whatever efforts are put forward to train people benefit women and minorities just as much everyone else, thereby making sure that there are no biases in the program, we still need to make sure that they have access to those high-paying and leadership positions.

Mr. Sean Fraser: That was excellent. Thank you. Those are all my questions. Take care.

The Vice-Chair (Ms. Pam Damoff): Thanks a lot.

Mr. Warawa, you have five minutes.

•(1040)

Mr. Mark Warawa: Thank you.

I've had the incredible honour in my life to work with amazing women. I was raised by a very strong, wonderful, intelligent mother, and I married an incredible woman. Then in my career, I worked for the Insurance Corporation of British Columbia. I was an entrepreneur for many years, but I went to the Insurance Corporation of British Columbia and the supervisor of my unit was an incredibly talented woman whom I was honoured to work for. Politically, I was honoured to be the parliamentary secretary for Rona Ambrose who was the minister of the environment back in 2006, and now she's our interim leader who will be stepping down over the next couple of weeks. I've been incredibly honoured to work with intelligent,

strong, capable women. I really haven't experienced the discrimination against women in my life, and I've been honoured to work for talented women.

I'd like to focus on women who choose to leave their career to raise a family and now they find themselves having fulfilled that part of their life, that choice, and they want to enter back into their career. How do we help those women who need to refresh their talents and get up to speed? There are many women, and I've been honoured to be able to employ some of them in my role as a member of Parliament, who maybe didn't see themselves as being able to get back into a career, but now are back, because of encouragement. Women live longer than men. They are incredibly talented. How do we help women to get back into their career of choice? What are the barriers that they'll be facing and how can we help them?

Prof. Tamara Franz-Odenaal: Who are you directing the question to?

Mr. Mark Warawa: It's for whomever would like to answer.

Prof. Tamara Franz-Odenaal: I'll begin, and just quickly, in the academic setting, if you have a year or two without productivity, it's very difficult for you to get a research grant to get that productivity going again. But I think within the academic setting, the challenges are a little different. There used to be a program, a university faculty award program that helped women get their first appointment, and so a program like that, which can help women who have had a family and are trying to launch their research career, would be an important one.

The other comment I wanted to make is that I know last week you heard from Women Unlimited, and it has an extremely successful program helping women get education and then go to a community college and become a tradesperson. I think we can learn a lot from that program that's been incredibly successful in Nova Scotia.

Mr. Mark Warawa: Does anyone else have something to say?

Ms. Margaret-Ann Armour: I could jump in on this one too. I think there's a bit of a change that's been happening, in that educational institutions are quite used to now having mature students, so often women can come back and do a master's degree, for example, which would enable them to catch up on all the technologies that have been happening while they were out with their children.

I think it's wonderful that women have this choice. I would love to see men take advantage of having the choice also of saying they're going to take a couple of years off to be with their children and allow the woman to work. We're not quite there yet, but it's coming.

The other thing is that, at universities, we're beginning to recognize that we do have a connection, a commitment to a community that is around us. We have a department of extension, which provides training for people who want to come back and do diplomas or get certificates. This allows them to renew their education, to discover what's been happening while they've been out of the education system, and to get ready to move into a job. I'd love to see more of that happening.

I think it's really important that all of the people whom you're listening to this morning and whom you've listened to over the past week make their voices heard on issues like this, so that we make it clear that we see this as something that post-secondary institutions need to have for the community, and it's not just women, but both women and men who want to come back and be retrained or pick up a new career.

●(1045)

The Vice-Chair (Ms. Pam Damoff): Thank you very much. That's our time. Thanks to all our witnesses for appearing and being with us today.

We're adjourned.

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