

Trickle-down & Bottom-up Effects on Workplace Gender Diversity

New research suggests that understanding intervention impacts at different levels of hierarchy can yield more effective policy to enhance gender diversity in the workplace

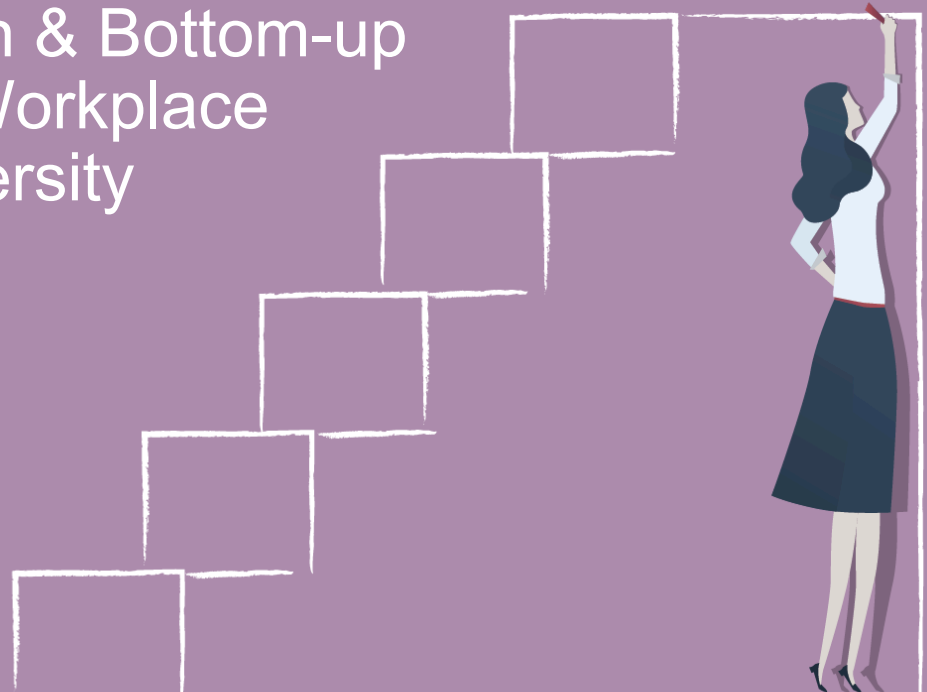


IVEY

Lawrence National Centre
for Policy and Management

**Policy Brief
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Trickle-down & Bottom-up Effects on Workplace Gender Diversity



KEY HIGHLIGHTS

- Despite a significant increase in women's participation in its labour force, Canada remains far from achieving workforce gender parity across organizational hierarchies.
- Critics argue that existing HR strategies to increase women's representation have short-term impact and serve as window dressing.
- New research led by Ivey Professor Alison Konrad and her collaborators suggest bringing lasting changes requires understanding existing worker-gender composition and intervention impacts at different levels of hierarchy.
- They find that in industries with limited representation of women, hiring more women at the middle management (as opposed to top management) level has a significant positive effect on attracting more female employees at the lower levels.
- Based on their evidence, this brief provides policy direction on increasing female representation across organizational hierarchies, and delineates the important role of government in incorporating the policy lessons for wider dissemination and impact.

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INTRODUCTION

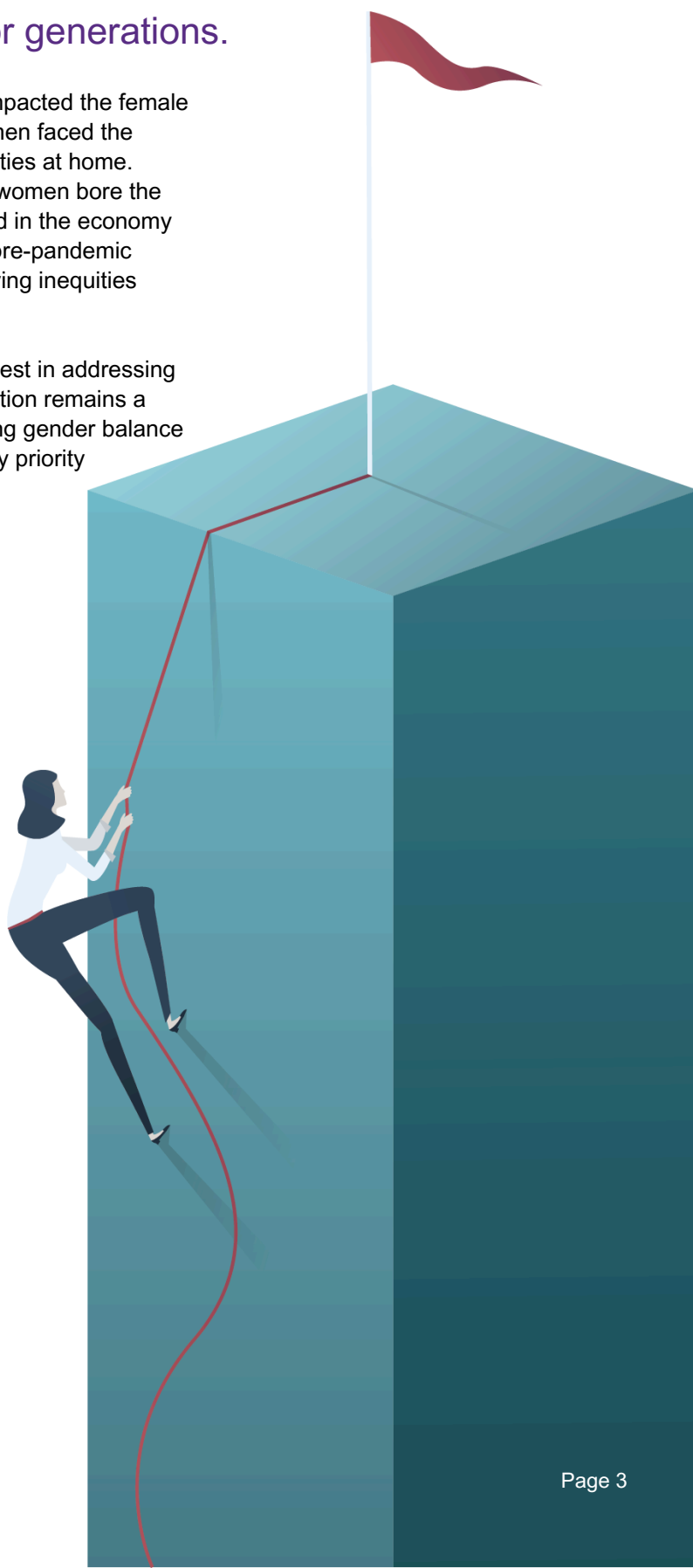
Women have played a vital role in Canada's labour market for generations.

However, the COVID-19 pandemic significantly impacted the female workforce, as proportionately more women than men faced the challenge of balancing additional care responsibilities at home. Furthermore, industries predominantly staffed by women bore the brunt of the pandemic's effects. Despite a rebound in the economy and women's workforce participation surpassing pre-pandemic rates, gender disparities persist, reflecting underlying inequities across Canada.

While leadership teams have shown growing interest in addressing gender parity, achieving equal workforce participation remains a challenge for many firms. Consequently, improving gender balance across industries has emerged as a national policy priority with many government agencies, organizations, and firms working towards this goal.

Research led by Ivey professor member Alison Konrad and her collaborators sheds light on the nuanced dynamics of gender composition within firms. Specifically, researchers explain how trickle-down and bottom-up effects across firms' hierarchies can vary significantly, and depend heavily on the industry and current gender makeup of the organization. Their findings identify barriers for increasing female representation and lay the groundwork for developing policies that promote gender parity across different organizations.¹

This brief will explore current trends in Canada's labour market, distill key findings from the groundbreaking research led by Professor Alison Konrad and her collaborators, as well as outline practical takeaways and policies for firms striving to achieve gender parity across their organizations.



Women in the Workplace

In the last 20 years, there has been a significant increase in women's participation in the workforce, with women entering full-time employment at higher rates than men. Yet Canada remains far from achieving workforce gender parity. In 2000, there were about 4.9 million full-time female workers compared to approximately 7.1 million full-time male workers.² In 2022, this difference was slightly less, but it was still significant with approximately nine million men and seven million women in the workforce.³

The COVID-19 pandemic had a major impact on women's employment, resulting in female participation in the workforce dropping to 55% for the first time since the mid-1980s (Figure 1). Within the first two months of the pandemic, 1.5 million women lost their jobs across the country.⁴ Furthermore, many mothers became primary caregivers due to the closures of schools and childcare services.⁵



Considering such impacts, some policy influencers, including the Lawrence National Centre for Policy and Management, fervently advocated for a national policy on childcare to support families and reinvigorate women's participation in the labour force. By March 2022, all provinces forged agreements with the federal government to bring costs associated with childcare to \$10 per day. The economy also rebounded, and by January 2023, the female workforce participation rate amongst those within the 25 to 54 age group reached 85.6% — the highest level in history.⁶⁻⁷

However, the gap in employment among a substantial number of women during the pandemic has raised concerns over skill erosion and missing valuable work experience, especially among younger women. This can further perpetuate a cycle of women having weaker career development and lower wages as compared to their male counterparts.

Additionally, while many women saw a pay increase in the post-pandemic period, on average, women still earned substantially less than men in the same industry. A woman in Canada received 89 cents for every dollar a man-made.⁸ However, in certain industries, such as finance, insurance, real estate, and rental leasing, women earn even less compared to men.⁹

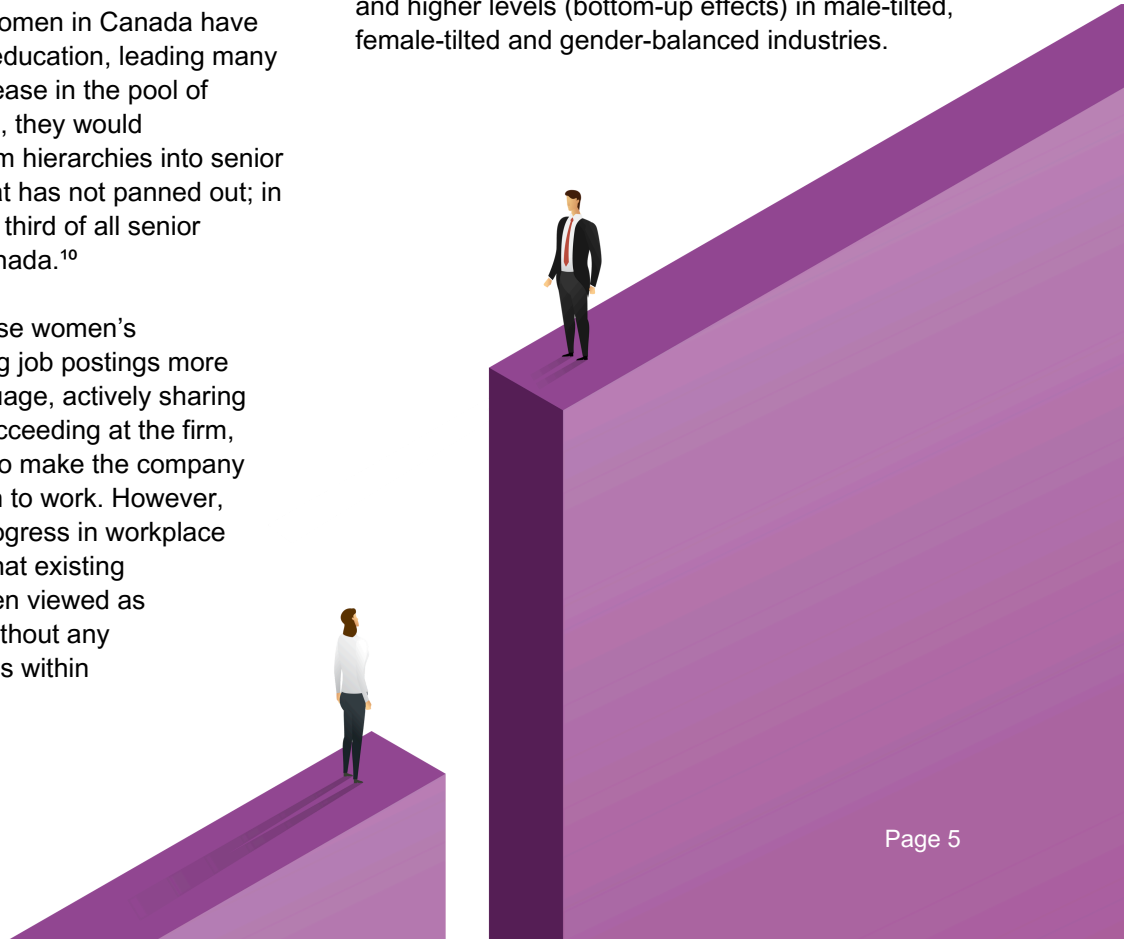
Over the last few decades, women in Canada have increasingly pursued higher education, leading many to believe that due to an increase in the pool of women with higher education, they would automatically flow through firm hierarchies into senior leadership. Unfortunately, that has not panned out; in fact, women only represent a third of all senior management positions in Canada.¹⁰

Common strategies to increase women's representation include making job postings more inclusive through better language, actively sharing stories of women who are succeeding at the firm, and implementing initiatives to make the company an attractive place for women to work. However, in the absence of tangible progress in workplace gender equity, critics argue that existing recruiting strategies have been viewed as primarily window dressing, without any lasting organizational changes within firms' workforces.

After COVID-19, many corporations have made substantial commitments and put additional resources toward hiring more women in their organizations.

The continuous struggle for organizations in increasing women's representation, however, indicates other factors are likely inhibiting such initiatives. Organizations are social structures, and bringing change will require an understanding of existing worker-gender composition and the effect of interventions at different levels of hierarchy.

This is exactly what Professor Konrad and her collaborators, Muhammad Ali (Queensland University of Technology) and Mirit Grabarski (Lakehead University, Ivey PhD), set out to explore in their paper, *"Trickle-down and bottom-up effects of women's representation in the context of industry gender composition: A panel data investigation."* Their work, hereafter Ali et al. (2021), provides new insights into how changing gender composition of an organization is associated with changing women representation at lower levels (trickle-down effects) and higher levels (bottom-up effects) in male-tilted, female-tilted and gender-balanced industries.



Women in Canada's Workforce

Some Key Facts and Observations

1.5 million



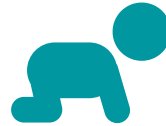
Within the first two months of the Covid-19 pandemic, a staggering 1.5 million women **lost** their jobs.

85.6%



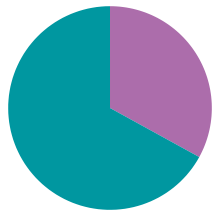
By January 2023, labour participation rate by women aged 25-54 reaches the **highest level ever**.

\$10/day



But...as the economy rebounds, and policy for **\$10/day childcare** is implemented nationwide, women return to the workforce.

Yet...Canada is far from reaching workforce parity.



Women only represent **a third** of all senior management positions within Canada, even when **55% of women vs. 46% of men** have a post-secondary degree.¹¹

7 million

Seven million women were employed in Canada compared to nine million men in 2022.

\$0.89

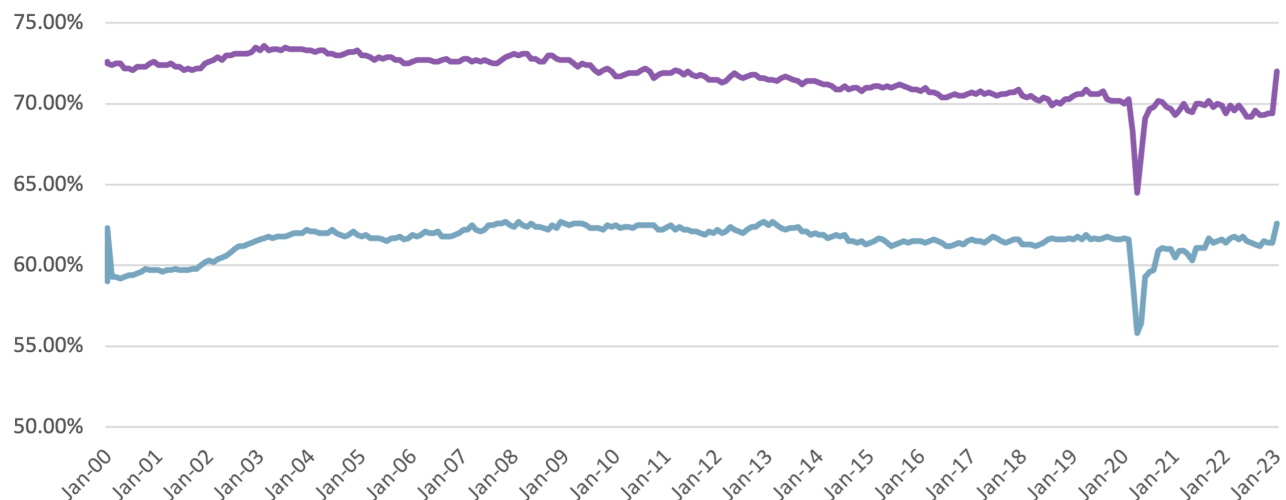


Canadian women earn **89 cents** to every dollar a man makes.

FIGURE 1:
Labour Participation Rate in Canada¹²

Male Female

CANADIAN LABOUR FORCE PARTICIPATION 2000-2022





Key Research Findings

Ali et al. (2021) define trickle-down and bottom-up effects as the increase in women's representation at lower levels and higher levels, respectively, through changing an organization's gender composition in other levels. They studied these effects in the context of male-tilted industries (where only 16-39% of the employees are women), female-tilted industries (61-84% are women) and balanced industries (40-60% are women). They examined gender composition at three levels of hierarchy: top management team (TMT), lower through middle management team (MMT), and non-management employees (NMT).

The researchers used organizational-level archival data from Australia ranging from 2010 to 2019, and a panel-data regression analysis to explore trickle-down and bottom-up effects. The panel dataset was comprised of information from for-profit and non-profit organizations of all sizes and represented all 19 industries from the Australian and New Zealand Industrial Classification.

TRICKLE-DOWN EFFECTS

A key finding of the paper is that trickle-down effects are particularly substantial from MMT (middle management team) to NMT (non-management team) in the male-tilted industries.

In these industries, having women managers at MMT for coaching and mentoring is strongly associated with an increase in the number of non-management female employees. This finding is consistent with signaling theory: When women consider working in industries traditionally skewed heavily toward a male workforce, the presence of a company that has female middle managers sends a strong signal that the firm is encouraging women's participation and their progression through the firm. Reporting to and interacting with female managers directly creates a positive impression on women who are considering entering a non-management role with a company.

The researchers find a positive association between women in TMT (top management team) and NMT in male-tilted industries, indicating the value of including women at the top of the organization for attracting female employees. The presence of women in the TMT is relatively visible to the general public and signals to job seekers that the firm supports women's leadership.

Having more women in the TMT was positively associated with an increase in women's presence at the MMT level, but only in female-tilted and gender-balanced industries. In those industries, the presence of women in TMT increased the representation of women in MMT, potentially due to the actions of women in leadership roles to actively increase management roles and representation of women at the company.

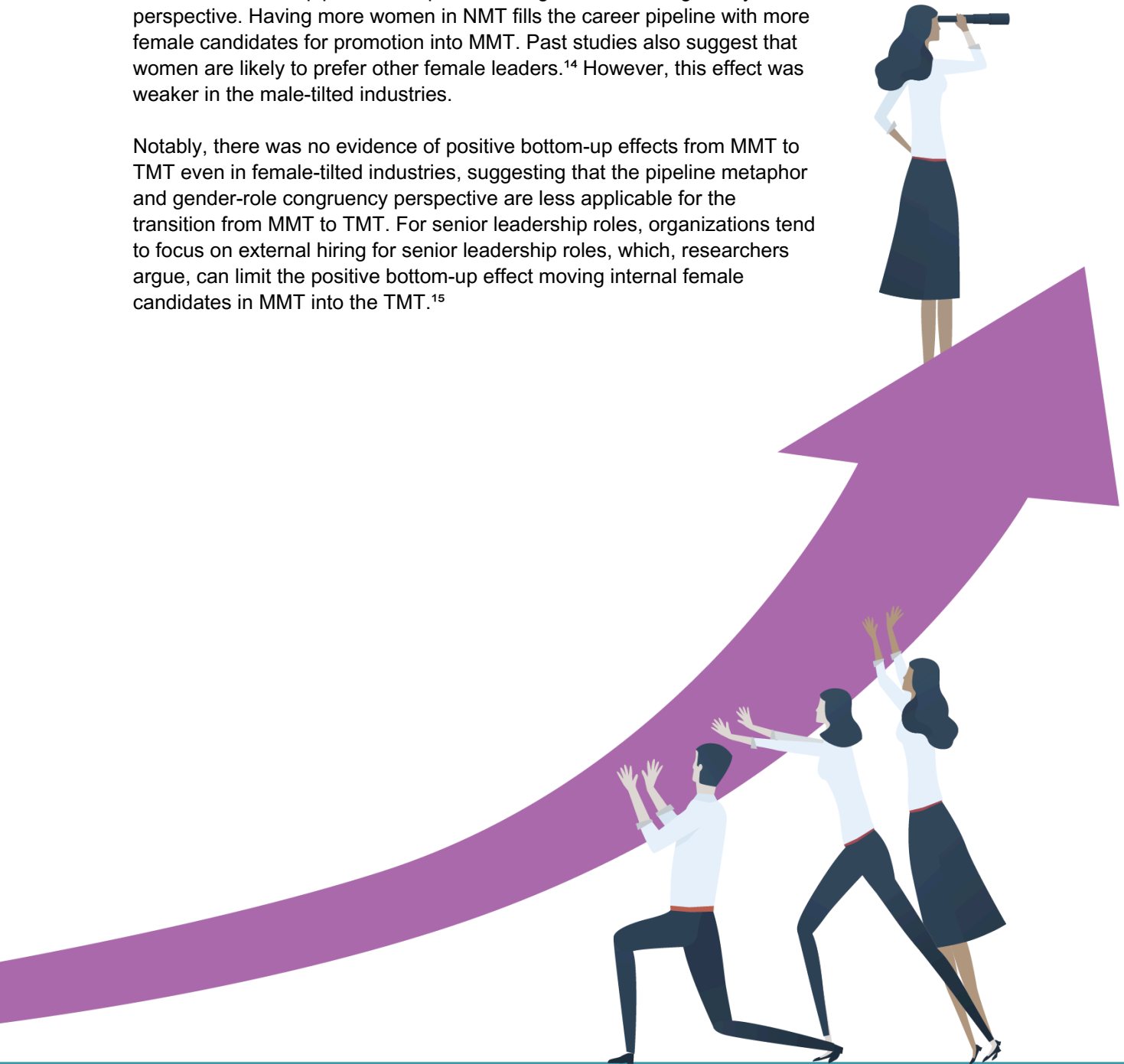
Interestingly, this effect was not seen in male-tilted industries. A number of hypotheses could explain this effect: In male-tilted industries, women in TMT may be concerned about facing potential retaliation if they raised awareness about gender differences, or they may not have company-wide support for making changes to bring more women into MMT or NMT.¹³ Further research is needed to shed insights into the specific reasons behind this finding; but findings from Ali et al. (2021) suggest that hiring a handful of women leaders at the TMT level will unlikely be sufficient to automatically increase the representation of women in lower levels of hierarchy in male-tilted industries.

BOTTOM-UP EFFECTS

Bottom-up effects show how changing an organization's gender composition at lower hierarchical levels can increase women's representation at higher levels.

Ali et al. (2021) find evidence of a positive relationship between women in NMT and MMT in female-tilted industries. This positive bottom-up effect is consistent with the pipeline metaphor and/or gender-role congruency perspective. Having more women in NMT fills the career pipeline with more female candidates for promotion into MMT. Past studies also suggest that women are likely to prefer other female leaders.¹⁴ However, this effect was weaker in the male-tilted industries.

Notably, there was no evidence of positive bottom-up effects from MMT to TMT even in female-tilted industries, suggesting that the pipeline metaphor and gender-role congruency perspective are less applicable for the transition from MMT to TMT. For senior leadership roles, organizations tend to focus on external hiring for senior leadership roles, which, researchers argue, can limit the positive bottom-up effect moving internal female candidates in MMT into the TMT.¹⁵



Key Policy Implications

While the pandemic exacerbated gaps across the labour force, it has also provided an opportunity for organizations to shift general operating practices, including hiring strategies and methods of work.

New policies, such as remote work and more broadly, affordable childcare, have provided opportunities for women to consider new career paths or take on senior roles within existing organizations.

However, while some firms have made strides in enhancing gender parity across their work forces, more can be done to encourage a robust strategy for hiring and elevating women through management roles within the organization. Additionally, many firms tend to address equity concerns at the top level through executive changes and board membership makeup, hoping that such changes will automatically lead to greater gender diversity in the lower levels. However, research by Ali et al. (2021) indicates that is not necessarily the case. Their findings call for organizations and policymakers to re-examine workforce gender strategy, by considering existing industry gender composition (male-tilted/female-tilted/balanced), and potential trickle-down or bottom-up effects that the researchers document.



INCREASING FEMALE WORKERS in MMT in male-tilted industries

According to Ali et al. (2021), increasing the number of female managers in MMT (lower through mid-management team) is a critical component to changing workforce gender composition especially in male-tilted industries. By hiring more women in middle management, firms can send a strong signal that they value women managers, who can advise female candidates in NMT (non-management team) roles with the potential to progress through management roles in future.

The limited effects of TMT (top management team) women in changing gender composition in MMT or NMT in male-tilted industries also provide some additional policy insights. Compared to top management leaders, female managers at the MMT level spend more time with non-management employees to train and influence female progression through NMT and MMT. These relationships are impactful when women are a minority within the industry and can lead to positive changes. Thus, organizations in male-tilted industries that are only able to tap female C-suite or board members are unlikely to make meaningful impact on their workforce gender composition. In the eyes of external stakeholders, such strategy could only represent window dressing, without having any defining impact on the firm's gender composition.

Firms in male-tilted industries prioritizing gender diversity should put a particular emphasis on increasing female representation at MMT levels so that they can create environments for mentoring and supporting women at the NMT level, encouraging strong trickle-down effects. It is the employees at NMTs and MMTs that contribute to the largest share of workforce within an organization.

Simply put, firms can increase female MMT employees in two different ways. First, by focusing on hiring more women at the non-management level, they can create a pipeline to transition those employees to the lower- to mid-level management roles. Second, firms can focus on hiring women directly into middle management positions, increasing female representation at the MMT level.



However, the success of hiring at the NMT and MMT levels depend on each other. On one hand, for more women to progress to MMT from NMT, there needs to be a sufficient group of experienced female employees in NMT to create a pipeline leading to the next management level. On the other hand, if there are no or few women at the MMT level, coaching and mentoring at the non-management level could be lacking, impeding growth of female representation at the NMT level.

Given these circumstances, firms in male-tilted industries should consider:

1 Building a rotational management program to hire female candidates into MMTs

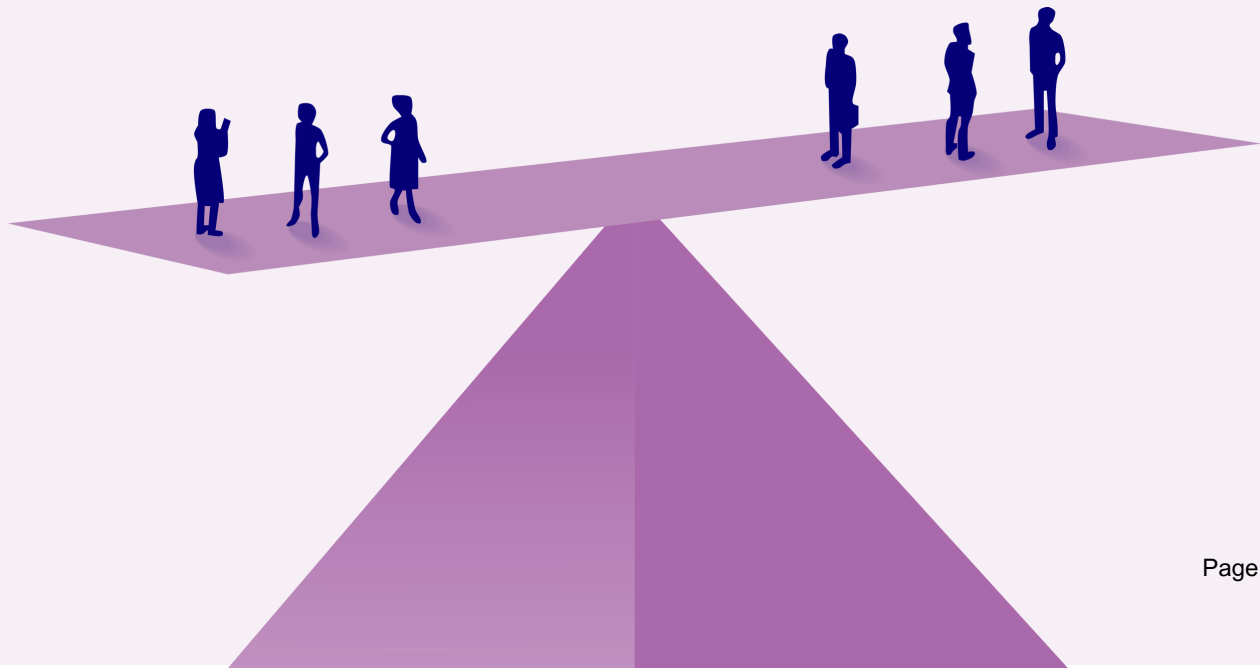
In a male-tilted industry, a key challenge in directly hiring women for MMT positions is that the pool of women with required industry know-how is likely to be limited. This motivates the creation of rotational management trainee programs for women. Rotational management trainee programs have been growing in popularity in some industries, such as finance, where women were historically underrepresented.

Rotational programs, typically between 12-24 months, allow trainees to work in different functions and learn about various parts of the company and industry, while also helping them hone their management skills. The advantage of having such a rotational management program is that firms in male-tilted industries do not have to rely solely on the few women who work in NMT level to progress within their organizations; they can also hire female candidates with leadership potential from other industries and put them in the rotational program to prepare for their MMT roles once they finish their placements.

2 Building a pipeline from NMT to MMT

Building a pipeline from non-management to middle management should also be a priority. Ali et al. (2021) showed that there is a limited bottom-up effect from NMT to MMT, suggesting that firms must pay additional attention to the NMT level and identify strong female candidates to mentor for the next leadership level. Leadership within the organization must ensure that all qualified NMTs are made aware of opportunities and are considered for—and eventually promoted into—MMT, irrespective of how limited the number of female NMT employees are.

Neither strategy can be successful without the support and commitment of leaders, both male and female, across all hierarchies within a firm.



Inviting male managers from the firm to participate in different initiatives alongside women managers and NMT employees can lead to greater understanding and strong benefits of having a more balanced workforce. In a male-tilted industries, having male leaders supporting female employees in their professional development will be key to the success of these initiatives.

Finally, while the above strategies are focused on women at the MMT level, it is important that hiring women at the TMT level should not be overlooked. It is likely that the trickle-down effect from TMT to other levels will be stronger once the organizational strategies and structures are in place to support the recruitment of women across the hierarchy. For both women and men in TMT positions, increasing the scope of their role to mentor female MMTs could also be beneficial. Men have proven to be positive sponsors for women at the middle management level and should be actively involved in the management progression of women at their firms.

Once these programs are in place, firms in the male-tilted industries must effectively communicate their development programs and share success stories to effectively attract, hire and retain more women. Additionally, return to work programs can be effective in encouraging women to re-enter the workforce after a career break.

Research shows that women benefit from both male and female TMT mentors. Because in male-tilted industries more men tend to be in powerful positions, they can be highly effective sponsors for middle-management women.

FIGURE 2:
Key Challenges and Recommended Policy Solutions

CHALLENGES IN MALE-TILTED INDUSTRY

TMT: Adding women at the TMT level does not have as significant of an impact on changing gender composition as many firms believe.

MMT: Having more women at the MMT level is associated with significant trickle-down effects and can shift workforce gender composition.

NMT: Attracting women to MMT positions in a male-tilted industry is challenging when there is a limited pool of women with the required industry specific skills.

Within a male-tilted industry, all the policy solutions will build upon one another, as the success of each management level is intertwined. The most significant solution is hiring more women at the MMT level, as it can create a pipeline to TMT leadership, and women at MMT can create positive mentorship relationships with NMT employees, showing the company's commitment to gender parity.

POLICY SOLUTION

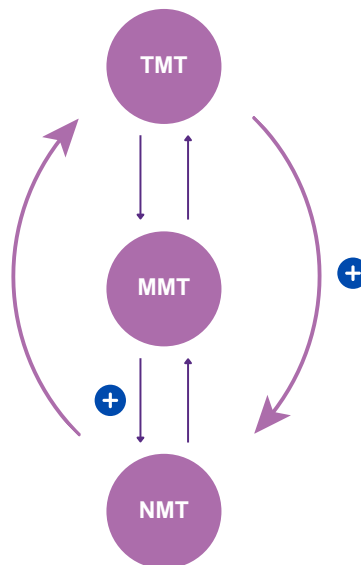
TMT: Hire women into a rotational management program and place them in MMT and hire more women into NMT to create a pipeline to MMT.

MMT: Female MMT managers to mentor and attract NMT employees and encourage their progression throughout the firm. MMTs should be prepared and encouraged for the TMT level successions, through leadership sessions and mentorship.

NMT: Hiring women in TMT should not be overlooked; support from male and female TMT leaders is essential to change existing organizational gender-tilt.

LEGEND

- +** = evidence of trickle-down/bottom-up effect
- Downward arrow** = trickle-down effect
- Upward arrow** = bottom-up effect



INCREASING FEMALE MEMBERS in TMT in male-tilted industries

According to Ali et al. (2021), there is no discernable bottom-up effect from the MMT level to TMT in female-tilted, male-tilted or balanced industries. This finding provides empirical grounds for reconsidering existing firm policies for moving women into TMT positions, regardless of the industry's workforce gender composition.

In female-tilted and balanced industries, there is a significant "pipeline" of women who could earn TMT positions, and firms must reconsider how career progression happens for their female managers. Firms need to create opportunities for female leadership training to help women at MMT develop and hone skills needed at the TMT level. They must also ensure that there is a fair process for women within the firm to be considered for higher leadership positions.

A similar approach can be taken in male-tilted industries, as the issue of ensuring that promotion of women from MMT to TMT becomes more salient over time with an increase in women at the MMT level.

The Role of the Government

Increased female representation in the workforce and in leadership positions has reverberating impacts on society, as well as the public service. Federal and regional governments can play an integral role in pushing the agenda of improving gender parity across the country.

A key mandate of Women and Gender Equality Canada (WAGE) is to support Canadian achievement of gender equality, often by sharing research and policy expertise with organizations that have levers to address gender equality issues. WAGE uses an analytical tool called Gender-Based Analysis Plus (GBA Plus) to develop responsive and inclusive policies and programs. Employment and Social Development Canada also promotes an inclusive labour market and releases a series of relevant policies.

Both government departments can play a key role in creating a series of best practices by incorporating the research findings and the policy implications outlined in this brief. The gender-inclusive policies espoused from government agencies must consider and incorporate the lessons on heterogeneity of industries (i.e., female-tilted, male-tilted, and balanced) and potential impacts of trickle-down and bottom-up effects as documented in this brief.

Furthermore, policy should also target addressing common misconceptions about hiring women in the workplace. Oftentimes, it is held that recruiting women into top leadership positions will effectively solve the issue of gender composition within an organization. This is not true, and as shown in the evidence, proper strategies must be in place to increase women's representation at all hierarchical levels. This must be communicated by the government within their best practices to shift the narrative.

Firms struggling to implement such policy can seek out support from organizations such as the Canadian Federation of Business and Professional Women, Catalyst, Canadian Women's Foundation, and the Diversity Institute.



Conclusion

Building on the research work of Professor Konrad and her collaborators, this policy brief argues that organizations should re-examine their existing policy on gender parity within the workforce. It outlines several key findings on trickle-down and bottom-up effects and explores how insights from this research can be leveraged to enhance women's representation across organizations in male-tilted industries. In particular, the brief identifies three areas of policy development: Hiring more women within MMT, encouraging the internal promotion of women from MMT to TMT, and identifying the role of governments to disseminate best practices and drive action for greater impact.

With a significant labour market participation gap persisting between men and women, the challenge of increasing gender parity in the workforce remains a pressing issue. As Canada progresses on this front, a future area for potential exploration concerns examining ways in which male representation can be enhanced within female-tilted industries. Some preliminary research suggests that there is significant social stigma tied to many roles in such industries, in particular, those roles are socially deemed unsuitable for men.¹⁶ Systematic research is needed to understand how different jobs are viewed and affect recruitment, insights from which can yield potential policy drivers to address this issue.

In today's context, shattering the glass ceiling is not something only women have to work toward, it is a collective effort by every stakeholder concerned, one of the most important ones being firms themselves.



References

¹ Ali, M.; Grabarski, M.; Konrad, A.M., 2021, "Trickle-down and bottom-up effects of women's representation in the context of industry gender composition: A panel data investigation." *Human Resource Management*, August 60(4): 559-580.

² <https://www.statista.com/statistics/464161/number-of-full-time-workers-in-canada-by-gender>

³ <https://www.statista.com/statistics/464161/number-of-full-time-workers-in-canada-by-gender>

⁴ <https://thoughtleadership.rbc.com/pandemic-threatens-decades-of-womens-labour-force-gains/>

⁵ <https://thoughtleadership.rbc.com/pandemic-threatens-decades-of-womens-labour-force-gains/>

⁶ <https://thoughtleadership.rbc.com/proof-point-canadian-women-drove-a-pandemic-shift-into-higher-paying-jobs/>

⁷ <https://lmic-cimt.ca/women-in-recovery-covid-19-and-womens-labour-market-participation/>

⁸ <https://canadianwomen.org/the-facts/the-gender-pay-gap/>

⁹ <https://thoughtleadership.rbc.com/proof-point-canadian-women-drove-a-pandemic-shift-into-higher-paying-jobs/>

¹⁰ <https://thoughtleadership.rbc.com/equal-measures-advancing-canadas-working-women-in-a-post-pandemic-economy/>

¹¹ <https://www.oecd.org/canada/Closing%20The%20Gender%20Gap%20-%20Canada%20FINAL.pdf>

¹² <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028703>

¹³ Duguid, M. (2011). Female tokens in high-prestige work groups: Catalysts or inhibitors of group diversification? *Organizational Behavior and Human Decision Processes*, 116(1), 104–115.

¹⁴ Powell, G. N., & Butterfield, D. A. (2015). The preference to work for a man or a woman: A matter of sex and gender? *Journal of Vocational Behavior*, 86, 28–37.

¹⁵ Bidwell, M., & Keller, J. R. (2014). Within or without? How firms combine internal and external labor markets to fill jobs. *Academy of Management Journal*, 57(4), 1035–1055.

¹⁶ <https://blogs.lse.ac.uk/businessreview/2019/01/29/the-flip-side-of-segregation-men-in-typically-female-jobs>



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