

## The Importance of Gender-Responsive Standards for Trade Policy

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### ABSTRACT

For decades, standards were perceived to be gender-neutral. However, recent research by the Standards Council of Canada has challenged that assumption. The research found that standardization was associated with a reduction in unintentional fatalities for men, but not for women. The research aligns with sector-specific research and anecdotal evidence that standards are more effective at protecting men compared to women. This is significant because standards form the building blocks of how products, processes, and services are designed and made to be interoperable. Therefore, standards, and the products and services that are standardized according to them, are largely designed by men, for men. This chapter aims to explore the interconnected nature of gender, standards, and trade to argue that the lack of gender-responsiveness of standards has a negative impact on the safety and well-being of women. Furthermore, the link between standardization and trade will highlight the importance of improving the gender-responsiveness of standards given their role in the proliferation of goods, and the different initiatives that are currently underway.

### 8.1 INTRODUCTION

Because I am a woman, I am at a greater risk of being seriously injured or killed if I am involved in a car accident.<sup>1</sup> Because I am a woman, my personal

<sup>1</sup> Jason Forman, Gerald S. Poplin, C. Greg Shaw, Timothy L. McMurphy, Kristin Schmidt, Joseph Ash, and Cecilia Sunnevang, 'Automobile Injury Trends in the Contemporary Fleet: Belted Occupants in Frontal Collisions' (2019) 20(6) *Traffic Injury Prevention* 607–612.

protective equipment (PPE) does not protect me as well as it protects my husband, brother, father, or son.<sup>2</sup> Because I am a woman, voice-recognition software has difficulty understanding me.<sup>3</sup>

These are just a few of the consequences women face because they live in a world built for men. Women are consistently and persistently underrepresented in the data that is used to design and engineer our world,<sup>4</sup> and this includes the development of standards for crash test dummies, personal protective equipment, and artificial intelligence, among other things. This results in inequitable outcomes for women relative to men.

The persistence of gender gaps in all aspects of society indicates that the following does bear repeating:

Women and girls account for half the world's population and therefore *represent half of its potential*. Gender equality is central to all areas of a healthy society, from reducing poverty to promoting health, education, welfare, and well-being of girls and boys. Reducing the gender gap promotes economic development. Societies are unable to unlock their potential and meet the challenges of rapid economic and technological change without harnessing the skills and ideas of their *entire population*.<sup>5</sup>

Consequently, closing all forms of gender gaps, including the gender gap in standardization, needs to be a priority. The United Nations Economic Commission for Europe (UNECE) Working Party on Regulatory Cooperation and Standardization Policies (WP.6) has been a leader in bringing attention to the gender gap in standardization and taking action to address it. In 2016, members approved the development of a 'roadmap and

<sup>2</sup> See for example Centers for Disease Control and Prevention, *Characteristics of Health Care Personnel with COVID-19 – United States*, 12 February to 9 April 2020 (2020) 69(15) Morbidity and Mortality Weekly Report 477–481; Olga Algayerova and Alia El-Yassir, 'Personal Protective Equipment Standards Must Respond to Women's Needs to Ensure the Safety of All Frontline Workers during the COVID-19 Pandemic' (UN Women 2 May 2020) <<https://unece.org/general-unece/news/personal-protective-equipment-standards-must-respond-womens-needs-ensure-safety>> accessed 8 May 2022.

<sup>3</sup> Rachel Tatman, 'Gender and Dialect Bias in YouTube's Automatic Captions' (2017) Proceedings of the First ACL Workshop on Ethics in Natural Language Processing, Valencia, Spain. Association for Computational Linguistics <<https://aclanthology.org/W17-1606.pdf>> accessed 25 May 2023.

<sup>4</sup> Kirsten M. A. Madeira-Revell, Katie J. Parnell, Joy Richardson, Kiome A. Pope, Daniel T. Fay Siobhan E. Merriman, and Katherine L. Plant, 'How Can We Close the Gender Data Gap in Transportation Research?' (2021) 32(1) *Ergonomics SA: Journal of the Ergonomics Society of South Africa* 19–26.

<sup>5</sup> World Bank and WTO, 'Women and Trade: The Role of Trade in Promoting Gender Equality' (2020) <[www.wto.org/english/res\\_e/booksp\\_e/women\\_trade\\_pub2807\\_e.pdf](http://www.wto.org/english/res_e/booksp_e/women_trade_pub2807_e.pdf)> accessed 8 May 2022 (emphasis added).

recommendation on mainstreaming gender into standards and regulatory policies at national and international levels'.<sup>6</sup> Subsequently, the Gender Responsive Standards Initiative began with the acknowledgement that:

- (a) Prevailing gender norms present barriers to women's participation in the development of standards;
- (b) [The d]ominance of male representation in standard-setting affects the way that standards are produced, with insufficient consideration of women specificities in the deliverables; and
- (c) Standards are generally presumed to be gender-neutral and are developed without recognizing the differences between male and female standard users.<sup>7</sup>

In 2018, the UNECE Declaration for Gender Responsive Standards and Standards Development was approved.<sup>8</sup> The Declaration is significant because it was the first initiative that targeted standards development organizations and national standards bodies, providing them with tangible and concrete actions that they can undertake to address the gender gap. The Declaration has been an effective catalyst for getting gender on the agenda of national standards bodies and raising awareness amongst standards organizations of the importance of considering gender in standardization. The Declaration was open for signature in May 2019 during an international signing event and as of February 2023, there were eighty-one signatories who committed to take action to address the gender gap in standards development.

The gender gap in standardization has widespread consequences, as it can introduce biases wherever those standards are applied. As such, the usage of standards in Free Trade Agreements (FTAs) and trade policies can exacerbate inequitable outcomes for men and women. In effect, the absence of gender-responsive standards has resulted in the proliferation of goods that are not designed to keep women as safe as men. Trade policy can be leveraged as an effective tool to improve gender-responsiveness in standardization and advance women's economic empowerment.

To understand the relationship between gender, standardization, and trade policy, Section 8.2 will begin by providing an overview of the role of

<sup>6</sup> Steering Committee on Trade Capacity and Standards, 'Working Party on Regulatory Cooperation and Standardization Policies, Gender Mainstreaming in Standards', ECE/SCTCS/WP.6/2016/3 (2016) 2.

<sup>7</sup> *Ibid* 2–3.

<sup>8</sup> See UNECE, 'Gender Responsive Standards Initiative' <<https://unece.org/gender-responsive-standards-initiative>> accessed 8 May 2022.

standardization in trade agreements. Next, Section 8.3 will elaborate on the gender gap in standardization and why it is dangerous. Finally, Section 8.4 will discuss how addressing the gender gap in standardization can lead to more inclusive trade. Section 8.5 concludes.

## 8.2 STANDARDS IN TRADE AGREEMENTS

While FTAs help to foster the movement of goods and services across borders, the chapters on standards, technical regulations, and conformity assessment procedures are a vital, though perhaps less well-understood, part of trade agreements. In FTAs, obligations on standards and conformity assessment are found in Technical Barriers to Trade (TBT) chapters. To varying degrees, these chapters incorporate or reference portions of the World Trade Organization (WTO) TBT Agreement.<sup>9</sup> According to the Government of New Zealand, TBT chapters ‘aim to reduce the impact of TBTs on global trade and create a fair, facilitative and sustainable trading environment’.<sup>10</sup> These chapters focus on the structures and practices that reinforce the transparency and openness of the systems that underpin the development, adoption, and use of standards, technical regulations, and conformity assessment, to ultimately improve the predictability of global markets and reduce the occurrence of technical requirements causing unnecessary barriers to trade.

FTAs have been a powerful tool to reduce tariffs to support the flow of goods and services between countries. However, as tariffs have reduced, there has been an increased focus on non-tariff measures (NTMs) and their impact on free trade. The Economic and Social Commission for Asia and the Pacific and the UN Conference on Trade and Development (UNCTAD) have estimated that NTMs cost twice as much as ordinary customs tariffs.<sup>11</sup> Research from the US government has shown that up to 93 per cent of global trade is impacted by technical regulations, which can include

<sup>9</sup> Agreement on Subsidies and Countervailing Measures, 15 April 1994, LT/UR/A-1A/10. See for example the TBT chapter of the United States–Mexico–Canada Agreement (USMCA) (enforced on 1 July 2020), TBT chapter in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership, and the TBT chapter in the EU–Mercosur Trade Agreement, Agreement in Principle, 1 July 2019.

<sup>10</sup> Government of New Zealand, ‘Technical Barriers to Trade (TBT) Strategy’ (2018) 4. See also Caroline Lesser, ‘Do Bilateral and Regional Approaches for Reducing Technical Barriers to Trade Converge towards the Multilateral Trading System?’ (2007) OECD Trade Policy Paper No. 58 <<https://doi.org/10.1787/051058723767>> accessed 8 May 2022.

<sup>11</sup> UN ESCAP, ‘The Rise of Non-Tariff Measures’ (2019) <[www.unescap.org/sites/default/d8files/aptir2019\\_introduction.pdf](http://www.unescap.org/sites/default/d8files/aptir2019_introduction.pdf)> accessed 8 May 2022.

standards.<sup>12</sup> Given the impact that NTMs can have on trade, it is not surprising that increasingly progressive trade agreements are bolstering their technical barriers to trade chapters. For example, the Canada–European Union Comprehensive and Economic Trade Agreement<sup>13</sup> (CETA) includes a unique Protocol on the mutual acceptance of the results of conformity assessment,<sup>14</sup> which is far more ambitious in reducing NTMs than any other FTA Canada currently has in place. The Protocol attempts to deal with the long-standing issue of in-country conformity assessment requirements by allowing Canadian manufacturers to have their products certified to the EU requirements in Canada, and vice versa.

### 8.2.1 What Are Standards?

Standards are an important regulatory tool that have significant trade implications. Generally speaking, standards are voluntary documents that outline specifications, characteristics, or production methods for products, processes, or services. They are written by a group of people, typically volunteers, representing relevant stakeholder categories, who arrive at the content of the standard through consensus.<sup>15</sup> Standards are often described as invisible infrastructure.<sup>16</sup> They permeate everyday life, and their role is influential in shaping the design of social life and public infrastructure. And yet they often go unnoticed. Everything from your car to your mobile phone, to your

<sup>12</sup> Jeff Okun-Kozłowski, 'Standards and Regulations: Measuring the Link to Goods Trade' (2016) US Department of Commerce, Office of Standards and Investment Policy Paper <[https://legacy.trade.gov/td/osip/documents/osip\\_standards\\_trade\\_full\\_paper.pdf](https://legacy.trade.gov/td/osip/documents/osip_standards_trade_full_paper.pdf)> accessed 8 May 2022.

<sup>13</sup> EU–Canada Comprehensive Economic and Trade Agreement (CETA) (enforced since 21 September 2017).

<sup>14</sup> See Text of the Comprehensive Economic and Trade Agreement – Protocol on the mutual acceptance of the results of conformity assessment (2017) <[www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/ceta-aecg/text-texte/P2.aspx?lang=eng](http://www.international.gc.ca/trade-commerce/trade-agreements-accords-commerciaux/agr-acc/ceta-aecg/text-texte/P2.aspx?lang=eng)> accessed 8 May 2022.

<sup>15</sup> The process for developing standards varies from country to country, but for more information on how standards are developed in Canada, see Standards Council of Canada, 'Requirements & Guidance – Accreditation of Standards Development Organizations' (2019) <[www.scc.ca/en/about-scc/publications/requirements-and-procedures-accreditation/requirements-guidance-accreditation-standards-development-organizations](http://www.scc.ca/en/about-scc/publications/requirements-and-procedures-accreditation/requirements-guidance-accreditation-standards-development-organizations)> accessed 8 May 2022. This document provides the detailed requirements for standards development organizations to develop voluntary standards in Canada under the Standards Council of Canada's accreditation.

<sup>16</sup> See for example Government of Canada, 'International Standards: Targeted Regulatory Review – Regulatory Roadmap' (2021), <<https://tc.canada.ca/en/corporate-services/acts-regulations/international-standards-targeted-regulatory-review-regulatory-roadmap>> accessed 22 September 2022.

toothbrush is based on standards. Because of their ubiquity, it is essential to understand the myriad ways in which they can alleviate or exacerbate the gender gap in the products, processes, and services that we use as well as those we import and export.

Standards play an important role in international trade for a number of reasons. For the purposes of this chapter, three areas are noteworthy:

- The first, and perhaps the most basic one, is that standards allow goods and services to be produced and reproduced in a consistent and repeatable manner. For producers, this can improve efficiency while also ensuring the quality of products. For consumers, this predictability increases user confidence and expectations.
- Second, standards are important for interoperability. Interoperability is the ability for two or more products or systems to interpret and exchange information. Interoperability allows trains to travel across national borders where tracks have been standardized. Geographic differences in standard requirements can result in a lack of interoperability; for example, travellers are often reliant on adapters because voltage requirements tend to be regionally standardized. A lack of interoperability is also seen with the need for unique cords to charge different electronic devices because their ports are different. Indeed, this has come to be such a problematic issue that the European Commission is proposing to revise the Radio Equipment Directive to require all handheld devices to standardize to one common charging port.<sup>17</sup>
- The third reason is the health and safety of humans, animals, and the environment. A key component of standards is ensuring that products are safe for use. Standards can specify exposure limits for chemicals, safety requirements for machinery, the requirements for personal protective equipment, and so forth. The protection of health and safety, and the environment, are considered legitimate objectives for regulations by the TBT Agreement, so long as the measures are not more trade-restrictive than necessary.<sup>18</sup> For example, construction standards will differ due to climate; building on permafrost will require different specifications than building in a desert.

<sup>17</sup> European Commission, 'Pulling the Plug on Consumer Frustration and e-Waste: Commission Proposes a Common Charger for Electronic Devices' (23 September 2021) <[https://ec.europa.eu/commission/presscorner/detail/en/IP\\_21\\_4613](https://ec.europa.eu/commission/presscorner/detail/en/IP_21_4613)> accessed 8 May 2022.

<sup>18</sup> Agreement on Technical Barriers to Trade, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 UNTS 120, Art. 2.2 (TBT Agreement).

For these reasons, among others, governments have recognized that standards are effective regulatory tools that can be a cost-effective way of leveraging prevailing knowledge and expertise.

In the context of the WTO TBT Agreement, standards and technical regulations are distinguished between voluntary and mandatory. Specifically, a technical regulation is a '[d]ocument which lays down product characteristics or their related processes and production methods, including the applicable administrative provisions, with which *compliance is mandatory*. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method'.<sup>19</sup>

In Canada, as in many other jurisdictions, standards are voluntary when they are developed. However, voluntary standards may become part of a technical regulation when incorporated into regulations and therefore take on the force of law. For example, in Canada alone, there are over 1,500 references to standards in Federal regulations and almost 5,000 references in Provincial and Territorial regulations.<sup>20</sup> Therefore, for the purposes of this chapter, both standards and technical regulations are relevant for the discussion at hand since standards may come to form the basis, or part of, technical regulations.

Within the TBT Agreement, there is preference for the use of international rather than domestic standards in technical regulations. Specifically, Article 2.4 states:

[w]here technical regulations are required and *relevant international standards exist* or their completion is imminent, *Members shall use them*, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or inappropriate means for the fulfilment of the legitimate objectives pursued.<sup>21</sup>

Moreover, members are encouraged to participate in the development of international standards so that they reflect the needs and realities of their domestic economies and will therefore be more easily integrated into domestic technical regulations or standards. The reason for this is that broad use of international standards allows for more efficient trade. According to research conducted by the US National Research Council, '[w]hen different countries

<sup>19</sup> TBT Agreement, Annex 1 (emphasis added).

<sup>20</sup> Internal data of the Standards Council of Canada: Diane Liao, 'Annual Facts & Figures' (Standards Council of Canada 2022).

<sup>21</sup> TBT Agreement, Art. 2.4 (emphasis added).

or regions have different technical standards for essentially the same product, manufacturers selling into multiple markets are forced to produce multiple versions of the same product. For example, automobile production lines must be switched between right-hand and left-hand drive cars for the United Kingdom and continental Europe'.<sup>22</sup> In this regard, it is important to note the influential role of international standards for trade.

Finally, because standards are so influential in international trade, and ubiquitous in our daily lives, the content of standards really matters. According to the WTO TBT Agreement, standards should contain requirements that are performance based. Specifically, Article 2.8 states, '[w]herever appropriate, Members *shall specify technical regulations based on product requirements in terms of performance* rather than design or descriptive characteristics'.<sup>23</sup> The focus on performance is meant to help address the trade dimension of standards while attempting to counteract potential bias in terms of provenance. This element is particularly relevant for the topic at hand because it fails to explicitly address one key question: performance for whom? As this chapter will explore further in Section 8.3, the male perspective has long been held as universal. In fact, according to Criado-Perez, 'we rely on data from studies done on men as if they apply to women. Specifically, Caucasian men aged 25–30, who weigh 70kg. This is "Reference Man"'.<sup>24</sup> Developing standards for reference man has implications for women, as well as for those men who are outside the norm for 'reference man'.

### 8.2.2 What Is Conformity Assessment?

Any discussion of standards is not complete without addressing the role of conformity assessment. As noted, voluntary standards can be useful in situations where risks to health and safety, the environment, and national security are lower. However, typically, if a product, process, or service requires a standard by law,<sup>25</sup> then conformity assessment will be used to demonstrate

<sup>22</sup> National Research Council, *Standards, Conformity Assessment and Trade: Into the 21st Century* (National Academies Press 1995) 106.

<sup>23</sup> TBT Agreement, Art. 2.8 (emphasis added).

<sup>24</sup> Caroline Criado-Perez, *Invisible Women: Exposing Data Bias in a World Designed for Men* (Vintage Publishing 2020) 116.

<sup>25</sup> According to the United Nations Conference on Trade and Development (UNCTAD), '[t]he principle [*sic*] difference between a technical regulation and a standard is that compliance with a technical regulation is mandatory, while compliance with a standard is voluntary'. See UNCTAD, 'Dispute Settlement, World Trade Organization, Technical Barriers to Trade' (2003) 9 <[https://unctad.org/system/files/official-document/edmmisc232add22\\_en.pdf](https://unctad.org/system/files/official-document/edmmisc232add22_en.pdf)> accessed 8 May 2022.



compliance with the standard. According to the International Electrotechnical Commission (IEC), conformity assessment is:

[a]ny activity that determines whether a product, system, service and sometimes people fulfil the requirements and characteristics described in a standard or specification. Such requirements can include performance, safety, efficiency, effectiveness, reliability, durability, or environmental impacts such as pollution or noise, for example. Verification is generally done through testing or/and inspection. This may or may not include on-going verification.<sup>26</sup>

In other words, conformity assessment allows for an independent verification that a product or process meets the requirements established by a specific standard. While not all products or services require third-party conformity assessment, as the IEC definition notes, there are times when an independent verification is necessary to ensure they can be safely used. For example, conformity assessment is used to ensure that your vacuum cleaner operates the way it should and that it does not catch fire or electrocute you while you are using it. Conformity assessment is an essential element of the TBT Agreement as it plays an important, and somewhat distinct, role in the movement of goods across borders. Indeed, conformity assessment procedures are directly linked to the efficient functioning of international markets: 'Even when standards in different countries have been harmonized, the free flow of trade is inhibited if products are subjected to redundant testing and certification requirements in multiple export markets.'<sup>27</sup> Depending on the conformity assessment requirements in different markets, exporters may need to ship their goods to the destination market for costly and duplicate testing, or to pay for foreign inspectors to visit domestic production sites in order to obtain the necessary conformity assessment mark.

Conformity assessment requirements can also have implications for economic opportunities. International trade is an important source of economic growth. However, globally, small and medium-sized enterprises (SMEs) are less likely to be involved in international trade.<sup>28</sup> SMEs are less likely to have the resources needed to navigate complex regulatory requirements, which can include conformity assessment requirements. Women-owned businesses are more likely to be SMEs, and in Canada, women-owned SMEs are even less

<sup>26</sup> IEC, 'What Is Conformity Assessment' (2021) <[www.iec.ch/conformity-assessment/what-conformity-assessment](http://www.iec.ch/conformity-assessment/what-conformity-assessment)> access on 8 May 2022.

<sup>27</sup> National Research Council, Standards, Conformity Assessment and Trade.

<sup>28</sup> See OECD, 'Small and Medium-Sized Enterprises and Trade' <[www.oecd.org/trade/topics/small-and-medium-enterprises-and-trade](http://www.oecd.org/trade/topics/small-and-medium-enterprises-and-trade)> accessed 8 May 2022.

likely to export than those owned by men.<sup>29</sup> While conformity assessment is an essential part of the quality infrastructure to safeguard citizens, it can also inadvertently limit the economic advancement of some businesses, including women-owned businesses which often have less capital.<sup>30</sup>

### 8.2.3 *How Can Trade Policy Leverage Standards and Conformity Assessment to Advance More Inclusive Trade?*

Understanding the linkages between gender, standards, conformity assessment, and trade is important because it helps illustrate the significant impact this invisible infrastructure has on our day-to-day lives. Goods are required to meet technical regulations of the market they are entering. Consequently, standards and conformity assessment play an integral role in the movement of goods across borders. Standards dictate the minimum requirements for those goods coming into a country, and conformity assessment procedures explain the process the goods must undergo to demonstrate compliance with those standards. As noted, the characteristics of standards and the necessity of meeting conformity assessment requirements have gender implications. Their usage in FTAs serves to amplify those effects, for good and for bad. Thus, it is essential that the gender impacts of standards, conformity assessment, and trade policy are explicitly considered and addressed.

To that end, in 2017, the Government of Canada signed Canada's first FTA with Chile that included a chapter on trade and gender, which was also the first such agreement for any G20 country.<sup>31</sup> Later that year, Canada joined 117 other WTO members to endorse the Buenos Aires Declaration on Women and Trade.<sup>32</sup> The Declaration seeks to remove barriers to, and foster, women's economic empowerment. Since then, the Canadian government has affirmed that moving forward with including gender and trade chapters in FTAs is a priority.

<sup>29</sup> Government of Canada, 'Majority-Female Owned Exporting SMEs in Canada' (2020) <[www.tradecommissioner.gc.ca/businesswomen-femmesaffaires/2016-MFO\\_SMES-PME\\_EDMF.aspx?lang=eng](http://www.tradecommissioner.gc.ca/businesswomen-femmesaffaires/2016-MFO_SMES-PME_EDMF.aspx?lang=eng)> accessed 8 May 2022.

<sup>30</sup> Claire Leitch, Friederike Welter, and Colette Henry, 'Women Entrepreneurs' Financing Revisited: Taking Stock and Looking Forward: New Perspectives on Women Entrepreneurs and Finance' (2018) 20(2) *Venture Capital* 103–114.

<sup>31</sup> Government of Canada, 'Trade and Gender in Free Trade Agreements: The Canadian Approach' (2021) <[www.international.gc.ca/trade-commerce/gender\\_equality-egalite\\_genres/trade\\_gender\\_fta-ale-commerce\\_genre.aspx?lang=eng](http://www.international.gc.ca/trade-commerce/gender_equality-egalite_genres/trade_gender_fta-ale-commerce_genre.aspx?lang=eng)> accessed 8 May 2022.

<sup>32</sup> WTO, 'Buenos Aires Declaration on Women and Trade Outlines Actions to Empower Women' (2017) <[www.wto.org/english/news\\_e/news17\\_e/mc11\\_12dec17\\_e.htm](http://www.wto.org/english/news_e/news17_e/mc11_12dec17_e.htm)> accessed 8 May 2022.

Although this chapter focuses on the impact of standards on trade and how the lack of gender-responsive standards results in uneven benefits for women and men, it is important to note that trade impacts women disproportionately in other ways. A report from the WTO found that women face higher tariff burdens. The report explains the 'higher burden is the result of higher applied tariffs and greater spending on imported goods by women consumers. In the textile sector, for instance, the tariff burden on women's apparel was USD 2.77 billion higher than on men's clothing, and this gender gap grew about 11 percent in real terms between 2006 and 2016'.<sup>33</sup> In addition to the uneven impact of tariffs is the consideration of the impact of NTMs on women.

As previously discussed, the costs associated with complying with technical regulations, such as the cost of obtaining conformity assessment for goods, are often prohibitive for SMEs. Particularly if the market you are exporting to requires conformity assessment to a different standard or a technical regulation, this might require testing the product more than once. It may even require a complete redesign of the product to meet new or different requirements. The impact of this is significant when considering how they can be compounded: 'Combined with the fact that women are more likely to own and run SMEs than large firms and that they often export and import a smaller amount of goods, this pattern also suggests that NTMs affect women entrepreneurs more severely than men.'<sup>34</sup>

FTAs and trade policy have the potential to improve gender equality by removing some of the trade barriers that make women more economically vulnerable than men. Moreover, their reach can be even further when the gender impacts of technical regulations are considered. Specifically, if we can ensure standards are gender-responsive through their performance requirements, then those products and services are proliferated through trade in a way that keeps everyone safe. However, as we will explain in the next section, the vast majority of standards are not currently gender-responsive, which means that products and services are *not* proliferated through trade in a way that keeps everyone safe.

### 8.3 THE GENDER GAP IN STANDARDIZATION

Standards are powerful tools because they dictate the design, performance, and functionality of a good or a service. Therefore, the expertise of those who develop standards matters, as standards are shaped by the knowledge and

<sup>33</sup> World Bank and WTO, 'Women and Trade' (n 5) 5.

<sup>34</sup> Ibid 88.

experience of those who develop them. While there are often requirements for committees to ensure balanced representation of stakeholder categories, little consideration has historically been given to the personal attributes (e.g., gender) of those who develop standards. The result is that women are significantly underrepresented in standards development. At the International Organization for Standardization (ISO), only about one-third of technical committee members were women in 2020.<sup>35</sup> While you do not need to be a woman to develop a gender-responsive standard, it can be difficult to come up with solutions to problems you have not faced.

The preponderance of men, both historically and currently, participating in the development of standards does not help with androcentrism in standardization. Androcentrism is the tendency to view men as ‘representative’ or ‘default’ and women as ‘niche’.<sup>36</sup> Androcentrism privileges men’s experiences. It also results in research based solely on men being overgeneralized and applied to both men and women.<sup>37</sup> This has had unfortunate consequences. In medical research, medications have been withdrawn from the market because they were not adequately tested on women and, in fact, had serious side effects for women.<sup>38</sup>

The low representation of women in standardization compounds the lack of awareness of the importance of considering gender in standardization. When ISO and IEC surveyed the leadership of their technical committees in 2020 to identify what actions were taken by the committees to consider gender, only 25 per cent of committees said they considered gender in the work of their technical committee.<sup>39</sup> While a quarter of responding technical committees had considered gender, only 13 per cent indicated that sex-specific

<sup>35</sup> Remarks made by Sergio Mujica, ISO Secretary-General at the Standards Accelerator Online Event (14 October 2021) <[www.worldstandardsday.org/contents/posts/events/the-standards-accelerator.html](http://www.worldstandardsday.org/contents/posts/events/the-standards-accelerator.html)> accessed 8 May 2022.

<sup>36</sup> April H. Bailey, Marianne LaFrance, and John F. Dovidio, ‘Is Man the Measure of All Things? A Social Cognitive Account of Androcentrism’ (2019) 23(4) *Personality and Social Psychology Review* 307–331.

<sup>37</sup> Theresa A. Beery, ‘Gender Bias in the Diagnosis and Treatment of Coronary Artery Disease’ (1995) 24(6) *Heart & Lung* 427–435.

<sup>38</sup> Janet Heinrich, ‘Drug Safety: Most Drugs Withdrawn in Recent Years Had Greater Health Risks for Women. A Letter to the Honorable Tom Harkin, the Honorable Olympia J. Snowe, The Honorable Barbara A. Mikulski, United States Senate, the Honorable Henry Waxman, House of Representatives’ (*United States General Accounting Office* 19 January 2001) <[www.gao.gov/assets/gao-01-286r.pdf](http://www.gao.gov/assets/gao-01-286r.pdf)> accessed 8 May 2022.

<sup>39</sup> IEC, ‘Disappointing Results of Gender Survey in Technical Committees’ (21 June 2021) <[www.iec.ch/blog/disappointing-results-gender-survey-technical-committees](http://www.iec.ch/blog/disappointing-results-gender-survey-technical-committees)> accessed 8 May 2022.

requirements were included in their standards.<sup>40</sup> In other words, the vast majority of ISO and IEC technical committees do not consider gender when developing standards. Among technical committees that did not consider gender, almost 80 per cent said that gender is not relevant to their sector.<sup>41</sup> The perception that standards are gender-neutral, or gender-blind, is both pervasive and insidious – and can have real consequences.

The fact that standards are often applied to inanimate objects, such as technologies, feeds the narrative that they are (gender) neutral in application. However, when inanimate objects are created and shaped by people, they can perpetuate biases. Artificial intelligence (AI) is a prime example of how technologies can be imbued with bias. It is now widely recognized that AI has perpetuated existing biases in hiring, credit limits, and health-care prioritization, to name a few areas.<sup>42</sup> Gender bias can also be seen with physical products. For products that require a specific fit (e.g., PPE and dimensions for operator space envelopes), or require physical manipulation, do they take into account the differing size and strength of men and women? As evidenced by the survey of ISO and IEC technical committee members, there is still a significant gender gap in standardization.

### 8.3.1 *What Are Gender-Responsive Standards?*

If standards are not gender-neutral, then what would make them gender-responsive? As outlined in the UNECE guidelines for developing gender-responsive standards, a gender-responsive standard is developed with consideration for how gender impacts the content, requirements, and application of standards.<sup>43</sup> They ensure that both women's and men's needs, experiences, and concerns are an integral dimension in the design and performance of the product, process, or service undergoing standardization.

Gender-responsive standards should take into account both sex and gender. Biological and socio-cultural differences in men and women can impact the way men and women experience a standard. The COVID-19 pandemic provides an example of how sex and gender can differentially impact

<sup>40</sup> Ibid.

<sup>41</sup> Ibid.

<sup>42</sup> Genevieve Smith and Ishita Rustagi, 'When Good Algorithms Go Sexist: Why and How to Advance AI Gender Equity' (Stanford Social Innovation Review 31 March 2021) <[https://ssir.org/articles/entry/when\\_good\\_algorithms\\_go\\_sexist\\_why\\_and\\_how\\_to\\_advance\\_ai\\_gender\\_equity](https://ssir.org/articles/entry/when_good_algorithms_go_sexist_why_and_how_to_advance_ai_gender_equity)> accessed 8 May 2022.

<sup>43</sup> Under development: UNECE expects to publish the final guidelines in 2023.

prevalence and mortality. COVID-19 has killed more men than women.<sup>44</sup> At the same time, in part due to prevailing gender norms, women are more likely to work in health care and there have been concerns that women health-care practitioners are at a greater risk of contracting COVID-19 because PPE has been designed for the average European or American man.<sup>45</sup> While researchers are still trying to understand why men are at a greater risk from contracting the coronavirus, it is clear that sex and gender can play a role in risk factors for contracting the virus and the prognosis. It is hoped that greater clarity around what constitutes a gender-responsive standard will prompt standards developers to collect the necessary data to determine whether there are gender considerations and what action needs to be taken to address them.

### 8.3.2 Why Does Gender-Responsiveness Matter in Standardization?

The current lack of gender-responsiveness in standards has consequences. These consequences can at times be minor inconveniences. For example, ventilation standards are based on men's metabolism.<sup>46</sup> As a result, women are more likely to be cold in the workplace. Being cold at work is not merely a matter of comfort. It is associated with reduced typing speed and decreased cognitive performance.<sup>47</sup> In other words, the lack of gender-responsiveness in ventilation standards can be detrimental to an organization's overall productivity and performance.

A failure to consider gender in standardization can also be fatal. Research in multiple countries has shown that women are more likely to be seriously injured or killed when they are involved in a car accident because crash test dummies are based on male anthropometry. Research on gender considerations in car accidents dates back to at least the 1960s, and yet action has been slow.<sup>48</sup> However, it does appear that efforts to address this gap are finally

<sup>44</sup> Richard B. Reeves and Beyond Deng, 'At Least 65,000 More Men than Women Have Died from COVID-19 in the US' (Brookings 19 October 2021) <[www.brookings.edu/blog/up-front/2021/10/19/at-least-65000-more-men-than-women-have-died-from-covid-19-in-the-us/](http://www.brookings.edu/blog/up-front/2021/10/19/at-least-65000-more-men-than-women-have-died-from-covid-19-in-the-us/)> accessed 8 May 2022.

<sup>45</sup> See for example D. J. Janson, B. C. Clift, and V. Dhokia, 'PPE Fit of Healthcare Workers during the COVID-19 Pandemic' (2022) 99/103610 *Applied Ergonomics* 1–8.

<sup>46</sup> Boris Kingma and Wouter van Marken Lichtenbelt, 'Energy Consumption in Buildings and Female Thermal Demand' (2015) 5(12) *Nature Climate Change* 1054–1056.

<sup>47</sup> T. Y. Chang and A. Kajackaite, 'Battle for the Thermostat: Gender and the Effect of Temperature on Cognitive Performance' (2019) 14(5) *PLoS ONE*.

<sup>48</sup> Anna Carlsson, *Addressing Female Whiplash Injury Protection – A Step towards 50th Percentile Female Rear Impact Occupant Models* (PhD Thesis, Chalmers University of Technology 2012).

gaining more traction. In 2021, the UNECE Working Party on Passive Safety released a proposal supported by Canada, France, Germany, Japan, Netherlands, Spain, and Sweden for an informal working group to examine sex- and size-neutral crash safety. The informal working group will analyse UNECE regulations and determine if changes are needed to ensure equal safety for men and women as well as individuals of differing sizes.<sup>49</sup>

Sector-specific research such as on crash test dummies and anecdotal evidence have pointed to the impacts of standards that are not gender-responsive. Research in the health sector also illustrates the consequences of not accounting for gender (e.g., the increased mortality of women from heart attacks).<sup>50</sup> However, more recently a study using data from almost 100 countries examined the relationship between standardization activity and the number of men and women who die as a result of unintentional injuries. The premise of the research is that if standards can help to ensure the safety of products, processes, and services, then countries that are more involved in standardization should have fewer people dying as a result of unintentional injuries. Indeed, research has shown that greater standardization is associated with a reduction in the number of unintentional injuries even after controlling for the wealth and education levels of the country.<sup>51</sup>

Given the lack of gender-responsiveness in standardization, it was important to consider the unintentional fatalities separately for men and women. Globally, men are more likely to die as a result of an unintentional injury.<sup>52</sup> And yet, when examining the impact of standardization on unintentional fatalities for men and women, we found that there was a significant negative relationship between standardization and unintentional fatalities for men, even after controlling for wealth and education.<sup>53</sup> In other words, the more a country was involved in standardization, the less likely it was that men died

<sup>49</sup> UNECE, 'Terms of Reference for Informal Working Group on Sex and Size Neutral Crash Safety' GRSP-70-01 (7 September 2021).

<sup>50</sup> See for example P. J. Kudenchuk, C. Maynard, J. S. Martin, M. Wirkus, and W. D. Weaver, 'Comparison of Presentation, Treatment, and Outcome of Acute Myocardial Infarction in Men versus Women (the Myocardial Infarction Triage and Intervention Registry)' (1996) 78 (1) *American Journal of Cardiology* 9–14.

<sup>51</sup> Michelle Parkouda, 'An Ounce of Prevention: Standards as a Tool to Prevent Accidental Fatalities' (Standards Council of Canada 2019) <[www.scc.ca/en/system/files/publications/SCC\\_Gender\\_Safety\\_Report\\_EN.pdf](http://www.scc.ca/en/system/files/publications/SCC_Gender_Safety_Report_EN.pdf)> accessed 8 May 2022.

<sup>52</sup> WHO, 'Global Health Estimates 2015: Deaths by Cause, Age, Sex, by Country and by Region, 2000–2015' (2016). Note that unintentional injuries include road injury, poisonings, falls, fire, heat and hot substances, drowning, exposure to mechanical forces, natural disasters and other unintentional injuries.

<sup>53</sup> Parkouda, 'An Ounce of Prevention' (n 51).

as a result of unintentional injuries. When the analysis was repeated to see the impact on women, there was no significant effect. Standardization was not actively associated with reducing deaths due to unintentional injuries for women. This report was the first of its kind to demonstrate the devastating consequences of not considering gender in standardization across a sample of almost 100 countries. It highlights the need to address the gender gap in standardization because unintentional injuries are preventable. Clearly standards can, and must, do more to protect women.

### 8.3.3 *What Is Being Done about It?*

The UNECE Gender Declaration has spurred action in this area. The declaration is explicit in asking signatories to take action to develop gender action plans for their organization and track progress towards improving participation rates and gender-responsiveness in standards.<sup>54</sup> The authors of this chapter developed the Standards Council of Canada's (SCC) action plan. In SCC's action plan, the authors prioritized three areas:

1. Increasing participation of women in standards development;
2. Developing guidance on how to develop gender-responsive standards; and
3. Contributing sound research to better understand the implications of gender on standards.<sup>55</sup>

Many other national standards bodies have developed their own gender strategies.<sup>56</sup> These national strategies have been complemented by international work. The UNECE is currently finalizing guidance on how to develop gender-responsive standards. This guidance is meant to be broadly applicable to standards developers to give them the practical tools needed to help them increase representation of women in standards development and to ensure standards are gender-responsive, regardless of who is developing them.

ISO and IEC have also formed a Joint Strategic Advisory Group (JSAG) on gender-responsive standards. The JSAG has gathered data from technical committee experts to understand the degree to which gender is a consideration for technical committees. It is also developing guidance specific to ISO and IEC for how committees can ensure their standards are gender-responsive. These

<sup>54</sup> UNECE, 'Declaration for Gender Responsive Standards and Standards Development' (2019).

<sup>55</sup> Standards Council of Canada, 'Gender and Standardization Strategy' (2019) <[www.scc.ca/en/system/files/publications/SCC\\_Gender-and-Standardization-Strategy-2019-2025\\_FINAL\\_EN.pdf](http://www.scc.ca/en/system/files/publications/SCC_Gender-and-Standardization-Strategy-2019-2025_FINAL_EN.pdf)> accessed 8 May 2022.

<sup>56</sup> UNECE, 'Gender-Responsive Standards Initiative' <<https://unece.org/gender-responsive-standards-initiative>> accessed 8 May 2022.



initiatives have received a high level of support from the leaders of the respective organizations, which will be important for implementation.<sup>57</sup>

#### 8.4 ADDRESSING THE GENDER GAP IN STANDARDIZATION FOR MORE INCLUSIVE TRADE

Gender-responsive standards are essential for inclusive trade. As we have noted, currently, standards are not doing enough to protect and support women. This means that when goods and services that rely on standards are traded, they are perpetuating inequality. By ensuring that standards, including those referenced in regulation, have addressed their gender gap, we can advance equality and improve outcomes for women.

While all standards would benefit from a gender lens to ensure that products that are not as safe for women are not inadvertently proliferated, targeted standards can also be a useful tool to promote gender equality in trade. In March 2021, ISO published an International Workshop Agreement (IWA) on Women's Entrepreneurship – Key Definitions and General Criteria.<sup>58</sup> By developing an accepted definition of women-owned and -led businesses, the IWA has enabled governments, businesses, statistical agencies, and non-government organizations to clearly track progress and have targeted initiatives to advance economic opportunities for women.<sup>59</sup>

In Canada, a publicly available specification was developed in support of the Government of Canada's 50–30 Challenge. The 50–30 Challenge aims to increase representation of women and underrepresented groups in senior management and on Canadian boards.<sup>60</sup> As the name states, the government is challenging companies to achieve gender parity in senior management and on Canadian boards and to ensure that underrepresented individuals comprise 30 per cent of senior management and members of Canadian boards. The publicly available specification defines how to determine whether the

<sup>57</sup> Remarks made by Sergio Mujica, ISO Secretary-General and Philippe Metzger IEC General Secretary & CEO, at the Standards Accelerator Online Event (14 October 2021) <[www.worldstandardsday.org/contents/posts/events/the-standards-accelerator.html](http://www.worldstandardsday.org/contents/posts/events/the-standards-accelerator.html)> accessed 8 May 2022.

<sup>58</sup> ISO, 'Women's Entrepreneurship – Key Definitions and General Criteria' (IWA 34:2021) <<https://www.iso.org/standard/79585.html>> accessed 8 May 2022.

<sup>59</sup> Swedish Institute for Standards, 'ISO/IWA 34 – Definition of a "Woman-Owned Business" and Guidance on Its Use' (2021) <[www.sis.se/en/about\\_sis/isoiwa-34-definition-of-a-womanowned-business-and-guidance-on-its-use/](http://www.sis.se/en/about_sis/isoiwa-34-definition-of-a-womanowned-business-and-guidance-on-its-use/)> accessed 8 May 2022.

<sup>60</sup> Government of Canada, 'The 50–30 Challenge: Your Diversity Advantage' (Innovation, Science and Economic Development Canada 2021) <[www.ic.gc.ca/eic/site/icgc.nsf/eng/07706.html](http://www.ic.gc.ca/eic/site/icgc.nsf/eng/07706.html)> accessed 8 May 2022.

targets have been met.<sup>61</sup> Measurement is imperative to track progress and target initiatives to meet the objectives of the challenge.

The WTO can also play an important role in addressing the gender gap in standardization. The WTO is one of the only places where standards and technical regulations are disciplined. As such, it has an opportunity and obligation to ensure that standards and technical regulations are used to promote equity and advance economic opportunities for women. In fact, a report from the WTO delineated the ways in which trade can promote gender equality, stating:

Trade policy itself is a critical determinant in lowering the trade costs faced by women and improving women's access to international markets. Discriminatory trade policies that make women-dominated industries less competitive and productive than their male counterparts are widespread. Women's market access can be increased by addressing tariff and nontariff measures that hurt women traders and consumers, improving trade facilitation that enables women to trade as safely and easily as men, and expanding access to trade finance that empowers women to connect with international markets.<sup>62</sup>

The Government of Canada has explicitly stated that it participates in trade negotiations and agreements because 'it is in the Canadian interest to do so'.<sup>63</sup> Undoubtedly, Canada is not unique in this. International trade accrues many benefits for countries and their citizens. And yet, as we have highlighted, more needs to be done so that everyone is benefited equally.

## 8.5 CONCLUSION

This chapter argues that by addressing the gender gap in standardization and ensuring that the standards included in technical regulations are gender-responsive, we will increase the safety of products for women and contribute to women's economic empowerment. By requiring gender-responsiveness in standards and trade agreements, countries can make meaningful progress towards addressing discriminatory social institutions and improving gender equality, which will benefit everyone.

<sup>61</sup> Diversity Institute, 'The 50–30 Challenge, Publicly Available Specification (PAS)' (2021) <<https://secureservercdn.net/192.169.220.85/bom.396.myftpupload.com/wp-content/uploads/2021/08/Publicly-Available-Specification-PAS.pdf>> accessed 8 May 2022.

<sup>62</sup> World Bank and WTO, 'Women and Trade' (n 5) 11.

<sup>63</sup> Government of Canada, 'International Trade Agreements and Local Government: A Guide for Canadian Municipalities' (Global Affairs Canada 2021) <[www.international.gc.ca/trade-agreements-accords-commerciaux/ressources/fcm/complete-guide-complet.aspx?lang=en](http://www.international.gc.ca/trade-agreements-accords-commerciaux/ressources/fcm/complete-guide-complet.aspx?lang=en)> accessed 8 May 2022.