

---

## The real costs of gender inequality: we are all footing the bill

Science is the bedrock of human progress. Since fact-based analyses serve as a foundation for policymaking and social change, they must consider the perspective of all genders to truly be in service of all humanity. Even though the involvement of women in Academia has been continually growing, still less than 30% of researchers worldwide are female<sup>1</sup>. More importantly, even fewer women are in high-ranking academic positions, hindering their ability to meaningfully impact the direction of science<sup>2,3</sup>. Such state of affairs amounts to a huge loss for the global economy.

Gender inequality is most commonly discussed in the context of the impact it has on girls' and women's lives and the resulting hardships they personally experience. Indeed, building a society rooted in ideals of justice and equal opportunity is not feasible without addressing discrimination against women. However, the direct economic costs of gender inequality and the avalanche of associated issues affecting society are rarely a point of public debate. As a result, the importance of counteracting gender-based discrimination slips out of focus, and is easily overlooked by policymakers who often hold the power to address these societal challenges. If not to stand up for human rights, these policymakers may be motivated to unburden their constituents from the serious consequences caused by inequality in social and economic domains.

Here, Women in Science at Nencki (WISaN, Poland) and Women in Science at Yale (WISaY, United States), the non-profit sister organizations advocating for gender equality and promoting interests of female scientists, jointly present a cold, calculated look at the societal and financial losses stemming directly from gender inequality. Those are the real costs we all, men and women, unknowingly pay.

### Hindered economy

For the last year, the economy has taken considerable hits amidst the ranging SARS-CoV-2 pandemic. The slowing pace of economic growth, one of the most universal measures of societal betterment, has been a source of anxiety for humans all over the globe. At the same time, persisting gender inequality is one of the biggest obstacles to economic progress<sup>4</sup>. It is estimated that by decreasing the gender gap, as much as \$28 trillion (!) can be added to the global economy by the year 2025<sup>5</sup>. That is as much as 26% of the projected global gross domestic product (GDP). Notably, both advanced and developing countries could significantly benefit from a more equitable flow of money. For the latter, strategies promoting financial independence of women, such as increasing their agency in banking have been extremely successful in boosting local economy<sup>6</sup>. As reported by Boston Consulting Group bridging the gender gap could increase the GDP of North America by 19%, and of Eastern Europe by 23% within the next four years<sup>5</sup>. Further, the accumulating cross-country evidence clearly shows that reducing gender bias in education is one of the most robust ways to boost financial performance<sup>4,7</sup>. Moreover, data shows that regardless of the fact that women have the most purchasing power in certain realms they are still not marketed to accordingly. Thus, decreasing gender gap may indeed result in women becoming the determining force in driving global economy<sup>8</sup>. Out of these facts emerges the question: can we really afford to miss the enormous economic opportunity that goes hand in hand with unleashing female potential?

---

## **Ineffective medicine, wasted pharmacological potential**

Despite all the progress in the health care domain, gender bias in medicine still costs women their lives<sup>9,4</sup>. Contrary to common knowledge, under strained socio-economic conditions women are 25% more likely to suffer from a heart attack than men from the respective societal clusters<sup>10</sup>. At the same time, women are also 50% more likely to be misdiagnosed because they do not display so-called “typical symptoms”, such as chest pain, most often experienced by men<sup>11</sup>. Women are also heavily underrepresented in studies addressing new methods of treatment, even in those concerning health problems more prevalent in the female population<sup>12,13</sup>. Furthermore, research focusing on drug testing or candidate medications is heavily biased toward males<sup>14</sup>. This leads to women worldwide using medications without really knowing the effects they may have on their health. Real life is not a study and the consequences can be dire if not deadly. On the purely economic side: how much unrealized capital gains are lost through pharmacological substances that could be widely effective in women despite not working for men but have never been tested that way<sup>15</sup>? Meanwhile, we are wasting taxpayers’ money by applying medical strategies that produce poor results for more than half of the population.

## **Diversity equals money**

An ever-growing body of evidence shows that having women on board is good for business. Data collected in various sectors, predominantly finance and management, illustrate that increasing gender equality translates to improved productivity and innovation, as well as more effective decision-making<sup>16</sup>. Notably, organizations that do not address the problem of gender gap seem to be falling behind, as the more diverse companies are outperforming them<sup>17,18</sup>. Diversity-related increase in returns is often attributed to better understanding of a consumer population and being able to design products and services better-tailored to a broader client base<sup>19</sup>. Notably, the same is true for science, where participation of women has been linked to higher impact of the performed research<sup>20</sup>. On the top of all those facts, data illustrates that it is crucially important to have women represented at all levels of the workplace structure, especially senior management. Reports show that companies with three or more women in senior management score higher across all dimensions of organizational performance<sup>21</sup>. In general, independent of the particular type of business, hiring more women pays off, and pays off big. Not having them on the team is simply bad business.

## **Untapped potential of unpaid work**

Unpaid work, performed somewhere in the background of our daily routine, is what makes the world go round. However, considerable time and effort is indispensably required to sustain our lives. Activities such as food preparation, performing household chores, maintaining basic hygiene, and caring for those most vulnerable (such as children and elderly), are rarely discussed as crucial economic resources. Women perform 75% of this unpaid work globally<sup>4,5</sup>. It is noteworthy that this striking inequality does not change with increasing economic development, remaining high even in places with strong gender equality policies, such as Northern European countries<sup>22</sup>. As of now, an overwhelming part of unpaid work is not counted towards GDP, so we cannot be sure of its real value. However, the studies show that its value is somewhere between 10-39% (!) of the global GDP<sup>23</sup>. Takeaway: women contribute to the economy much more than reflected in the official statistics. As argued by two laureates of the Nobel Memorial Prize in Economics, to adequately reflect

the financial reality we need to find ways to measure the value of unpaid work and further include it in the growth estimations<sup>24</sup>. Why should you care? Unpaid labor constitutes an enormous market that cannot be tapped into or capitalized on without incorporating it into the formal evaluation of the economy.

Since fact-based analyses serve as a foundation for policymaking it is of paramount importance that data are presented not only faithfully, but also completely, to render a picture free of blindspots. Simply put, to build effective solutions we need better data. Notably, none of the described issues and supporting research would have been available if not for the female perspective in science. Women scientists and female experiences are needed to address the problems that had not previously been on the radar of male-dominated Academia, as well as public and private sectors and politics. Indeed, it is crucial for the scientific community to reflect the demographic of the society at large and have a balanced gender representation. Women have to be at the table to be able to voice the thoughts on what we should study and how we should conduct research. The mission of Women in Science at Nencki and Women in Science at Yale is to support female academics at all levels of scientific careers. Science needs them. And so does Society.

#### Bibliography:

1. The UNESCO Institute. *Women in Science*. (2019).
2. Science and gender. *Nature Immunology* **11**, 99–99 (2010).
3. Lerchenmueller, M. J. & Sorenson, O. The gender gap in early career transitions in the life sciences. *Research Policy* **47**, 1007–1017 (2018).
4. Criado Pérez, C. *Invisible Women: Data Bias in a World Designed for Men*. (Harry N. Abrams, 2019).
5. Woetzel, J. *et al.* *How advancing women's equality can add \$12 trillion to global growth*. (2015).
6. Carolina Trivelli & de los Ríos, J. *Creating Financial Assets: the case for Savings Accounts as means for Economic Independence and Empowerment for Women*. (2014).
7. Klasen, S. The Impact of Gender Inequality on Economic Performance in Developing Countries. *Annual Review of Resource Economics* **10**, 279–298 (2018).
8. Silverstein, M. J. & Sayre, K. The Female Economy. *Harvard Business Review* (2009).
9. Yoon, D. Y. *et al.* Sex bias exists in basic science and translational surgical research. *Surgery* **156**, 508–516 (2014).
10. Backholer, K. *et al.* Sex differences in the relationship between socioeconomic status and cardiovascular disease: a systematic review and meta-analysis. *J Epidemiol Community Health* **71**, 550–557 (2017).
11. Wu, J. *et al.* Editor's Choice - Impact of initial hospital diagnosis on mortality for acute myocardial infarction: A national cohort study. *European Heart Journal: Acute Cardiovascular Care* **7**, 139–148 (2018).
12. Liu, K. A. & Mager, N. A. D. Women's involvement in clinical trials: historical perspective and future implications. *Pharm Pract (Granada)* **14**, (2016).
13. Ortona, E., Delunardo, F., Baggio, G. & Malorni, W. A sex and gender perspective in medicine: a new mandatory challenge for human health. Preface. *Ann Ist Super Sanita* **52**, 146–148 (2016).
14. Hughes, R. N. Sex does matter: comments on the prevalence of male-only investigations of drug effects on rodent behaviour. *Behavioural Pharmacology* **18**, 583–589 (2007).
15. Schiebinger, L. *Women and Gender in Science and Technology*. (Routledge, 2014).
16. Morgan Stanley. *The gender advantage: Integrating Gender Diversity into Investment Decisions*. (2016).
17. Credit Suisse Research Institute. *The Credit Suisse Gender 3000: Women in Senior Management*. (2014).

18. Hunt, V., Layton, D. & Prince, S. *Why diversity matters*. (2015).
19. Thomas, D. A. Diversity as Strategy. *Harvard Business Review* (2004).
20. Freeman, R. B. & Huang, W. Collaboration: Strength in diversity. *Nature* **Volume 513**, (2014).
21. McKinsey & Company. *Women Matter: Time to accelerate. Ten years of insights into gender diversity*. (2018).
22. Miranda, V. *Cooking, Caring and Volunteering: Unpaid Work Around the World*. (2011).
23. Economic and Social Council of the United Nations. *Women's economic empowerment in the changing world of work*. (2016).
24. Banerjee, A. V. & Duflo, E. *Good Economics for Hard Times*. (2019).