# FROGEE POLICY BRIEF 5
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### Gender Gap in Life Expectancy and Its Socio-Economic Implications

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### Gender Gap in Life Expectancy in Latvia: Reasons and Socio-Economic Implications

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# Abstract

## Gender Gap in Life Expectancy and Its Socio-Economic Implications

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Today women live longer than men virtually in every country of the world. Although scientists still struggle to fully explain this disparity, the most prominent sources of this gender inequality are biological and behavioral. From an evolutionary point of view, female longevity was more advantageous for offspring survival. This resulted in a higher frequency of non-fatal diseases among women and in a later onset of fatal conditions. The observed high variation in the longevity gap across countries, however, points towards an important role of social and behavioral arguments. These include higher consumption of alcohol, tobacco, and fats among men as well as a generally riskier behavior. The gender gap in life expectancy often reaches 6-12 percent of the average human lifespan and has remained stubbornly stable in many countries. Lower life expectancy among men is an important social concern on its own and has significant consequences for the well-being of their surviving partners and the economy as a whole. It is an important, yet underdiscussed type of gender inequality.

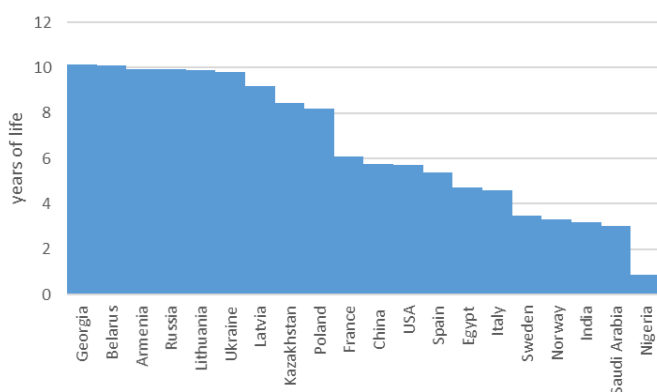## Gender Gap in Life Expectancy in Latvia: Reasons and Socio-Economic Implications

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In Latvia women outlive men by approximately 10 years. The disparity is likely attributable to non-biological factors, such as behavioural risks and healthcare system issues. Men's higher rates of smoking, alcohol consumption, and risk-taking behaviours, coupled with lower healthcare utilization, potentially exacerbate avoidable mortality. The brief suggests targeted public health policies and improved healthcare access to address preventable and treatable mortality, aiming to reduce the gender gap and improve overall life expectancy.

# Gender Gap in Life Expectancy and Its Socio-Economic Implications

Today, women on average live longer than men across the globe. Despite the universality of this basic qualitative fact, the gender gap in life expectancy (GGLE) varies a lot across countries (as well as over time) and scientists have only a limited understanding of the causes of this variation (Rochelle et al., 2015). Regardless of the reasons for this discrepancy, it has sizable economic and financial implications. Abnormal male mortality makes a dent in the labour force in nations where GGLE happens to be the highest, while at the same time, large GGLE might contribute to a divergence in male and female discount factors with implications for employment and pension savings. Large discrepancies in life expectancy translate into a higher incidence of widowhood and a longer time in which women live as widows. The gender gap in life expectancy is one of the less frequently discussed dimensions of gender inequality, and while it clearly has negative implications for men, lower male longevity has also substantial negative consequences for women and society as a whole.

*Figure A. Gender gap in life expectancy across selected countries*
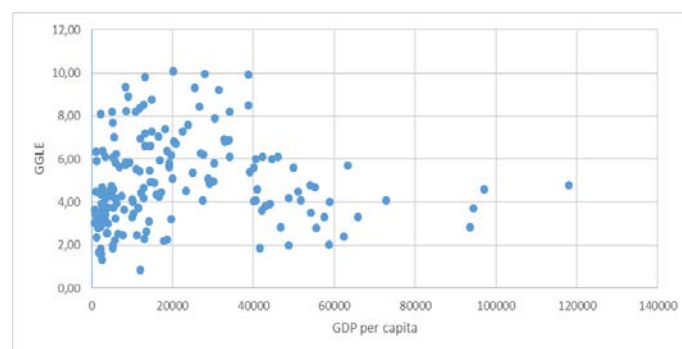


Source: World Bank

The earliest available reliable data on the relative longevity of men and women shows that the

gender gap in life expectancy is not a new phenomenon. In the middle of the 19th century, women in Scandinavian countries outlived men by 3-5 years (Rochelle et al., 2015), and Bavarian nuns enjoyed an additional 1.1 years of life, relative to the monks (Luy, 2003). At the beginning of the 20th century, relative higher female longevity became universal as women started to live longer than men in almost every country (Barford et al., 2006). GGLE appears to be a complex phenomenon with no single factor able to fully explain it. Scientists from various fields such as anthropology, evolutionary biology, genetics, medical science, and economics have made numerous attempts to study the mechanisms behind this gender disparity. Their discoveries typically fall into one of two groups: biological and behavioural. Noteworthy, GGLE seems to be fairly unrelated to the basic economic fundamentals such as GDP per capita which in turn has a strong association with the level of healthcare, overall life expectancy, and human development index (Rochelle et al., 2015). Figure B presents the (lack of) association between GDP per capita and GGLE in a cross-section of countries. The data shows large heterogeneity, especially at low-income levels, and virtually no association from middle-level GDP per capita onwards.

*Figure B. Association between gender gap in life expectancy and GDP per capita*



Source: World Bank
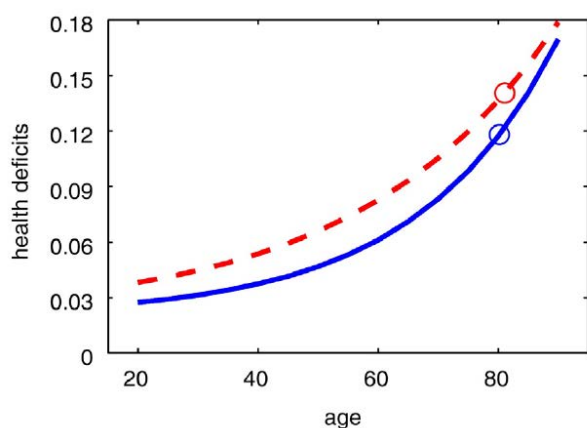
## Biological Factors

The main intuition behind female superior longevity provided by evolutionary biologists is based on the idea that the offspring's survival rates

disproportionally benefited from the presence of their mothers and grandmothers. The female hormone estrogen is known to lower the risks of cardiovascular disease. Women also have a better immune system which helps them avoid a number of life-threatening diseases, while also making them more likely to suffer from (non-fatal) autoimmune diseases (Schünemann et al., 2017). The basic genetic advantage of females comes from the mere fact of them having two X chromosomes and thus avoiding a number of diseases stemming from Y chromosome defects (Holden, 1987; Austad, 2006; Oksuzyan et al., 2008).

Despite a number of biological factors contributing to female longevity, it is well known that, on average, women have poorer health than men at the same age. This counterintuitive phenomenon is called the morbidity-mortality paradox (Kulminski et al., 2008). Figure C shows the estimated cumulative health deficits for both genders and their average life expectancies in the Canadian population, based on a study by Schünemann et al. (2017). It shows that at any age, women tend to have poorer health yet lower mortality rates than men. This paradox can be explained by two factors: women tend to suffer more from non-fatal diseases, and the onset of fatal diseases occurs later in life for women compared to men.

*Figure C. Health deficits and life expectancy for Canadian men and women*



Source: Schünemann et al. (2017). Note: Men: solid line; Women: dashed line; Circles: life expectancy at age 20.

## Behavioural Factors

Given the large variation in GGLE, biological factors clearly cannot be the only driving force. Worldwide, men are three times more likely to die from road traffic injuries and two times more likely to drown than women (WHO, 2002). According to the World Health Organization (WHO), the average ratio of male-to-female completed suicides among the 183 surveyed countries is 3.78 (WHO, 2024). Schünemann et al. (2017) find that differences in behaviour can explain 3.2 out of 4.6 years of GGLE observed on average in developed countries. Statistics clearly show that men engage in unhealthy behaviours such as smoking and alcohol consumption much more often than women (Rochelle et al., 2015). Men are also more likely to be obese. Alcohol consumption plays a special role among behavioural contributors to the GGLE. A study based on data from 30 European countries found that alcohol consumption accounted for 10 to 20 percent of GGLE in Western Europe and for 20 to 30 percent in Eastern Europe (McCartney et al., 2011). Another group of authors has focused their research on Central and Eastern European countries between 1965 and 2012. They have estimated that throughout that time period between 15 and 19 percent of the GGLE can be attributed to alcohol (Trias-Llimós & Janssen, 2018). On the other hand, tobacco is estimated to be responsible for up to 30 percent and 20 percent of the gender gap in mortality in Eastern Europe and the rest of Europe, respectively (McCartney et al., 2011).

Another factor potentially decreasing male longevity is participation in risk-taking activities stemming from extreme events such as wars and military activities, high-risk jobs, and seemingly unnecessary health-hazardous actions. However, to the best of our knowledge, there is no rigorous research quantifying the contribution of these factors to the reduced male longevity. It is also plausible that the relative importance of these factors varies substantially by country and historical period.

Gender inequality and social gender norms also negatively affect men. Although women suffer from depression more frequently than men (Albert, 2015; Kuehner, 2017), it is men who commit most suicides. One study finds that men with lower masculinity (measured with a range of questions on social norms and gender role orientation) are less likely to suffer from coronary heart disease (Hunt et al., 2007). Finally, evidence shows that men are less likely to utilize medical care when facing the same health conditions as women and that they are also less likely to conduct regular medical check-ups (Trias-Llimós & Janssen, 2018).

It is possible to hypothesize that behavioural factors of premature male deaths may also be seen as biological ones with, for example, risky behaviour being somehow coded in male DNA. But this hypothesis may have only very limited truth to it as we observe how male longevity and GGLE vary between countries and even within countries over relatively short periods of time.

## Economic Implications

Premature male mortality decreases the total labour force of one of the world leaders in GGLE, Belarus, by at least 4 percent (author's own calculation, based on WHO data). Similar numbers for other developed nations range from 1 to 3 percent. Premature mortality, on average, costs European countries 1.2 percent of GDP, with 70 percent of these losses attributable to male excess mortality. If male premature mortality could be avoided, Sweden would gain 0.3 percent of GDP, Poland would gain 1.7 percent of GDP, while Latvia and Lithuania – countries with the highest GGLE in the EU – would each gain around 2.3 percent of GDP (Łyszczarz, 2019). Large disparities in the expected longevity also mean that women should anticipate longer post-retirement lives. Combined with the gender employment and pay gap, this implies that either women need to devote a larger percentage of their earnings to retirement savings or retirement systems need to include provisions to secure

material support for surviving spouses. Since in most of the retirement systems the value of pensions is calculated using average, not gender-specific, life expectancy, the ensuing differences may result in a perception that men are not getting their fair share from accumulated contributions.

## Policy Recommendations

To successfully limit the extent of the GGLE and to effectively address its consequences, more research is needed in the area of differential gender mortality. In the medical research dimension, it is noteworthy that, historically, women have been under-represented in recruitment into clinical trials, reporting of gender-disaggregated data in research has been low, and a larger amount of research funding has been allocated to "male diseases" (Holdcroft, 2007; Mirin, 2021). At the same time, the missing link research-wise is the peculiar discrepancy between a likely better understanding of male body and health and the poorer utilization of this knowledge.

The existing literature suggests several possible interventions that may substantially reduce premature male mortality. Among the top preventable behavioural factors are smoking and excessive alcohol consumption. Many studies point out substantial country differences in the contribution of these two factors to GGLE (McCartney, 2011), which might indicate that gender differences in alcohol and nicotine abuse may be amplified by the prevailing gender roles in a given society (Wilsnack et al., 2000). Since the other key factors impairing male longevity are stress and risky behaviour, it seems that a broader societal change away from the traditional gender norms is needed. As country differences in GGLE suggest, higher male mortality is mainly driven by behaviours often influenced by societies and policies. This gives hope that higher male mortality could be reduced as we move towards greater gender equality, and give more support to risk-reducing policies.

While the fundamental biological differences contributing to the GGLE cannot be changed, special attention should be devoted to improving healthcare utilization among men and to increasingly including the effects of sex and gender in medical research on health and disease (Holdcoft, 2007; Mirin, 2021; McGregor et al., 2016, Regitz-Zagrosek & Seeland, 2012).

# Gender Gap in Life Expectancy in Latvia: Reasons and Socio-Economic Implications

Worldwide, women tend to live longer than men. For nearly all primary causes of death and at all ages mortality rates for men are higher than for women (Austad, 2006). But the GGLE varies widely between countries and regions.

Latvians live the shortest lives among EU citizens. Average life expectancy in 2021 in EU was 80.1 years compared to Latvia's 73.4 years. Latvia has one of the largest gender gaps in life expectancy in the world (WHO, n.d.), and the highest among EU countries. As of 2021, the life expectancy at birth for Latvian women was 78.2 years, while for Latvian men it was only 68.6 years (Eurostat, n.d.). This means that Latvian women, on average, live 10 years longer than Latvian men. Latvia has the lowest healthy life expectancy in the EU, too (Eurostat, 2016).

The gender differences in life expectancy are traditionally explained by two sets of mechanisms, namely biological and non-biological (Mateos, 2022; Hossin, 2020). Non-biological (behavioural and social) factors are the prime drivers of the GGLE worldwide, including Latvia. Health behaviour can explain as much as 89 percent of the GGLE (Schünemann et al., 2017). In Latvia 40 percent of the total disease burden in 2015 was linked to behavioural risks (IHME, 2016). This section of the policy brief intends to present some facts and statistics on the factors associated with the GGLE in Latvia, without however, claiming any causal effects. Given the magnitude of the GGLE, we propose the investigation of causal links as a direction of future research.

# Gender Gap in Life Expectancy in Latvia

The gender gap in Latvia has been persistent, although there has been a slight decrease in the gap over the past three decades from an average of 11.6 years in the 1990s to 10.9 years between 2000 and 2009, and to 9.7 years between 2010 and 2021. The gender gap is higher than in the EU, where women tend to live on average 5.2 years longer than men (Eurostat, 2019). The average life expectancy at birth has been steadily, however slowly, growing till 2019. In 2020, the life expectancy at birth for Latvian women was 79.5 years, while for Latvian men it was only 70.4 years (Eurostat, n.d.), resulting in a gap of 9.1 years. Covid-19 caused excess mortality in 2021, hence the average life expectancy was two years lower than before the pandemic. The GGLE increased at the same time by 0.6 years indicating that Covid-19 resulted in more fatalities among men than among women.

To understand the life expectancy gender differences, it is useful to zoom to the causes of mortality, exploring the avoidable mortality, which is further divided into preventable (causes of death that can be mainly avoided through effective public health and primary prevention interventions) and treatable (causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment) mortality (OECD, 2022). As opposed to non-preventable deaths that occur due to natural causes, avoidable mortality can be affected by health system interventions and human behaviour. The behaviour mechanisms in this context are especially important as they are identified as the main drivers of the GGLE. By identifying the underlying causes of avoidable deaths and implementing effective strategies to address them, it is possible to reduce mortality and decrease the gender gap in longevity.

Avoidable mortality in Latvia is the highest among the countries from Central and Eastern Europe, especially for men. Latvian men stand out by having more than two times higher avoidable death rate as compared to the EU average (761 in comparison to 333 persons per 100,000, respectively; Figure 1). For women the avoidable death rate in Latvia is also relatively high (282 compared to 161 persons per 100,000 for the EU-27 average), but the gap with respect to other countries is not as large. Hence, the high avoidable mortality of men is supposedly one reason behind the large Latvian gender gap, and the low life expectancy in general.

*Figure1. Avoidable (treatable and preventable) mortality per 100,000 population, Europe, 2019*
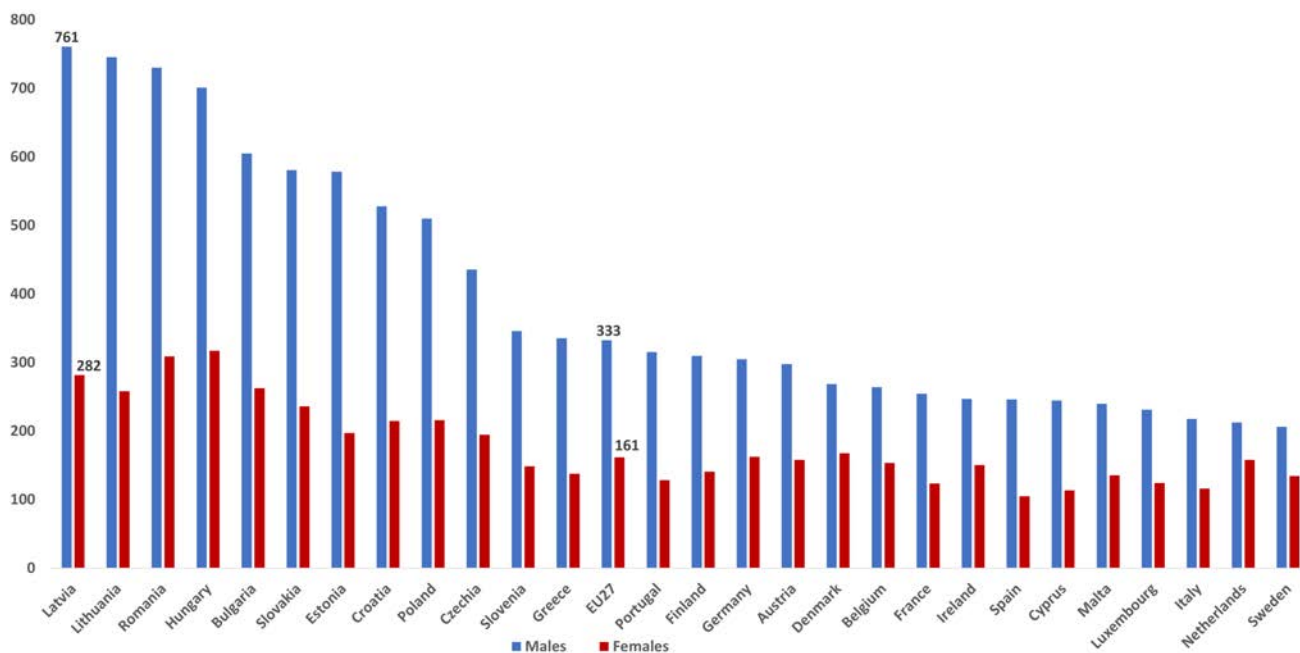


Source: Author, based on Eurostat database, data code [HLTH_CD_APR$DEFAULTVIEW]. Note: Preventable mortality: causes of death that can be mainly avoided through effective public health and primary prevention interventions. Treatable mortality: causes of death that can be mainly avoided through timely and effective health care interventions, including secondary prevention and treatment (OECD, 2022).

The GGLE is related to and evident from differences in causes of avoidable mortality (Figure 2). Male mortality exceeds that of females for all reported causes. It is almost four times higher for deaths from ischaemic heart diseases, twice as high for deaths from strokes and hypertensive diseases, and four times as large for deaths from alcohol-related diseases. Mortality from lung cancer is six times higher among men, and twice as high from other types of cancer, except breast cancer. Men die in accidents, including transport accidents, five times more often than women. Also, the suicide rate among men is six times higher than among women.

The gender disparities are consistent with trends in other countries, however the gaps in Latvia tend to be wider.

*Figure 2. Avoidable mortality by cause and sex, Latvia, 2019, annual rate per 100,000 population*
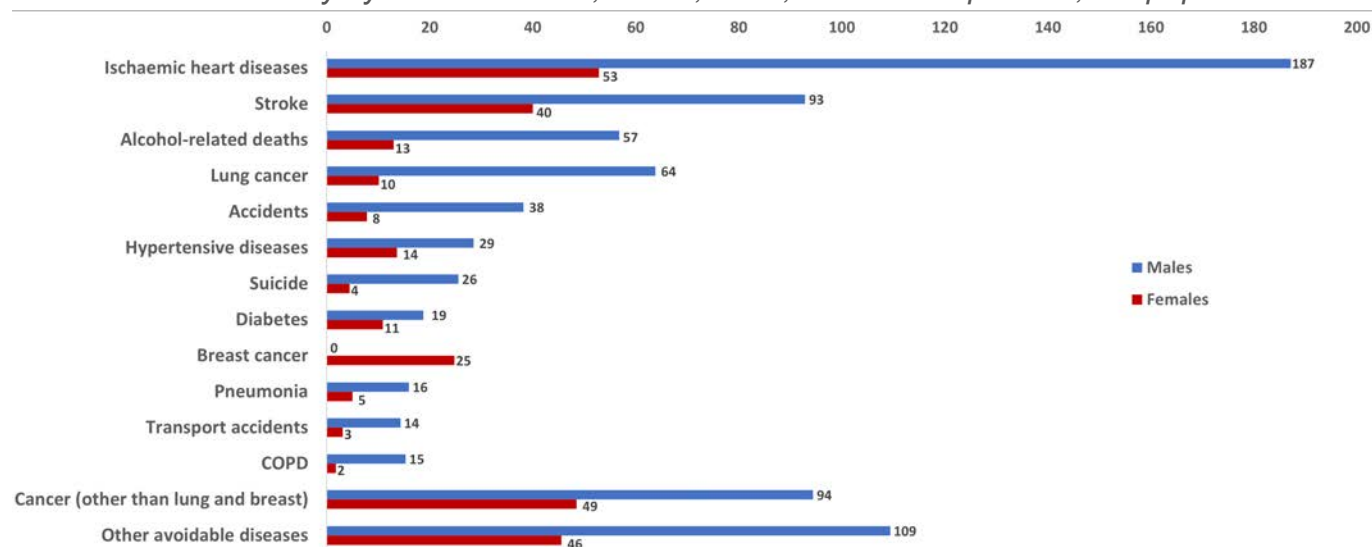


Source: Author, based on Eurostat Database, data code [HLTH_CD_APR__custom_5063819]. Note: Data are based on the OECD/Eurostat definitions and lists of avoidable (preventable + treatable) causes of mortality.

## What Are the Underlying Reasons for the Substantial GGLE?

Several behavioural factors are correlated with avoidable mortality and could be responsible for the gender differences documented in Latvia. Lifestyle factors such as smoking, excessive alcohol consumption, unhealthy diet and lack of physical activity are major contributors to chronic diseases and premature mortality in Latvia, especially for men. These behaviours can increase the risk of developing a range of health problems, including ischaemic heart disease, stroke, cancer, diabetes, and respiratory diseases. Smoking, alcohol consumption, and high body mass index are identified as the leading contributors to the total disease burden, accounting for 11.5, 5.7, and 11.0 percent of the burden, respectively (IHME, 2016). Latvia has one of the highest rates of smoking in Europe, particularly among men: 43 percent of Latvian men are smokers (2020 data) compared to an average of 28 percent in the EU-27 countries (Eurostat, n.d.). Male alcohol consumption exceeds that of females and the EU-27 average: 6.5 percent of males and only 1.4 percent of females in Latvia engage in heavy drinking (on average more than 40 or 20 grams of pure alcohol daily for respectively men or women; Eurostat n.d.), and these rates are increasing (OECD, 2017). In comparison the EU-27 average

levels are 3.4 percent and 2.0 percent for men and women, respectively (Eurostat, n.d.). Obesity is also a growing problem in Latvia, though it is higher among women.

There are gender disparities in healthcare system utilization. Men in Latvia are less likely than women to seek out preventative healthcare services, such as screenings and regular check-ups, which results in delayed diagnosis and treatment. Due to societal perceptions of men being strong and healthy, men place less importance on their own health, resulting in a tendency to overlook or neglect personal well-being (Gatulyte et al., 2022). Paired with a severely underfunded healthcare system (OECD, 2017), this pattern contributes to increased GGLE.

Inadequate health literacy among Latvian population (Gatulyte et al., 2022) can also have an impact on health outcomes via delays in seeking care, incorrect use of medications or treatments, and poor adherence to healthcare recommendations.

Men are more prone to take risks while women are more risk averse. Higher overall risk-readiness for men is specifically shown in smoking, drinking, drugs, sex, driving and gambling (Zuckerman and Kuhlman, 2000). Even though proneness to risks may be biologically determined, risky behaviours

such as speeding, driving under the influence of drugs or alcohol, dangerous activities may be limited by interventions, and they are found to be sensitive to both reward and punishment (Cross et al., 2011).

There is also a well-established connection between mental health and suicides. Intentional self-harm occurs impulsively during moments of crisis when the individual is unable to effectively cope with life stressors, for example financial problems, relationship breakdowns, or illness. However, mental disorders are often stigmatized, which deters individuals from seeking the necessary support (WHO, 2021). Men are especially sensitive to the stigma, which prevents them from reaching out for help and treatment, as studied by Lascenko (2021) in Latvia. Research also suggests that men tend to neglect their feelings and are ashamed to ask for help, especially in societies like the Latvian one where they are expected to be "strong".

## What Are the Socioeconomic Implications?

GGLE has broad socioeconomic consequences that affect individuals, families, and the economy. In the economic domain, premature deaths, especially among men, reduce the labour force, slowing down economic growth and hindering investment as repeatedly emphasized by the Foreign Investors Council in Latvia (FICIL, 2019). In Latvia the labour market is tight, and employers find it difficult to fill vacancies. In per capita terms, production losses associated with early deaths in Latvia were 590.2 EUR a year (420.20 EUR from premature male mortality), the second highest in the EU and 1.7 times higher than EU average. Ortega-Ortega et al. (2022) estimated cancer-related premature mortality losses in Latvia in 2018 to be 0.59 percent of GDP, 56 percent attributable to male mortality. These and other estimations suggest that the economic implications from avoidable deaths in Latvia are substantial.

In the social domain, implications are probably even more severe, albeit difficult to measure. Women live longer and reach far into post-retirement life, so they rely more heavily on pension benefits. But women also receive smaller pensions due to their lower average lifetime earnings and shorter work histories, which leads to increased economic insecurity in old age. In the Latvian society gender roles are relatively traditional: the main family breadwinners are commonly men, while women take responsibility for children and other family members. Premature deaths in such households leave surviving family members, more commonly women, at financial risk. The percentage of individuals at-risk-of-poverty is as high as 26.3 percent among women and 20.1 percent among men (Eurostat, n.d.), and the difference is increasing with age. Furthermore, the psychological and emotional toll of losing relatives prematurely is non-quantifiable, but is real and carried more often by women.

## Conclusions and Policy Recommendations

Gender is one of the several population-stratifying factors along with education, socio-economic status, ethnicity and urban-rural divide that generates inequalities in the face of death (Krumins & Dubkova, 2012). However, in Latvia the disparities by gender in life expectancy are the biggest of all. While the biological gap in life expectancy between genders cannot be avoided (Hossin, 2021), the differences arising from behaviour can potentially be influenced and the gap can be reduced with efficient health and social policies. However, Gobina et al. (2021,) note that "persisting gender disparities in life expectancy and preventable mortality rates suggest a continuing lack of tailored public health policies to tackle the gender gap in health status in Latvia".

The sizable premature male mortality from different causes of avoidable mortality seems to play a major role in explaining the large gender inequalities in life expectancy and the overall low life expectancy in Latvia relative to other EU countries, though premature female mortality

from avoidable causes is also significant. Considerable gains in life expectancy could be achieved from reduction of preventable mortality with policies to facilitate and promote four areas of healthy behaviours: reduction of alcohol and tobacco (including vape) use, encouragement of physical activity and healthy eating habits. This can be achieved through a combination of incentive-based and punitive measures.

Treatable mortality is linked to availability and utilisation of health care. In this regard, the Latvian population would likely gain substantial number of life years if the government was to (a) strengthen the healthcare system, particularly in terms of improving access to healthcare services and investing in healthcare infrastructure, and (b) introduce preventive healthcare policies, such as regular check-ups, screenings, and vaccinations, that help detect and treat health conditions before they become fatal.

By implementing these policy instruments, it may be possible to reduce the burden of both preventable and treatable mortality, improve overall health outcomes in the population and cut the gender gap in life expectancy.

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