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# Modern inequalities: a review of the literature

***Abstract***

*This article reviews the main results of recent empirical research on the topic of income and wealth inequalities, with a special focus on Bulgaria, taking extensive account of the impact of Covid-19 which, according to the data, is responsible for 'the largest annual increase in global inequality and poverty since at least 1990'. It is clear that social and macroeconomic shocks have a major impact on trends in inequalities. The aim of the article is to summarise the latest research on the subject in order to establish a starting point for the formulation of an adequate economic policy by national governments. The goal of such a policy should be to reduce inequalities to levels in socially acceptable ways which, on the one hand, would lead to an increase in general economic well-being and, on the other, also to an increase in social justice. Reducing the gap between rich and poor to ensure a fairer and more sustainable future means using all the tools of economic policy, both monetary and fiscal, which are available. A literature review such as this one fits precisely into this debate and would greatly assist future policymakers determine policies that work.*

***Keywords:*** *inequalities, economic policy, welfare economics, wages, household income gaps, wealth, poverty, Covid-19, gender inequality*

## Introduction

Social and macroeconomic shocks influence the development of inequalities. In this respect, the Covid-19 crisis poses many challenges to modern societies in economic, social, political and demographic terms. The development of this process has potentially put back the global fight against poverty and inequality by a whole decade and, in certain parts of the world (Africa and the middle east), this delay is estimated to be at least 30 years (Oxfam 2020). This phenomenon can also be attributed to the initial assessment of the ILO (2020) that a minimum of 25 million jobs will be lost and will not be restored after the end of the pandemic. In this sense, to date there are a number of destructive processes of social polarisation going on at the same time.

After all, inequality around the world has become the theme of not just the past few years but of the whole decade. Statistically speaking, there is a real danger that the next two generations will live in conditions of very low or even zero economic growth; and that this carries a real threat in the sense of identifiably increased ethnonationalist conflict (Cederman et al. 2011). The social consequences of the unfair distribution of the added value generated will now not be overcome for many years.

This article reviews the most recent empirical literature on the issue of income and wealth inequalities around the world, with particular regard to inequality in Bulgaria. The aim is to provide an overview of the latest research on the subject as a means of laying down a basis for upgrading the literature: a preparatory step to the formulation of adequate economic policies to reduce inequalities in socially acceptable ways that stimulate intensive economic growth. Specific attention is devoted to Bulgaria as it is, according to all the quantitative indicators that examine this process, the country with the most pronounced inequalities in the EU.

## Literature review

Korinek and Stiglitz (2017) argue that the reduction of inequalities contributes effectively to the increase of economic growth. Similar conclusions are reached by Piketty (2014), the valuable thing about whose research is that, despite the philosophical prejudices, he emphasises empirical data which makes his analysis practically indisputable in modern times.

### *Labour markets and income inequalities*

Heathcote et al. (2010) conducted an empirical study on inequality in the US between 1967 and 2006. The authors used panel data with their main independent variables being: 1) country population data; and 2) household income data, mainly from wages. In order to assess the different dimensions of inequalities according to the choice of economic subjects, markets and institutional features, a household mapping model is followed, based on the constraints on household budgets that result from wages. To a large extent, the research concentrates on measuring income inequalities because the mapping is itself a function of the wage which, in this case, is also considered as the main income in households.

The results show that a change in the distribution of hours worked between different groups of households led to an increase in income inequalities in 1982, but that this influence decreased in the period after that. Moreover, the role of tax policy and transfer payments positively reduces this effect and compensates for the increase in inequalities caused by such changes. This is especially true at the bottom of the income distribution; that is, for people with the lowest wages. The third important conclusion of the authors is that the higher the access of individual households to financial markets, the more limited the growth of inequalities in the long run.

Here it is important to clarify that the wage is one component, albeit a major one, of the total compensation of wage labour in the national economy. The structure and development of wages and wage compensation are important features of any labour market and, usually, the two concepts correlate positively with each other. Therefore, the empirical results are valid to the extent that US wages during this period overlap with the meaning of the concept of ‘total labour compensation’. This is the biggest limitation in the scope of the study. The conclusion about the role of tax policy in reducing or limiting inequalities is a valuable one, however, since a similar type of economic policy could be applied in other countries that do not use all the tax instruments that fiscal policy puts at their disposal to reduce market imbalances. Such a country, for example, is Bulgaria.

Ilyas and Siddiqi (2010) use the Auto Regressive Distributed Lag (ARDL) cointegration method to examine the relationship between household income gaps and economic growth in Pakistan using panel year series data over the period 1980-2008. The results show that the income gap is statistically significant and has a negative effect on economic growth; that is, the wider the gap between individual household incomes, the lower is economic growth. Therefore, the size and shape of inequalities in a society have a direct effect on the potential of that society's economy as measured by economic growth.

Muyeed and Barman (2019) repeat the research using the same methodology but for the economy of Bangladesh. To investigate the impact of household income gaps on the economic growth of Bangladesh, data are taken from the Bangladesh National Board of Revenue and the World Bank for the period 1972-2010. The stationarity of the data is assessed using a unit root test, more widely known as the Dickey-Fuller (DF) test. An ARDL model was used to establish the relationship between the difference in income and economic growth; and information criteria based on Akaike's Information (AIC) and Bayesian Information Criteria (BIC) tests were used to pre-identify the best ARDL model.

The final results show that there is a significant relationship between the household income gap and the economic growth of Bangladesh, with the direction of influence again being negative. They also prove that there is a significant positive relationship between foreign direct investment and the growth of the Bangladeshi economy.

In the last few decades, there is more and more empirical evidence that wages have, after 1980, been increasing at a lower rate than productivity. This trend is fundamental in the context of the debate about growing income inequalities. Shierholz and Mishel (2011) describe a widening gap between the growth rates of wages (labour compensation, including bonuses) and the growth rates of productivity, leading specifically to a rise in income inequality in the long run. Harrison (2009) reports a similar mismatch between real income growth and productivity growth in the US and Canada which, he argues, has largely been responsible for the rise in income inequality in the two countries over the past few decades.

According to the 2022 *World Inequality Report* issued by the United Nations Development Programme (Chancel et al. 2022) showed that global inequalities between countries have decreased over the past two decades: the gap between the average incomes of the richest 10 per cent and the poorest 50 per cent globally has fallen to a multiple of just under 40.

Nevertheless, inequalities are increasing significantly within countries. The gap between the average incomes of the richest 10 per cent and the poorest 50 per cent nationally has doubled, from a multiple of 8.5 to one of 15. The average adult earned an annual 16 700 euros at purchasing power parity in 2021, while the average savings of an adult is 72 900 euros. Serious inequalities remain noticeable both between and within countries. The richest 10 per cent of the world's population, as of 2021, receive 52 per cent of the world's income while the poorest 50 per cent earn just 8.5% of it. On average, an individual in the top 10 per cent earns 87 200 euros per year while an individual in the poorest half earns 2 800 euros.

The report also shows that income inequalities vary widely across regions, with the smallest inequalities seen in Europe and the largest in the middle east and north Africa. In Europe, the share of income of the richest 10 per cent is about 36% while in the middle east and north Africa it reaches 58%. In east Asia, the richest 10 per cent earn 43% of total income and in Latin America 55%. In Bulgaria in 2021, the richest 10 per cent received 42% of total income while the poorest 50 per cent earned only 16.7%.

Korinek and Stiglitz (2017) believe that inequality is one of the main challenges posed by the spread of artificial intelligence and other forms of technological progress that can replace workers. Such reasoning is becoming increasingly popular, especially in the current recession and in the aftermath of the Covid-19 pandemic. The recent dramatic increases in technological capabilities seen in the fields of robotics and artificial intelligence present society with countless opportunities and challenges. In order that society benefits effectively from these technologies, there must be complete and thorough information, leading to improved understanding of the impact of robotics and AI on growth, productivity, labour and equality (Seamans and Raj 2018).

Bruni (2022) examines inequalities between countries with an emphasis on demographic factors. He argues that population growth has played an important role in facilitating the convergence of the per capita incomes of middle and high-income countries. At the same time, however, inequalities in low-income versus high-income countries remain pronounced. The study argues that the process of demographic transition, affecting the three main age groups, generates several interrelated challenges – the challenge of education; the challenge of employment; and the challenge of migration. The author writes that, in the coming decades, the demographic transition will create ‘demographic polarisation’ among rich countries, leaving them with structural labour shortages. On the other hand, poor countries will be affected by a structural labour surplus, making mass migration inevitable. In Bruni’s view, whether these contrasting demographic changes widen the per capita income gap between countries depends critically on how migration flows are globally managed.

The data researched by Lübker (2004) shows that, with 93.6% in agreement, east Germans rate income distribution much more critically than west Germans, of whom only 75.7% share the view that income is distributed too unevenly in Germany. This shows that people raised in different societies can perceive the same things – in this case, income distribution within a unified Germany – quite differently. In several other western European countries, such as the Netherlands, Norway and Sweden, the level of agreement is similar to that of west Germany. The lowest percentages in agreement with this statement – around two-thirds – are found in Cyprus, the Philippines, Switzerland and the United States. The author's results also show that a majority of people in developing, developed and transition countries support people in rich countries paying extra tax to help those in poor countries.

### *Wealth distribution and inequalities*

The UNDP *World Inequality Report* for 2022 also showed that global inequalities in wealth are even more pronounced than inequalities in income (Chancel et al.

2022). The poorest half of the world's population has almost no wealth, holding only 2 per cent. In contrast, the richest 10 per cent of the world's population owns 76% of the wealth. In Bulgaria, the richest 10 per cent owned 58.7% of the country's total wealth in 2021 while the poorest 50 per cent hold only 4.8% of it.

Laitner (2001) argues that the distribution of wealth between US and UK households has become more equal over the past century than before although, at least for the US, the trend may reverse in the coming decades. The model predicts increasing equality in the cross-section of wealth when longevity or life expectancy increases. According to the author, slower economic growth can also be a factor in greater equality in society.

Niimi & Horioka (2016) attempt to measure the implications for inequality of intergenerational transfers and wealth inheritance. They attempt to answer the question of whether individuals who receive intergenerational transfers from their parents are more likely to leave bequests to their children than those who do not. The authors use data for Japan and the United States. The estimation results show that receiving intergenerational transfers does increase the likelihood that people leave bequests to their own children, in both Japan and in the United States, which, in turn, is likely to contribute to widening wealth inequalities in the long run. However, the authors find that such a trend is stronger among poorer households in both countries, which may help, at least to some extent, mitigate the impact in this respect of intergenerational transfers.

Grabka and Westermeier (2014) carry out an analysis based on a constructed model and conduct panel research on social and economic data. According to the results of their research, the total net assets of households in Germany in 2012 amounted to 6.3 trillion euros, while 28% of the elderly population have no or even negative net worth. Average individual net assets in 2012 were over 83 000 euros, up slightly from a decade earlier. Another result of this research shows that the degree of wealth inequality has also remained virtually unchanged in Germany over the last two decades. The authors conclude that Germany has a high degree of wealth inequality compared to other countries and that there is still a large gap between west and east Germany in this regard: in 2012, the average net wealth of households in east Germany was less than half that of households in west Germany.

Lübker (2004) uses the data collected by the International Program of Social Surveys in 1987, 1992 and 1999 to examine how people around the world perceive inequality within their country, as well as between countries, and how much they support domestic and international redistribution. The survey shows that 90 per cent agree that the economic gap between rich and poor is too wide. This percentage is over 95 in eastern European countries such as the Russian Federation, Bulgaria and Latvia, but the same figure is recorded elsewhere, e.g. in Brazil and in Portugal.

Another characteristic of modern inequalities is that, in the last 40 years, countries have generally become richer but their governments have become poorer. The share of wealth held by public authorities is close to zero or negative in rich countries, meaning that all wealth is in private hands. This trend has been reinforced by the Covid-19 crisis during which government debt increased by an average of 10-20 per cent of GDP, sourced mainly from the private sector. This affects the profitability of countries and puts social policies at risk.

### *Impact of Covid-19*

Mahler et al. (2022) examine the impact of the pandemic on the level of inequalities worldwide. They triangulated various available data sources to obtain a global picture of the impact of the pandemic on inequality and poverty in 2020, using the World Bank's 2019 wealth distribution covering 168 countries, including more than 97% of the world's population. To project the development of inequalities in 2020, the researchers use published household surveys available for 20 countries and tabulated household income statistics available from national statistical offices for a further eight. Researchers also conducted similar telephone interviews in 37 countries to provide a real-time picture of the pandemic. Although these surveys do not contain information on household income levels, they do include information on whether households have gained or lost income. For 26 countries that do not have any of the above three data sources, the researchers rely on simulation estimates published in the literature or provided by the World Bank. For the rest of the world, comprising approximately 18% of the world's population, growth is taken from national accounts (disaggregated by economic sector where possible).

The researchers conclude that the pandemic has caused the largest annual increase in global inequality and poverty since at least 1990. The data shows that the global Gini coefficient in 2020 increased by 0.7 points (or about 1%) compared to 2019; and that the number of people living below the international poverty line, of 2.15 dollars a day, calculated at purchasing power parity, increased by 90 million people. Poorer countries have faced greater economic shocks from the pandemic. As for inequality across national borders, Mahler et al.'s data show that many countries, especially the more populous ones, are seeing a decline in inequality, while the researchers also point out that the pandemic has not been as severe in low-income countries since it hit rural areas, where the poor predominantly live, less forcefully.

Lakner et al. (2022) also examine the impact of Covid-19 on poverty, with the results showing that the pandemic pushed about 60 million people into extreme poverty in 2020.

According to Sparke and Levi (2022), global inequalities also spilled over into access to vaccines against Covid-19, which remains a persistent source of global health uncertainty due to mutations of the virus. Scientists emphasise three ways to overcome these inequalities – namely, 'vaccine diplomacy', 'vaccine charity' and 'vaccine freedom'. Vaccine diplomacy involves a variety of bilateral vaccine supplies constrained by geopolitical considerations. Vaccine charity includes the humanitarian work of global health agencies and governments organised within the COVAX programme against inequitable access to vaccines. Despite their many promises, however, both vaccine diplomacy and vaccine charity have failed to deliver the doses needed to close the global vaccination gap.

The World Bank's latest *Poverty and Shared Prosperity Report* (World Bank 2022) argues that the world is unlikely to meet the goal of ending extreme poverty by 2030 if the remainder of this decade lacks record economic growth. The study reports that Covid-19 has delivered the biggest setback in global poverty reduction efforts since 1990 and that the war in Ukraine is making matters worse. The World Bank estimates that the pandemic pushed about 70 million people into extreme poverty in 2020, the largest annual increase in global poverty since 1990. As a result, some 719 million people were living on less than 2.15 dollars a day by the end of 2020.

The Report further shows that 2020 marked a historic turning point in global income convergence. According to the data, income losses averaged 4% for the poorest 40 per cent, double the losses for the richest 20 per cent. As a result, global inequality is increasing for the first time in decades.

According to the World Bank, the average poverty rate in developing economies would be 2.4 percentage points higher than it is today without the increased fiscal spending and the population support schemes which countries undertook. The wealthiest countries have been able to offset the impact of Covid-19 on poverty in full through fiscal policy and other emergency support measures. On the other hand, higher-middle income economies offset only 50 per cent of the impact on poverty, while low and lower-middle income economies offset only a quarter of it.

### *Poverty alleviation and sustainable development*

The World Bank (2022) report referred to above points out that extreme poverty is now concentrated in parts of the world where it will now be most difficult to eradicate it – sub-Saharan Africa, conflict-affected areas and rural areas. Sub-Saharan Africa is home to 60 per cent of all those in extreme poverty – 389 million people. The poverty rate in the region is around 35 per cent and is the highest in the world. To meet the poverty reduction target by 2030, each country in the region will need to achieve per capita GDP growth of 9% per year for the remainder of this decade against a backdrop where per capita GDP growth in these countries averaged 1.2% in the decade before Covid-19.

The elimination of extreme poverty by 2030 and a more equal distribution of income are part of the UN's Sustainable Development Goals. In this context, Lakner et al. (2022) use data from 166 countries, comprising 97.5% of the world's population, to simulate global poverty scenarios from 2019 to 2030 under different growth and inequality assumptions. Scholars use different assumptions about growth diffusion curves to model changes in inequality. Holding a country's inequality unchanged and letting its GDP per capita grow at World Bank projected and historically observed growth rates, the simulations show that the number of extremely poor people (living on less than 1.90 dollars a day) will remain above 600 million in 2030, resulting in a global extreme poverty rate of 7.4%. If the Gini index in each country were to fall by 1 per cent per year, the global poverty rate could have dropped by that same year to about 6.3%, which equates to 89 million fewer people living in extreme poverty. A decrease in each country's Gini index by 1 per cent per year has a greater impact on global poverty than an increase in each country's annual growth rate of one percentage point above projections.

### Globalisation

In his book, François Bourguignon (2015) explores the links between globalisation, which has raised the living standards of over half a billion people in developing countries such as China, India and Brazil, and the exponential increase in inequality within countries. Exploring the role of globalisation in the evolution of inequality, Bourguignon considers the reduction of inequality between nations, the increase of inequality within them and the policies that can mitigate the negative effects that inequality has on people. He concludes that globalisation limits the scope of some of the potential instruments of redistribution.

Zanden et al. examine the development of global inequalities between 1820 and 2000. Their data show that, between 1820 and 1950, rising per capita income was accompanied by rising global inequality. Inequality within national borders did not show such strong long-term changes, although in many countries it showed a downward trend in the middle decades of the twentieth century, often followed by an increase in national inequalities after 1980. After 1950, global inequality, measured by the Gini coefficient or the Theil index, has remained more or less constant. It also appears that the global income distribution was unimodal in the nineteenth century, bimodal between 1910 and 1970 in view of the two world wars, global economic crisis and deglobalisation, before suddenly transforming back into a unimodal distribution between 1980 and 2000. According to the authors, the globalisation of the last decades of the 20th century led to a sharp increase in inequalities within countries and to the sudden re-appearance of a unimodal distribution of income on a global scale, accompanied by a slight decline in inequalities between countries.

For his part, Ghose (2004) analyses the effect of trade liberalisation on global income inequality. Using an analysis of the trend in global inequalities over the period 1981-1997, Ghose finds a process of convergence in the growth of inequalities between countries as a result of some developing countries achieving significantly faster economic growth than developed industrialised ones. The author also finds that, while improved trade outcomes have a stimulating effect on countries' economic growth, trade liberalisation has varied effects on trade outcomes across countries and that the distribution of the benefits and costs of trade liberalisation between countries has been towards the reduction of international inequalities without necessarily affecting inequalities between countries.

### Climate change

Understanding the causes of inequalities is critical to achieving equitable economic development. According to Diffenbaugh and Burke (2015), the extent of anthropogenic influence on the climate has increased economic inequality between countries. For example, GDP per capita has been reduced by between 17 and 31 per cent in the poorest four deciles of the country-level GDP per capita distribution. Thus, the gap between the top and bottom deciles is 25% greater than in a world without global warming. As a result, although inequality between countries has decreased over the past half century, the researchers say that there is about a 90% chance that global warming has slowed this decrease. The main driver of this is the parabolic relationship between temperature and economic growth, with warming increasing growth in cold countries and decreasing growth in warm countries. Although there is uncertainty as to whether historical warming has benefited some temperate, rich countries, for most poor countries there is a greater than 90% probability that GDP per capita would be lower today than if global warming had not occurred.

In the context of the green transition, Chancel (2022) examines inequality in carbon dioxide emissions over the period 1990-2019, finding that the poorest 50 per cent of the world's population accounted for 12% of global emissions in 2019 while the richest 10 per cent are responsible for 48% of total emissions. Since 1990, the poorest half of the world's population has been responsible for only 16% of rising emissions, while the richest one per cent have been responsible for 23%. While the per capita emissions of the richest one per cent have increased since 1990, emissions from low and middle-income groups in rich countries have actually declined. Thus, contrary to the situation in 1990, 63 per cent of the global inequality in emissions is now due to the difference in emissions between population groups within countries, not to the differences between them. Meanwhile, most of the total emissions of the richest one per cent of the world's population come from their investments, not their consumption.

### *Within-country inequality*

The Commitment to Reducing Inequalities Index,[1] published by OXFAM and Development Finance International (Walker et al. 2022), places Norway first among the countries surveyed in its efforts to reduce inequalities in 2020. It is followed by Germany and by Australia, which rose from 16th to 3rd place. All of the top 10 places in the ranking are occupied by rich OECD countries. One reason is that richer countries have much more opportunities to collect tax revenues which can then be spent on public services and social protection.

However, the data shows that even those countries that are at the top of the ranking have to put in significant effort. Norway is only 12th in terms of its public services: it spends less of its budget on education and health than most OECD countries. The country ranks 15th in taxes after sharply cutting top personal and corporation tax rates in 2000 – although a temporary cut in the very high rate of VAT on food did help to reduce inequality during Covid-19. At the same time, the minimum wage has grown more slowly than GDP, placing Norway third in the labour pillar. Germany scores high on labour rights and recently implemented a sharp increase in the minimum wage, but education expenditure remains low and VAT high. Australia's sharp rise in the rankings is due to new measures against tax evasion and a big increase in the minimum wage in July 2022. However, the country offers short and only low-paid parental leave, and ranks as low as 40th in the labour pillar.

1 The Commitment to Reducing Inequality Index is a ranking of 161 countries according to the extent to which their authorities are taking steps to reduce domestic inequalities. The index ranks authorities' efforts based on action in three areas, or pillars, vital to reducing the level of inequalities: social spending; taxation; and labour.

On the other hand, the lowest-performing countries are all lower-income countries, many of which are or have recently been severely affected by internal conflict and political instability. South Sudan continues to be at the bottom of the index, followed by Nigeria, both performing poorly on all pillars of the index. Guinea and Sierra Leone make the bottom ten because of reduced corporate tax rates, Uganda because of a sharp drop in the share of social spending in the budget and Côte d'Ivoire because of a decline in tax productivity.

Bulgaria is in 62nd place in the ranking, a fall of twenty places. The breakdown by pillars shows that the country ranks 47th in social services, 144th in tax fairness and 46th in labour. According to the Report, the Bulgarian tax system is one of the most regressive in the world: the VAT rate is twice the income tax rates of the wealthiest and of corporations, who pay just 10%. Meanwhile, the minimum wage in Bulgaria has fallen by one-tenth as a share of GDP, ranking the country in 88th place in terms of minimum wages.

### *Gender inequality*

A major source of gender inequality is wages for work. According to Eurostat data for 2020,[2] women's gross hourly earnings were, on average, 13.0% below those of men in the European Union (EU) and 14.1% in the Eurozone (EA19). The lowest pay gap is observed in Luxembourg (0.7%) and the highest in Latvia (22.3%). In Bulgaria, women earn on average 12.7% less than men. Examined by sector in the economy, only in construction do women in Bulgaria receive higher wages than men, probably a reflection of the higher education of women working in the sector. Furthermore, Eurostat data shows that, in 2020, the majority of EU countries recorded a higher gender pay gap in the private sector than in the public sector. The private sector gender pay gap varies from 8.5% in Belgium to 22.6% in Germany; and in the public sector from -0.6% in Poland to 18.4% in Latvia. In Bulgaria, the picture is reversed as, in the public sector, women are paid 14.3% less than men; while in the private sector the difference is 12.3%.

The 2022 *World Inequality Report* also provides an estimate of gender inequality in global income. According to its data, women receive an average of 35 per cent of total income from labour, although this was higher than the figure of below 30 per cent in 1990.

In its report *It's not too late to dream: Aging with dignity for women in Bulgaria*, the Foundation 'Solidarity in Action' writes that, in the countries of the EU, with the exception of Hungary, older women are on average poorer than older men. According to the report, poverty rates for the over-65s in Estonia, Latvia and Lithuania are roughly twice as high. Additionally, the recession of 2008 to 2011 worsened living conditions, especially for those on the lowest incomes, most of whom are women. As an example, the report states that material deprivation has increased by 2 to 5 per cent in Hungary, Greece, Spain and Ireland.

2 Gender pay gap figures (unadjusted form) are published by Eurostat at: https://ec.europa.eu/eurostat/databrowser/view/sdg_05_20/default/table?lang=en (accessed 23 June 2023).

In its 2016 publication, the Institute for Market Economics[3] wrote that, among people aged 60 and over, 20% of men and 29% of women are characterised as poor. Among people 75 and older, the relative share of men living in poverty is 22.6% but the percentage of women in this age group living in poverty stands at the appreciably higher figure of 35.6%.

As far as academia is concerned, the empirical evidence shows significant gender differences. Huang et al. (2020) explore these disparities, starting with the assumption that women are underrepresented in most academic disciplines and publish fewer articles throughout their careers, with their work being less often cited. The researchers conducted a bibliometric analysis of academic publications, reviewing the publications of more than 1.5 million gender-identified authors whose publishing careers ended between 1955 and 2010, spanning 83 countries and 13 academic disciplines. They find that the increase in women's participation in science over the past 60 years has nevertheless been accompanied by a widening of the gender gap in terms of both productivity and impact. The data show that, while men and women publish at comparable annual rates and demonstrate equivalent impact for the same amount of work, differences in career length and attrition rates explain much of the reported differences in overall career productivity and impact.

## Conclusions

In conclusion, global inequalities are a serious problem which have many implications for economic and social development across the world. Despite strong economic growth in many countries, the gap between rich and poor continues to widen, leading to economic tensions.

Global inequalities in income and wealth can affect many aspects of life, including health, education, access to resources and the ability to participate in politics. It is therefore important to continue efforts to reduce the gap between rich and poor in order to ensure a fairer and more sustainable future for all people – and to use all the tools of economic policy, both monetary and fiscal, which are available.

Achieving this goal requires measures at the level of countries, international organisations and society as a whole, including tax reforms, improving education and access to health care and creating equal opportunities to ensure a more equitable distribution of wealth and to improve the quality of life for everyone, wherever they are in the world.

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