The Role of Government Amidst Global Challenges*

Gábor P. Kiss – Katalin Szőke – Dóra Novák

The global trends emerging in the 21st century pose new challenges for economies and societies. In addition to individual involvement, many of these challenges require public policy and fiscal action, due to their complexity or scope. The most significant challenges, which have universal impact at the global level and are the subject of our study, are ageing, climate change, the digital revolution, the increasing importance of security policy, growing economic inequality, the rising burdens of public debt and the impact of globalisation on tax revenues. In this essay, we examine the impact of these simultaneous, large-scale trends, which increase budgetary expenditure and reduce revenue, on government budgets.

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1. Historical overview

The current role of government and the government budget in the economy, which varies from country to country but is significant overall, is a relatively new phenomenon in historical terms. Looking back over the long term, the government's weight in the economy has been growing steadily. This trend was most significant in the first three quarters of the 20th century, and has been more volatile since then (*Figure 1*).

Until the end of the 19th century, governments intervened only modestly in the economy. Although the history of taxation is as old as civilisation itself, its level was moderate for centuries, even millennia, compared to today's conditions. At the turn of the 19th and 20th centuries, government revenues typically remained below

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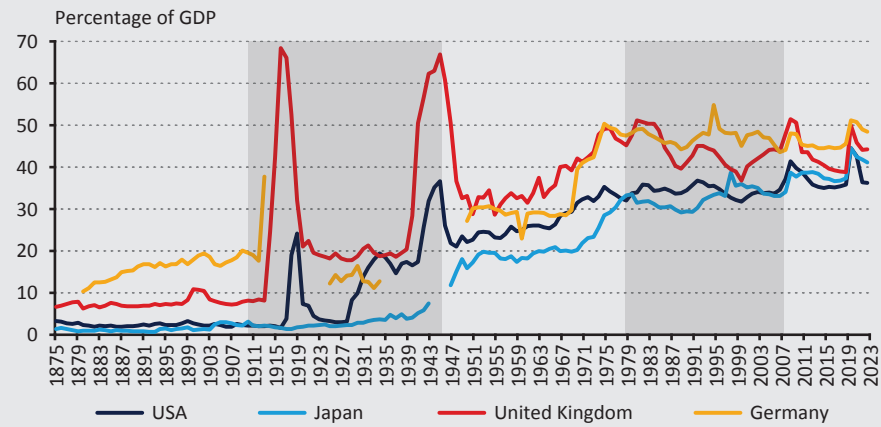
10 per cent of gross national product, which primarily covered the maintenance of basic government functions (national defence, public safety, public administration), while the role of redistribution was virtually non-existent.

However, there was a gradual increase in demand for the government to play a welfare role. For centuries, this was carried out in the form of social self-organisation (e.g. mutual benefit societies), but only sporadically and within a narrow circle. Growing demand and the expansion of suffrage from the end of the 19th century gradually led to the creation of new government institutions, such as pension and health insurance systems.[1] This increased the expenditure-to-GDP ratio, prompting corresponding budgetary adjustments, including increases in tax revenues.

Figure 1
Government expenditure as a percentage of GDP (1875–2023)



Source: IMF

From the early 1900s, but mainly during World War I and after the global economic crisis of 1929–1933, public expenditure rose steadily; therefore, government revenues also had to be gradually increased to cover it. The expenditure side was also increased by defence costs and the compensation costs of indirect effects incurred as a result of the war, as well as by public procurement and investments. The Keynesian economic model emerged, in which the budget was intended to play a role in stabilising economic cycles. Consolidation of the welfare state in Western societies after World War II is closely linked to the expansion of social rights, i.e. that everyone should be given the opportunity to enjoy a certain minimum level of economic welfare and security. As a result, although it had already appeared in

[1] Due to the retirement age exceeding the lower life expectancy at birth at the time, this expenditure did not place a significant burden on the budget.

some countries decades earlier, social security replaced mutual benefit societies on a wider scale, thereby increasing welfare spending, which in many countries raised the rate of government redistribution to over 50 per cent of GDP.

From the 1970s to 2010, as economic openness increased, the neoliberal approach sought to reduce the economic role of the government. The prefix "neo" indicated that the intention was not to return to *laissez-faire* economic thinking but rather to accept the role of the government in the modern economy, while conceiving of its role within strict frameworks and rules so as not to jeopardise the functioning of the market. As a result, government activism declined, the outsourcing of some of the tasks taken over by the government began, privatisation processes started and the dismantling of government regulation began – for example, the deregulation of freight transport, air transport and the financial system. In the former socialist region of Central and Eastern Europe, the wave of privatisation and deregulation began with the change of regime, later than in Western countries. The idea of a limited government, which was still dominant in the 1990s, was called into question in the 2010s (*Győrffy 2025*).

The role of government strengthened again in the 2010s and even more so in the early 2020s, driven first by the 2008 financial crisis and later by the series of widespread crises in the 2020s. The role of government becomes more important during financial and war crises, health emergencies and natural disasters. As a result, there is a growing demand for the regulatory function of the government, and fiscal expenditures and public debt increase. In the wake of the financial crisis, banking regulations were reviewed, and economic and industrial development came to the fore. During the Covid pandemic, individual governments significantly increased support for households and firms to help them weather the economic recession caused by lockdowns. Subsequently, in order to mitigate the effects of the global inflationary shock, many countries increased the number of various forms of government intervention (price controls, tax reductions, providing subsidies). As economic influence has grown, so has the regulatory framework through which government fulfils its economic role. It is important to find the right balance in regulating the economic system (*Nagy 2022*). This is because regulation has economic costs similar to those of taxation.

Therefore, overall, responses to significant social and economic challenges have determined the development of government budgets over the past 100–150 years, and we can continue to expect this to be the case. It is necessary to strengthen global coordination between governments, as problem areas have emerged (financial markets, environmental protection, energy policy, clean water, etc.) that governments are no longer able to remedy on their own (*Kálmán 2013*). *Elekes* (*2018*) used the three biggest global risks of the past decade (financial and fiscal risks, long-term unemployment and oil shock) and their potential impacts to show

when government intervention is absolutely necessary to avoid further negative effects. These examples also highlighted that the role of government is changing. A number of fundamental factors, geopolitical contexts and the need to address commitments related to pandemics or climate change may lead to policies that require the reorganisation of value chains. Economic policies should focus on increasing productivity and competitiveness (*Halmai 2023*).

2. Global challenges

The 21st century is characterised by the interconnection of inherited and newer global problems and ongoing transformations, while demographic, political, economic, technological and regional or global changes within governmental frameworks are unfolding at different speeds across societies (*Simai 2018*).

In the following, we examine how global challenges that affect all countries in the same way (typically negatively) will impact budgets in the future.[2] Attempts have been made to conduct a consolidated analysis and a detailed examination of the debt and expenditure-revenue structure (see, for example, the Office for Budget Responsibility (OBR)), but even these emphasise (*OBR 2018*) that there is a trade-off between comprehensiveness and certainty. Their method is criticised in seven points by *Baksay* and *P. Kiss* (*2023*). One of their findings is that it is not justified to assume that the accumulation of fixed assets will remain unchanged as a proportion of GDP, as it may decrease significantly in the long term if GDP-proportionate stocks converge with development or if they are independent of it, in which case their size will be determined by population trends (*Fanelli 2018*). In our essay, we do not attempt to apply the appropriately corrected methodology of the *OBR* (*2018*); therefore, we discuss the processes of global challenges separately. Since the beginning of the 21st century, there has been an increase in the number of studies and analyses presenting global medium- and long-term changes and the related risks. Among these, the report entitled *Global Trends*, published every four to five years by the Washington-based National Intelligence Council, and the *Global Risks Report*, published ahead of the annual meetings of the World Economic Forum in Davos, stand out. *János Matus*'s (*2019*) study provides a 2-part overview of the ideas and arguments published in the above sources over the past two decades and attempts to place the trends described in the context of international relations theory.

[2] Resource management and geopolitical transformations have different effects on different countries, with varying outcomes. Some will be winners and others losers as a result of these changes. This leads to conflicts, which we will return to in the section on defence and security policy.

2.1. Ageing

Looking at the world as a whole, there is a strong determination that the elderly population is growing both in terms of numbers and proportion, even though there are countries that are currently still in the phase of a population explosion. The proportion of persons aged 65 and over has almost doubled in the last half-century, rising from 5.5 per cent to 10.3 per cent. According to UN population projections, this figure will double again in the next half-century, reaching 20.7 per cent. Demographic trends vary significantly across different regions of the world. Currently, the proportion of persons aged 65 and over is highest in Europe and North America (19 per cent in 2022), which, according to *UN* (*2022*) calculations, could rise to 27 per cent by the middle of the century. By 2050, one in four people in East and Southeast Asia, as well as Australia and New Zealand, may be over 65. Meanwhile, Africa is still in the phase of a population explosion. The population of sub-Saharan Africa will nearly double by 2050. Taking into account changes in life expectancy at birth, the population could reach 2.1 billion. This region has the lowest proportion of elderly inhabitants: In 2024, it was only 3 per cent, and according to the *UN (2024)* forecast, it could be around 5 per cent in 2054 and only rise to 12 per cent by 2100.

An ageing society is therefore primarily characteristic of developed countries, but in the near future, it will pose a challenge for more and more developing countries, including China. Demographic changes have significant economic consequences: they transform the labour market, influence labour productivity, change consumption and savings habits, reshape the structure of production and also affect long-term growth prospects. Ageing puts pressure on government budgets: under current pension and social security rules, public expenditure increases significantly, while revenues decline as a result of shrinking labour supply. According to calculations by the *European Commission* (*2024*), the cost of ageing in the EU, which consists of pension, health, education and long-term care expenditures, accounted for 24.4 per cent of GDP in 2022 and could rise to 25.6 per cent by 2070. However, there is wide variation among EU Member States, with these expenditures in Ireland amounting to only 12 per cent of GDP in 2022, compared to 30 per cent and 27 per cent of GDP in France and Italy, respectively. Healthcare spending is being driven up not only by ageing populations but also by the spread of more expensive medical technology and the fact that higher life expectancy at birth is increasing the period during which people live with chronic diseases, which requires significantly more healthcare spending. In addition, as the dependency ratio increases, it will become increasingly difficult to keep pace with rising costs, as these are funded by contributions from a shrinking working-age population.

Examining data from the United States, *Braun et al.* (*2016*) found that the risk of poverty also increases with age. Pension systems around the world vary greatly in terms of welfare; some consider it the government's responsibility to provide a certain level of care for the elderly (e.g. in a pay-as-you-go pension system), while others encourage self-care, but the lack of government intervention may increase the risk of poverty in old age (*Ebbinghaus 2021*).

The IMF study (*IMF 2025*) examines the rise of the "silver economy", focusing on three key areas: the extent of healthy old age and its impact on labour markets, the broader economic implications of demographic changes, and the role of targeted measures to mitigate the negative effects of ageing on the economy. In many countries, people are not only living longer, but they are also in better health, which translates into longer and more productive working time. Alongside longer life expectancy, the functional capacity of older people has also improved over time. Newer cohorts of older people are physically stronger and have better cognitive abilities than previous cohorts of the same age. Healthy ageing will partially offset the impact of negative demographic trends, but global economic output growth will slow significantly in the 21st century, and many countries will need to make serious efforts to stabilise their GDP-to-public debt ratios. The continued growth in labour supply and the improvement in the human capital of older people due to healthy ageing are expected to contribute about 0.4 percentage point per year to global GDP growth between 2025 and 2050. In a period of global population ageing, a comprehensive policy approach can increase labour supply, boost growth and ease fiscal pressures. The impact of population ageing on growth can be significantly offset by lifelong policies such as supporting the human capital of people between the ages of 50 and retirement age, including health promotion and preventive measures.

2.2. Climate change

Over time, climate change has become one of humanity's most serious global problems, which can only be mitigated through joint efforts the world's governments and private actors. Climate change not only causes temperatures to rise but also leads to droughts, water shortages, wildfires, rising sea levels, floods, melting polar ice caps, catastrophic storms and a decline in biodiversity, among other things.[3]

The negative effects of climate change do not affect different regions in the same way: warming may be much more intense in the middle of continents than near the oceans, while low-lying areas are threatened by sea level rise. It is estimated that 75–250 million people in Africa could be affected by drought and drinking water

[3] UN: *Fast Facts: What is Climate Change?* Climate Action. https://www.un.org/en/climatechange/climate-fast-facts. Downloaded: 9 August 2024.

shortages.[4] Meanwhile, pollutant emissions are not highest in the regions where the consequences are most severe. Most pollutant emissions (or consumption) occur in developed countries, which are less affected by the consequences due to their location. According to *Chancel's* (*2022*) calculation, the top 10 per cent of the world's population is responsible for 50 per cent of global pollution.

The Paris Agreement was signed by 55 countries in 2015, agreeing to keep the global average annual temperature rise well below 2°C compared to pre-industrialisation levels and to make efforts to limit the increase to 1.5°C. To achieve this, greenhouse gas emissions must be reduced by 43 per cent by 2030 compared to 2019 levels, which can be achieved in most regions with zero carbon dioxide emissions. According to UN calculations, maintaining current greenhouse gas emission levels would cause the average temperature to rise by 2.5–2.9°C.[5]

Investments in the green transition are steadily increasing on the part of both the public and private sectors, but they still fall well short of the level needed to achieve zero emissions. According to calculations by *Naran et al.* (*2022*), while USD 364 billion was spent globally on the green transition in 2011, this figure rose to USD 665 billion in 2020, financed roughly equally by the public and private sectors. However, according to IMF calculations, the private sector accounted for more than 75 per cent of total investment in 2020, while in developing countries this ratio is less than 50 per cent. However, achieving zero emissions also requires an increase in private investment in developing countries. *Black et al.* (*2023*) found that USD 900 billion in climate investment was made in 2020, but to ensure zero emissions by 2050, an annual investment of nearly USD 5,000 billion would be needed to be achieved by 2030.

Governments face two types of costs in relation to climate change. On the one hand, they must finance the transition to zero emissions; on the other hand, adaptation costs will also be increasingly high, as they will have to cover the costs of restoration following increasingly frequent forest fires or floods, for example (*IMF 2023*). The increasing costs can be covered by special revenues, such as green taxes, resource reallocation or increasing public debt, which raises questions of fiscal sustainability.

A new, special government source of funding for the green transition is carbon taxes and fees from the Emissions Trading System (ETS), which generated USD 100 billion globally in 2024, doubling the 2019 level (*World Bank Group 2025*). Currently, ETSs and carbon taxes cover about 28 per cent of global greenhouse gas emissions. The revenues generated from these are often used for specific, predetermined purposes,

[4] UCAR Center for Science Education: *Climate Change: Regional Impacts*. https://scied.ucar.edu/learning-zone/climate-change-impacts/regional
[5] UN: *Fast Facts, Temperature Rise?* Climate Action. https://www.un.org/sites/un2.un.org/files/2025-11-11-fast-facts/TemperatureRise_FastFacts.pdf. Downloaded: 9 August 2024.

thereby helping to increase their acceptance. Carbon taxes levy a tax on pollutant emissions and are not yet as widespread as traditional green taxes such as those levied on energy, environmental impact and transportation. As the green transition progresses, these traditional tax bases will shrink. For example, excise duties on fuels may disappear if the transition to electric cars is completed and the emissions trading system (ETS 2) for fuels, currently planned for 2028, is implemented.

In addition to implementing green investments, regulation is an important tool for government, which can impose energy efficiency rules or introduce systems that promote the circular economy, such as the extended producer responsibility system. In addition, governments can review their previous policies, as environmentally harmful companies still receive significant government support, and withdrawing support from these companies could help the transition (*Avgousti et al. 2023*).

Private investment can be increased not only through government regulation or incentives but also through customer demand for environmentally friendly products. Although such demand is growing steadily and customer surveys show rising demand, actual purchases still fall significantly short of projections. One reason for this is that although customers consider environmental awareness to be important, when it comes to making a purchase, they still choose the cheaper product (*White et al. 2019*). Governments can therefore play a key role in reducing the price of environmentally friendly products through subsidies or tax relief and in providing investment support to producers so that they can manufacture such products efficiently and at a cheap price, thereby increasing their competitiveness.

2.3. Technological and data revolution

In the series of technological revolutions, we are currently facing the revolution of digitalisation and artificial intelligence.[6] The question, however, is who will provide the necessary investment resources for this.

During technological leaps, the government has traditionally been an active supporter of basic research, which can later form the basis for essential market technologies. Government-funded innovations were not typically aimed directly at economic goals, but contributed to the creation of technologies such as the internet, LED lights, GPS, radar, wireless communication, etc. Thus, government-funded research represents a technological breakthrough in the economy and is of greatest benefit to the country where the basic research was conducted. Throughout history, the United States has gained global technological superiority through government support for innovation. During World War I, the government played a significant role in innovations in aviation and electronics. However, until the

[6] *Bughin et al.* (*2018*) estimate that the use of artificial intelligence and smart devices in industry and services could increase global GDP by a total of 16 per cent by 2030.

start of World War II, private companies were the driving force behind innovation. World War II, again, brought about a huge change, and the federal government placed much greater emphasis on supporting innovation than before. Centralised, large research institutes were established to support innovation in a number of industries, including electronics, pharmaceuticals and aerospace. The threat posed by the Soviet Union led to a further increase in government spending on innovation, and by the early 1960s, the US federal government was spending more on innovation than all other countries' governments and businesses combined (*Atkinson – Foote 2019*). This huge expenditure resulted in the global technological superiority of the United States in a number of key industries. Within government innovation spending, expenditure on the development of military technologies stood out, contributing significantly to the establishment of the most important technology centres (Silicon Valley, Boston). Although we associate modern technological successes with private companies, they have made use of government innovations – for example, research into Tesla's battery and solar cell technology was funded by the US government, and the touchscreen that made the iPhone a success was developed by the military. In the past, basic research carried out by the government and market-driven innovation by the private sector complemented each other. The question is what their relationship will be in the future.

A more indirect, but equally fundamental relationship is that between government activities and innovation, in that the government can encourage development by ensuring fair competition and protecting intellectual property. In addition, the development of human capital is also largely a public task, primarily through public education, but also through higher education in many countries.

The government can also benefit from the technological revolution. Artificial intelligence, machine learning and similar technologies can increase the effectiveness of public policies, for example, by detecting tax fraud, calculating the social return on investment and generally processing large amounts of data. In addition, these technologies can even support budget planning and implementation as well as government liquidity management.

Digitisation reduces companies' compliance costs by simplifying tax returns and statistical data reporting through the use of secondary source data, such as big data. In Hungary, the introduction of online cash registers has significantly reduced the amount of unpaid VAT, also according to international surveys, thus contributing to a sustainable improvement in budgetary balance and fairer competition by reducing the shadow economy (*Baksay – Szőke 2020*).

In addition to exploiting technological advantages, we must also mention the reduction of risks in relation to government involvement. More and more people are encountering potentially harmful or unreliable digital content: in 2024,

1.3 billion people were affected by cyberattacks, compared to only 343 million in 2023. In 2024, the rate of data leaks increased by 211 per cent compared to the previous year.[7] According to the EU Cybersecurity Agency (ENISA), ransom demands resulting from cyberattacks increased from EUR 13 million in 2019 to EUR 62 million in 2021, and the average ransom amount doubled from EUR 71,000 in 2019 to EUR 150,000 in 2020 (*ENISA 2022*). Government regulation, development and education can help prevent these. Only governments can effectively ensure and regulate the protection of personal data and data security.

2.4. Economic inequality

The richest 10 per cent of the world's population receives 52 per cent of the world's income, while the poorest half of the population receives only 8.5 per cent of income. Inequality is even greater in terms of wealth stocks. If we look at accumulated wealth, the poorer half of the world's population owns only 2 per cent of global wealth, while the top 10 per cent holds 76 per cent of total wealth (*Chancel et al. 2022*).

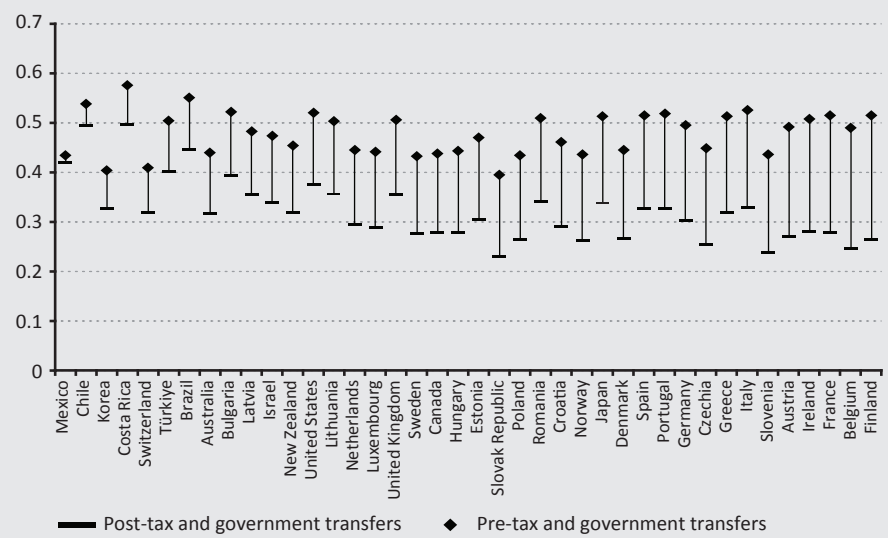
Inequality between countries rose steadily from the early 19th century to the 1980s, in parallel with the establishment of Western countries' economic superiority over the rest of the world. According to calculations by *Chancel et al.* (*2022*), inequality between countries has been steadily declining over the past 40 years, thanks to the fact that catching-up regions are growing faster than developed countries. As a result, inequality between countries has moderated and returned to the levels of the 1910s and 1920s. However, inequality within countries is following the opposite trend. From the beginning of the 20th century, inequality declined, with middle class growing and extreme poverty decreasing. Nevertheless, this trend reversed, and inequality rose from the 1980s to the 2010s, but since then, the level of inequality has stagnated at around the level seen at the beginning of the 20th century. Inequality within countries does not show a direct correlation with a country's income ranking. Among high-income countries, inequality is very high in the US, while it is very low in Sweden. Among low-income countries, inequality is extremely high in Brazil and India, while it is relatively low in Malaysia and Uruguay (*Chancel et al. 2022*).

Income inequality can be considered a natural consequence of a market economy and competition, as it encourages better performance and competition. However, excessive inequality causes significant welfare losses because it negatively affects social (intergenerational, career, income) mobility and cohesion and jeopardises the sustainability and inclusive nature of growth.

[7] Source: Reports by The Identity Theft Research Center: 2023 Annual Data Breach Report (https://www.idtheftcenter.org/publication/2023-data-breach-report/) and 2024 Annual Data Breach Report (https://www.idtheftcenter.org/publication/2024-data-breach-report/)

The government can and does contribute significantly to reducing inequalities. Economic policy can reduce inequality through income redistribution, targeted subsidies, and an adequate and widely accessible health and education system (*Dabla-Norris 2015*). *Figure 2* shows the Gini index in 2020 before and after taxation and transfers[8] in 40 countries. Income equality increased after taxation in all countries, but there are large differences between them. The effect of redistribution is highest in Finland, Belgium and France, while in Mexico, it is close to zero. Investing in human capital can reduce inequality as well as increase a country's competitiveness if it strengthens social mobility through breakthrough points.

Figure 2
Trends in the Gini index (2020)



Note: Countries are ranked according to the difference before and after taxation and transfers. Data for Japan is from 2021, data for Denmark is from 2019.

Source: OECD

2.5. Security and defence policy

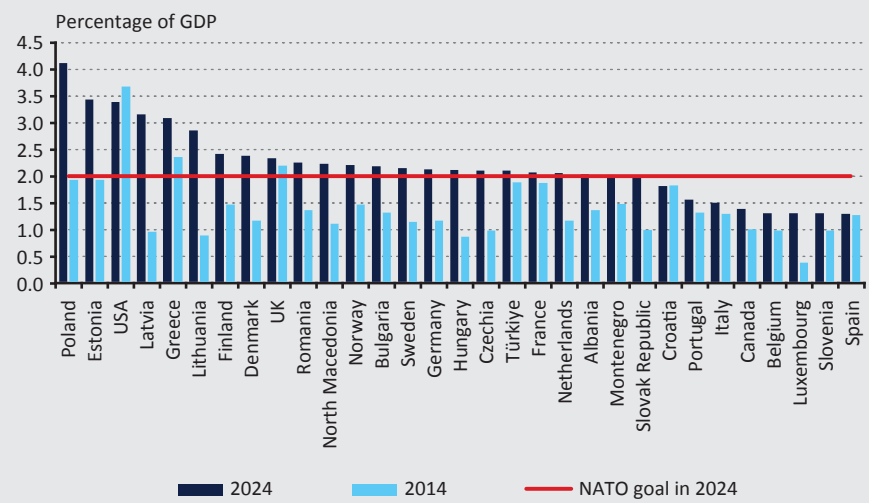
The number of armed conflicts has been on a downward trend since the 1990s, and the number of victims affected by conflict already declined in the 1980s. Since 2020, the trend appears to be reversing, with 2021, 2022 and 2023 being the three most violent years in terms of combat deaths since the end of the Cold War. During this period, a total of 600,000 persons lost their lives as a result of events in Ukraine, Ethiopia and Gaza (*Rustad 2024*). In addition to armed conflicts, competition for resources is intensifying, with economic weight and potential military action both

[8] The Gini index is a measure of income inequality within a country, with a value of 0 representing complete equality and a value of 1 representing one person owning all income.

playing a significant role. In addition to precious metals, there have been 785 violent conflicts worldwide since 2020 over access to clean water, for example.[9] New areas to be conquered, creating competition and conflict, include Antarctica, deep-sea mining and the control of outer space. In the latter case, unlike in the first space age, private investors have now entered the competition.

For the above reasons, global defence spending is on the rise. Defence spending as a percentage of GDP in NATO member countries increased by an average of 42 per cent compared to 2014. Poland had the highest defence spending in 2024, at 4 per cent of GDP, ahead of the US, where it accounted for 3.4 per cent of GDP. At the NATO summit in The Hague in January 2025, member states agreed that by 2035, they must spend 5 per cent of GDP on defence, but in 2024 one-quarter of the member states had not even reached the NATO minimum of 2 per cent required at that time (*Figure 3*).

Figure 3
Defence spending by NATO member countries



Note: 2024 data based on NATO (SIPRI) estimates.
Source: NATO

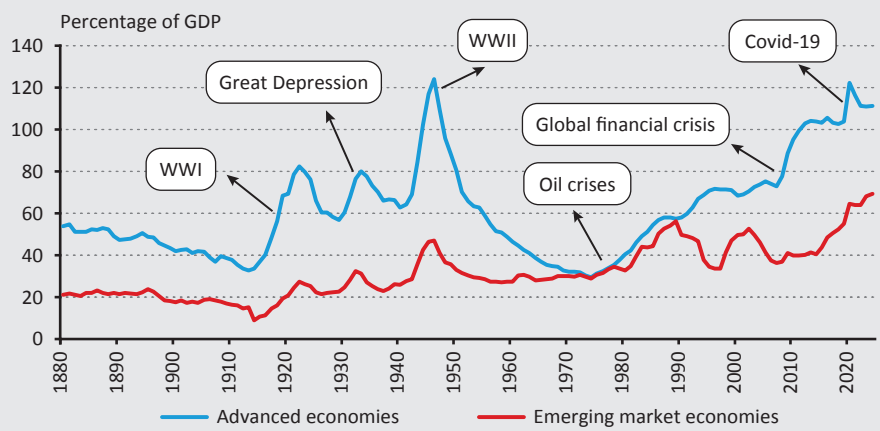
Security policy is almost entirely a government responsibility; thus, an increase in spending in this area also entails an increase in government spending. A reduction in defence spending would only be possible if geopolitical tensions were to ease.

[9] *Water Conflict Chronology*. Pacific Institute. https://www.worldwater.org/conflict/map/

2.6. Increased public debt burden

As a result of government crisis management measures following the coronavirus pandemic, global public debt ratios have risen to near historic highs. However, the sustainability of debt varies from region to region. Debt levels in developed countries have reached levels not seen since World War II, exceeding 110 per cent of GDP, and this figure has quadrupled since the 1970s. Although the level of indebtedness is high, debt crises are less common in these countries, as they typically finance themselves in their own currency and from domestic sources. Over the past 150 years, we have seen six major waves of indebtedness; the current upward trend began in the mid-1970s (*Figure 4*). The public debt of developing countries has risen to unprecedented levels, approaching 70 per cent of GDP, and is forecast to continue to grow at a faster pace than that of developed countries. Meanwhile, as global yields rise, the cost of financing and rolling over debt is also increasing, disproportionately affecting developing countries, which are more exposed to financial market volatility and pay higher risk premiums on their debt instruments.

Figure 4
Public debt ratios in developed and developing countries (1880–2024)



Source: IMF

In the low-yield environment of the late 2010s, which was thought to be permanent, the increase in public debt did not place a significant burden on budgets. However, the inflation that has characterised the recent period, followed by rising yields, has posed challenges for fiscal policies in many countries (*Gaspar et al. 2023*). During the recovery following the Covid crisis and the period of higher-than-expected

inflation, public debt remained high in most countries, partly due to measures taken to boost growth and mitigate the negative welfare effects of surging inflation.

Most analysts believe that the global increase in public debt will not stop. In the short term, high interest rates, defence spending due to military conflicts and public investments needed for the green transition are limiting governments' room for manoeuvre, while in the long term, climate protection and an ageing society pose challenges: pension and healthcare costs are rising, while tax revenues are falling (*Adrian et al. 2024*).

2.7. Impact of globalisation on tax bases

In the following sections, we examine the economic effects of globalisation, which are also transforming the tax bases that determine budget revenues. Countries compete for the taxes of global companies, which relocate their tax payments to the country with the most favourable tax regime, regardless of the actual location of their value-creating activities, thereby minimising their taxes. Although the effective corporate tax rates of large corporations are close to 1 per cent according to some estimates, they still represent a substantial payment for each country (*Hebous 2020*). The OECD estimates[10] that corporate tax avoidance amounts to USD 100–240 billion per year, which is 4–10 per cent of total global corporate tax revenue. Low taxation of large corporations further increases inequalities within and between countries, as the owners of these companies earn high incomes at low effective tax rates and typically transfer this income out of the country. By contrast, local SMEs have more limited opportunities for tax avoidance, which puts them at a competitive disadvantage compared to large global corporations. Although regulatory authorities are trying to enforce their tax rules on multinational companies, the latter have a wide range of tools at their disposal to optimise their tax payments (e.g. international tax advisors).

Led by the OECD and the G20, 137 countries signed an agreement in 2021 on a global minimum corporate tax rate to contribute to the more equitable taxation of digital and large corporations, with an additional 10 countries joining by the summer of 2024. The agreement is based on two pillars. The first pillar was intended to apply to digital economic operators by broadening the concept of permanent establishment, on the basis of which, in addition to physical/legal presence, the geographical distribution of the consolidated turnover of companies and groups of companies could also be taken into account for taxation purposes.[11] The detailed rules are taking a long time to be finalised; therefore, they are not expected to be

[10] *Base erosion and profit shifting* (BEPS). https://www.oecd.org/en/topics/policy-issues/base-erosion-and-profit-shifting-beps.html. Downloaded: 9 August 2024.

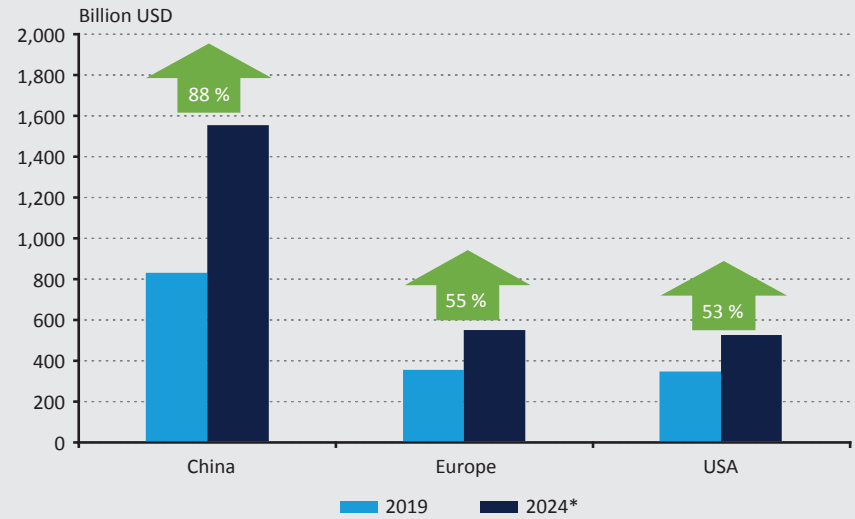
[11] Digitalisation raises the taxation issue that it is difficult to determine the location where the tax liability arises. This could reduce tax revenues in some countries while increasing them in others, thereby increasing related inequalities.

introduced anytime soon. Under the second pillar, companies with global revenues exceeding EUR 750 million will be required to pay a minimum corporate tax rate of 15 per cent globally. The aim was to encourage companies not to relocate to other countries in search of more favourable tax rates (*MKVKOK 2024*). The second pillar of the agreement has been transposed into the legal systems of the member states, but as the first pillar has not yet been implemented, digital companies still do not pay tax in the countries where they provide services. The adoption of the pillar is hampered by the fact that the United States has no interest in it, as most global technology companies operate there; thus, if the pillar were implemented, the country could expect a significant tax loss. Taxing these companies is further complicated by the fact that they often do not have traditional products that users pay for but instead are able to monetise the data they collect from users, making it particularly difficult for regulators to determine how much value added the companies have created in each country (*Enache 2024*). The United States and the other members of the G7 group agreed at the end of June 2025 to exempt US companies from the global minimum corporate tax rate. According to the statement announcing the exemption, the G7 group is seeking to create a parallel system that is acceptable to the US government and ensures a level playing field between countries. However, some experts consider these developments as hollowing out the 2021 agreement.

With the emergence of large global corporations and the spread of free markets, the realisable consumption tax may shift along their Laffer curve.[12] Consumers can cross the border to shop in a neighbouring country with lower consumption taxes, if it is close enough. The spread of online commerce may have an even greater impact. In recent years, the global market has been flooded with cheap online stores offering products at much lower prices than local retailers, with low shipping costs. The volume of Chinese e-commerce has increased by 88 per cent in five years, while in Europe and the US, it has increased by around 55 per cent (*Figure 5*). Local tax authorities have less control over global web companies, which are thus more likely to optimise their tax payments and pay taxes where the rate is lowest.

[12] According to economic theory, there is an inverse U-shaped relationship between the tax rate and the amount of tax collected, meaning that tax revenue increases for a while, but once it reaches its maximum, further increases in the tax rate result in declining revenue. This is known as the Laffer curve (*Meyer 1981*). The reason for this is that an increase (decrease) in the tax rate changes the behaviour of individuals/companies, causing them to consume/produce less (more), and the increasing tax burden also provides a stronger incentive for tax evasion.

Figure 5
Sales volume from e-commerce



*Note: *forecast.*
Source: Compiled based on Statista Digital Market Outlook

Digitalisation also makes tax bases more elusive. Income taxes are linked to the place of value creation, the determination of which, even before the wave of digitalisation, posed serious difficulties with the emergence of global production chains, because in an integrated international production chain it is extremely difficult to determine exactly how much of the value of the final product can be attributed to each stage of the production process. At the same time, consumption taxes are levied in the country of final consumption, which is usually easier to determine than the place of value creation (*Gerlaki et al. 2025*).

3. Conclusion

The global trends emerging in the 21st century pose new challenges for economies and societies. Due to their complexity or scope, many of these challenges require public policy and budgetary action, in addition to individual involvement. Among the most significant of these are ageing, climate change, digital revolution, the increasing importance of security policy, growing economic inequality, the rising burdens of public debt and the impact of globalisation on tax revenues. In this essay, we examined the impact of these simultaneous, large-scale trends on government budgets.

The global challenges presented are closely interrelated and require complex solutions. What they have in common is that they fundamentally increase the burden on the budget, but they differ in terms of the time frame they cover and the extent of the government response they require. For example, in developed countries, security policy as a whole and dealing with the effects of ageing are largely public tasks, but the costs of digital transition may be concentrated more in the private sector, which can potentially profit from it. Preventing and mitigating climate change is an area that requires not only cooperation between the government and the market, but also joint action at the international level. Finally, the rising burden of debt and the increasingly volatile tax base resulting from globalisation can be considered strictly budgetary issues, as they can become effective constraints.

These constraints also have an impact on potential additional expenditure, as it can be financed from taxes, reallocations, or fiscal deficit and debt increases. These options are all limited from an economic or sustainability perspective (*Baksay – P. Kiss 2023*). The widely held assumption that, with the exception of interest rates and ageing-related expenditures, all other items can be assumed to remain unchanged, because poverty in old age is increasing among various groups within an ageing society, and climate change will also disproportionately affect those with lower incomes. Global challenges affect different regions to varying degrees, but *Fanelli*'s (*2018*) model provides a unified framework for the potential role of government. In this model, in addition to debt and tax constraints, at each point in time, redistributive expenditures compete with other budget items. A solution must therefore be found that serves the dual purpose of fiscal balance and effective adjustment. To this end, the role of government in the economy needs to be reconsidered, with the emphasis placed as much as possible on low-cost but effective measures and regulations with high "leverage".

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