KfW Research
Focus on Economics

70 years of social market economy: a cause for celebration, several occasions for reform

No. 262, 20 August 2019

Author: Martin Müller, phone +49 69 7431-3944, martin.mueller@kfw.de

The social market economy has turned seventy. This is cause for celebration because according to what economic historians know, it has been far more successful in enhancing economic prosperity than any other economic system tested by humankind. Yet the social market economy has come under criticism in Germany. Some are calling for fundamental reform because excessively high levies are stifling growth. Others criticise increased income disparities, see growing poverty and demand greater redistribution or even socialism. And in the face of environmental protection and climate action requirements, others would still like to move away from the economic growth model towards a nature-based economy.

In this discussion paper we examine to what extent the criticism is justified and whether alternative economic systems would effectively bring the hoped-for improvements. The analysis shows that this cannot be expected. As in other industrialised countries, the social market economy in Germany is characterised by unprecedented prosperity, high income equality and high life satisfaction of the majority of the people. Germany in particular combines economic strength with social balance in an outstanding manner.

But economic success does not happen automatically. Securing prosperity is a permanent task and there are still social challenges that have to be faced. Most of all, however, there is a great and urgent need for reforms in order to secure the sustainability of Germany's economy. Probably the greatest challenges of our time are demographic change, ensuring the cohesion of the European Union and an internationally recognised world trade order, digitalisation, global environmental protection and climate action. Our diagnosis is followed by a discussion of the action needed.

Prosperity for all

In 1949 the German Federal Government proclaimed the social market economy as the general principle for the economic and social order of the young Federal Republic. Ludwig Erhard, the first German Federal Minister for Economic Affairs, is regarded as the father of the social market economy. In order to develop the new economic order, he drew on the economic expertise of Alfred Müller-Armack and Walter Eucken. Erhard's concisely formulated mission was 'Prosperity for all', to be achieved by ensuring a free market with competition for the best possible fulfilment of consumer needs.

The social market economy gave western Germany an economic miracle that repeated itself in eastern Germany after unification.[1] Gross domestic product per capita of the population has grown sixfold in constant prices in the Federal Republic since 1950 (Figure 1). Germany's social market economy has proven to be adaptable and robust in the face of major challenges, such as the oil price crises of the 1970s and 1980s, the economic renewal in the eastern federal states and the global financial crisis of the past decade.

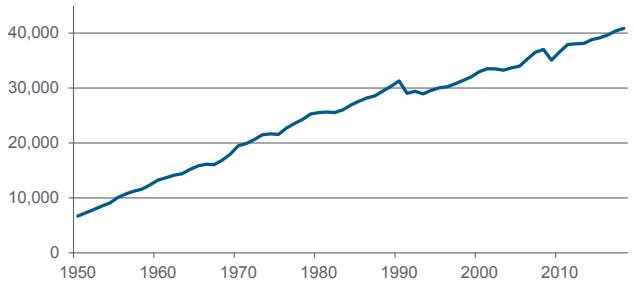
Plaque in honour of Ludwig Erhard in front of KfW's Bonn Branch.

Source: Martin Müller, KfW Group.

Only few countries in the world have achieved higher levels of prosperity. In 2017 Germany's per-capita GDP, adjusted for purchasing power parity, ranked 18th of nearly 200 states. Most of the richer states are either large oil and natural gas producers or smaller states that attract capital as banking and low tax havens. Even among the industrialised countries, few generate a higher per-capita GDP than Germany (Figure 2).

Figure 1: Chasing records – Germany's per-capita GDP has grown almost uninterrupted for 70 years

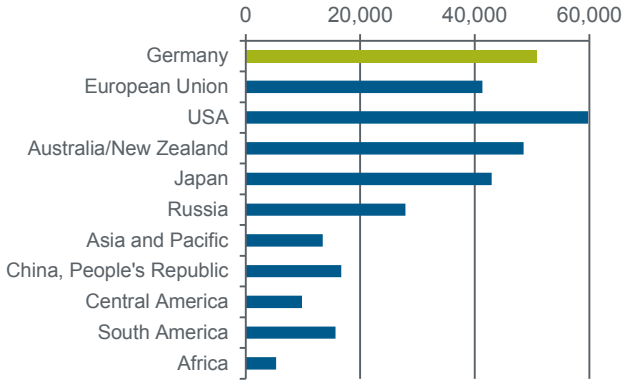
Real GDP per inhabitant in purchasing power of 2018, pre-unification Federal Republic until 1990, post-unification Germany from 1991, in euros



Source: Destatis, own calculations.

Figure 2: Social market economy and democracy have given industrialised countries the highest prosperity

GDP per capita, in international dollars, in PPP



Source: World Bank.

Box 1: Core principles for the success of a social market economy

- **Private property** ensures that citizens and companies have an interest in being economically active and investing, taking responsibility and generating and growing assets.

- **Performance-based competition** incentivises employees and businesses to work towards meeting customer needs by providing high-quality products and services at reasonable prices. It generates Schumpeterian entrepreneurs and is the engine for the formation of human capital, investment and innovation.

- **Free price setting** signals needs and scarcities. It makes businesses produce what consumers want and ensures that labour, capital and natural resources are used where citizens and enterprises pay the most for them.

- **The absence of any attempt by the government to dictate the sectoral economic structure** based on macroeconomic indicators prevents planned economic interference which, as history has shown, leads to aberrations. Factor allocations then cease to fully respond to the needs of the citizens but follow the directives of politicians and public servants, influenced by large enterprises and industry associations. The beneficiaries of such policies would seek to obtain subsidies and competitive advantages from the state, as well as monopoly revenues at the expense of the non-beneficiaries.

- **Instead, the state sets a regulatory framework** within which competition unfolds. Farther-reaching interventions are adopted only to address market failure or make social corrections.

- **A comprehensive social security system** designed in accordance with the principles of just distribution of benefits and burdens and social balance reduces income disparities to a socially acceptable measure and ensures minimum incomes and retirement incomes, as well as providing social protection against risks such as unemployment and illness.

- **Environmental protection and climate action** preserve the bases of human life and ensure the ecological sustainability of growth.

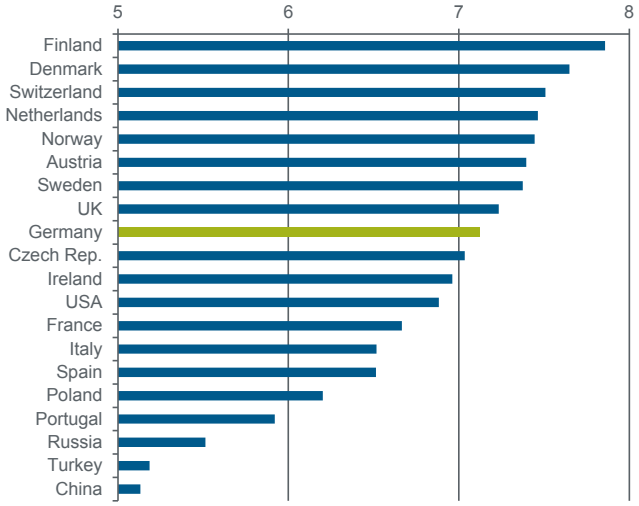
The social market economy enables a high level of life satisfaction

There is merit in measuring the success of the social market economy based on how satisfied the population is with their living conditions. Each year, the United Nations publishes a World Happiness Report with a satisfaction survey. Survey data were available for 136 countries in the year 2018. On a scale of 1 to 10, only 26 countries achieved a life satisfaction score above 6.5. With few exceptions, these were economically developed OECD countries with social market economies. **Life satisfaction in Germany was 7.1 on average (Figure 3). That puts Germans in 14th place, well above the OECD average.**

The percentage of people dissatisfied in a country gives further insight into the social situation. An evaluation of the European Social Survey revealed that some **78% of people in Germany are satisfied or highly satisfied with their life. Only 14% describe themselves as 'struggling' and 8% as 'suffering' (see table).**[2] The respondents mentioned mental and general health as the main influencing factors for their satisfaction, followed by unemployment and income inequality. In France, far more people were dissatisfied although the country has a similar per-capita GDP and similar income equality as Germany and other European states. From this it can be inferred that the **accurate perception and appreciation of what has been achieved make an important contribution to satisfaction**.

Figure 3: High life satisfaction in Germany and other social market economies

Survey for the UN in 2018 (Poland 2017)



Note: The survey participants were asked the following: Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?

Source: Gallup Institute.

The alternatives have produced deprivation, dictatorships and civil wars

Ever since the Warsaw Pact was dissolved, it has become absolutely clear that centrally planned economies were much less efficient. The same applies to China, whose socialist market economy to a large degree remains a centrally controlled economy. China is still an emerging economy whose per-capita GDP, adjusted for purchasing power parity, is roughly one third of that of Germany. It achieved its remarkable growth rates by embracing market economy principles.[3] Under Tito, Yugoslavia experimented with a model of socialism that included workers' self-management. In enterprises, employees elected workers' councils which, for their part, elected the executives. The serious misguided developments included economic scarcity, high unemployment and hyperinflation.

Is the social market economy in Germany still equipped for the future?

The recent financial crisis has shown that the success of social market economies is anything but a foregone conclusion. When incisive reforms become necessary, they hit low-income earners the hardest. **It is therefore both reasonable and social to future-proof economies on a continuous basis** to prevent this from happening. At the same time, the government is called upon to prevent disparities in living standards from growing too much – not only because most citizens regard this as social and just. The **ground for social conflict, as well as right-wing or left-wing populist groupings,** is all the more fertile the more people are dissatisfied with their living conditions.

Table: More than three quarters of Germans are satisfied or highly satisfied and it could be even more

Satisfaction on a scale of 1–10, European Social Survey 2012–2016

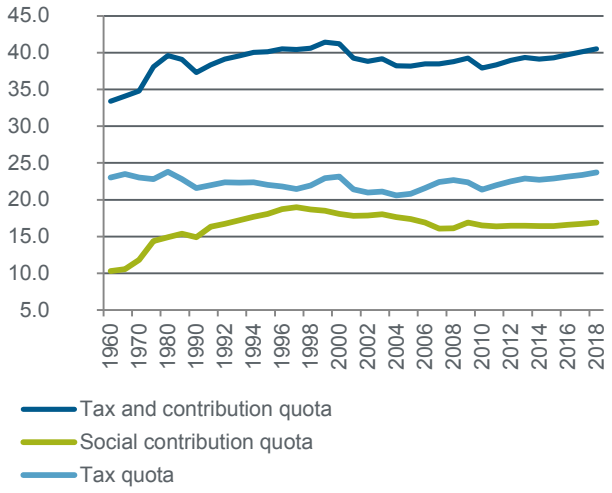
	Suffering (0–4)	Struggling (5–6)	Thriving (7–10)
Denmark	3.0%	5.1%	91.9%
Finland	3.6%	7.9%	88.5%
Iceland	4.1%	8.5%	87.3%
Norway	3.9%	9.3%	86.8%
Sweden	4.6%	10.3%	85.1%
Netherlands	4.3%	8.0%	87.7%
Switzerland	4.7%	8.3%	87.0%
Germany	8.3%	14.2%	77.5%
UK	9.6%	15.5%	74.9%
France	17.0%	23.4%	59.6%
Russia	26.9%	34.7%	38.4%

Source: Nordic Council of Ministers (2018): In the Shadow of Happiness, page 15.

Awareness of this has led to **calls for reforms**. One demand is to **lower taxes and social security contributions** because they are so high that they act as a disincentive to work hard and suffocate entrepreneurial initiatives. That demand contrasts with the criticism that income disparities have grown significantly in the past 20 years and **social equalisation is falling short of the mark**. We will examine to what extent this criticism is justified.

Figure 4: The tax and contribution ratio has reached a high level in an historic comparison

Taxes and social security contributions as a percentage of GDP, definition according to the national accounts.



Source: Eurostat.

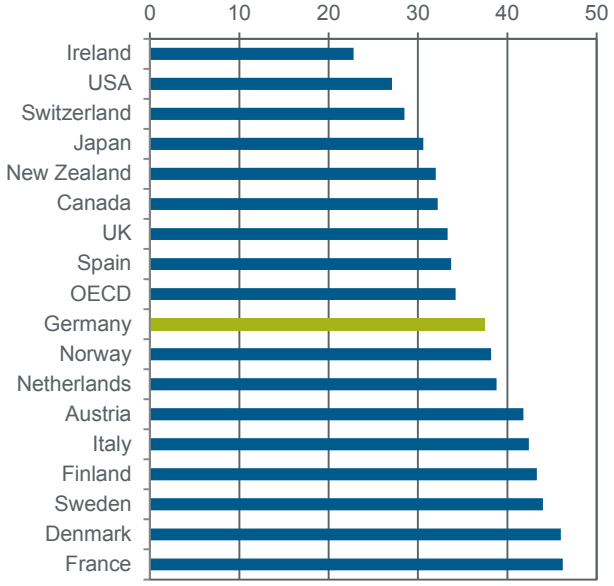
Is the fiscal burden in Germany too high?

In 2018 the tax and social contribution ratio was 40.5% of gross domestic product, the **highest since the year 2000** (Figure 4). Compared with other industrialised countries, Germany's ratio is in the middle bracket (Figure 5). The US ranks much lower, while Denmark and France are higher. Because comparability is limited, conclusions cannot yet be drawn from these figures. In the US and Switzerland, for

example, provision for old age is largely based on private savings and company pension funds, unlike in Germany.

Figure 5: Germany's tax and social contribution ratio is in the middle bracket of industrialised countries

Taxes and social security contributions as a percentage of GDP in 2017 or last available year, definition according to financial statistics



Note: The contribution ratio according to the international OECD definition is lower than the contribution ratio according to the Federal Statistical Office's national accounts. One reason for this is that the contribution ratio according to the national accounts includes public servants' fictitious contributions to the social security scheme.

Source: OECD.

A simple correlation analysis for Germany and the OECD countries does not show a connection between the tax and social contribution ratio and the level or growth of gross domestic product (Figure 6). Formulaic statements such as 'the higher the taxes and social security contributions, the lower the economic growth' are evidently incorrect. A need for action cannot therefore be inferred from the historically rather high contribution ratio alone. That leaves scope for preferences. A government that places more value on letting citizens and businesses freely dispose of income from labour and capital and profits at their own discretion will strive for a lower tax and social contribution ratio. The example of Switzerland demonstrates that this can also be compatible with high income equality. A government that is more intent on redistributing and providing security itself, on the other hand, will strive for a higher contribution ratio. How the government handles this will ultimately depend on voters' preferences.

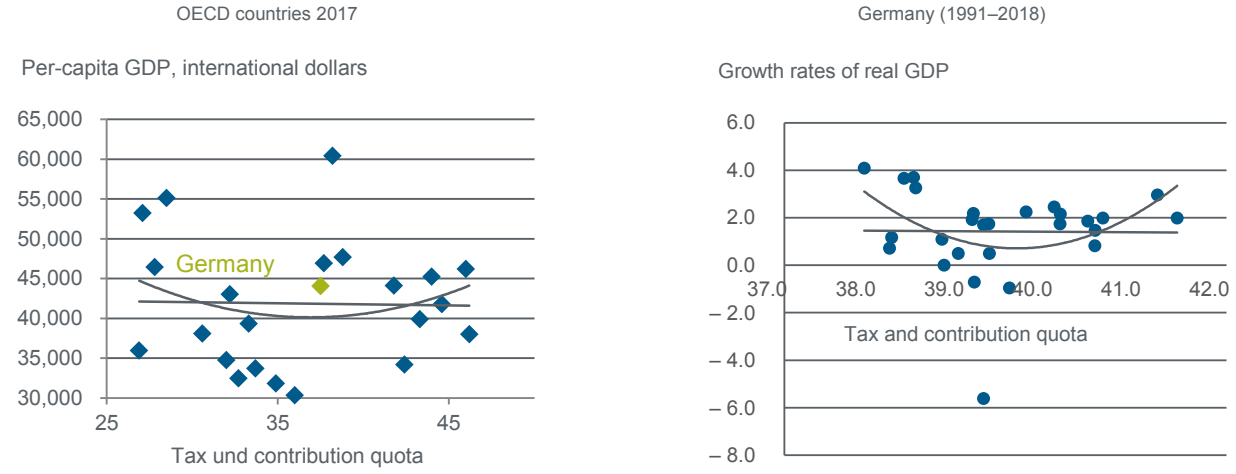
How social is Germany's market economy today?

In order to address this question, we will first analyse the development of unemployment, income and wealth distribution and social security benefits. We will subsequently draw conclusions and make recommendations based on the findings. In doing so we will assume that policymakers' goals include achieving the highest possible satisfaction for citizens and removing social injustices that severely impair the well-being of those affected.

Social finding 1: Full employment has drawn nearer but remains a challenge

An analysis conducted by the European Social Survey found that after chronic disease and disability, unemployment most severely impairs life satisfaction.[4] It should therefore be addressed with high priority, especially as it is a major source of fear of social decline and social need. Since 2005, the unemployment rate in Germany was halved from 10 to 5% with the aid of systematic reforms. This is not a matter of course, since Germany has found it difficult to curb unemployment as well. A further reduction is achievable primarily by training and enhancing the mobility of unemployed workers and through the tried and tested principle of challenge and encouragement.

Figure 6: A lower tax and social contribution ratio does not necessarily lead to higher per-capita GDP or GDP growth



Note: The **figure on the left** shows per-capita GDP and the tax and contribution ratio in per cent for the OECD countries. The **figure on the right** shows the growth rates for real GDP and the tax and social contribution ratios in per cent according to the national accounts in Germany since 1991. The lines are linear trends or second-degree polynomial trends.

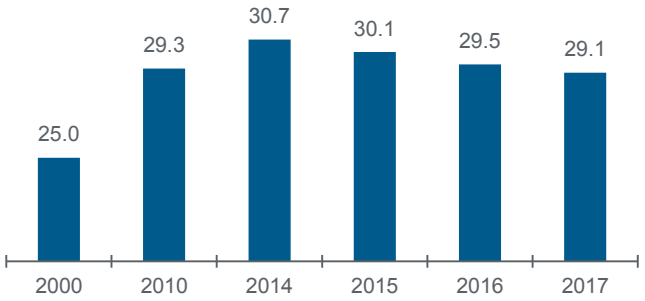
Sources: OECD, Destatis.

Social finding 2: Income disparities have grown but redistribution almost halves them

According to official surveys by Eurostat, the **Gini coefficient** for disposable household income **increased from 25 to 29.1** between 2000 and 2017 (Figure 7).[5] Evaluations of the Socio-Economic Panel (SOEP) conducted by the DIW also demonstrate that the increase is due to the fact that market incomes have become less equal prior to redistribution.[6] The relatively high redistribution in Germany reduces inequality by nearly half. According to surveys by Eurostat, income disparities have decreased again since 2014.

Figure 7: Income disparities in Germany have increased

Gini coefficient for the needs-weighted per-capita incomes of private households in Germany



Note: The Gini coefficient assumes values between 0 and 100. 0 means totally equal distribution, 100 means one household receives everything.

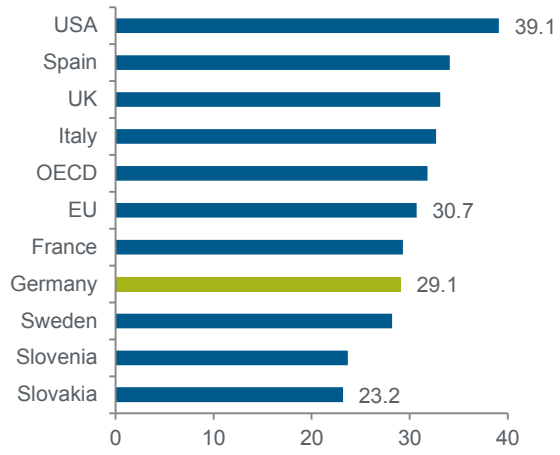
Source: Eurostat.

Social finding 3: There are still few states in the world where incomes are more equal

Despite increased disparities, the Gini coefficient for household incomes in Germany is well below the average for the OECD and the EU states (Figure 8).

Figure 8: There are few industrial states in which incomes are more equal than in Germany

Gini coefficient for the needs-weighted per-capita incomes of private households in 2016 or last available year



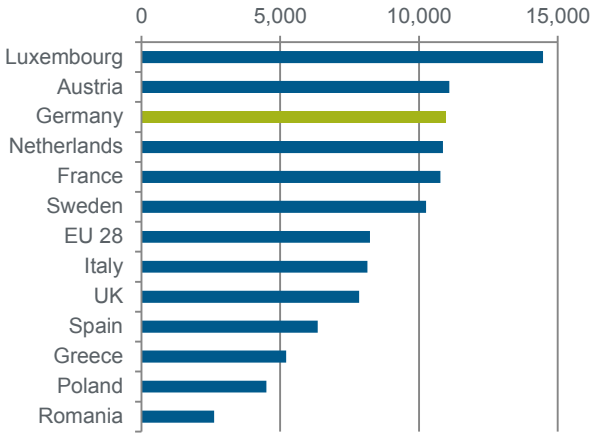
Source: OECD.

Social finding 4: Social security expenditure has reached record levels in Germany

The degree of redistribution has grown significantly since the 1990s. **Social security expenditure** as a proportion of GDP **grew from 25 to 29.4% from 1991 to 2016.** The increase resulted mostly from pension payments and healthcare expenditure. But more money was also spent on families. In a comparison of per-capita expenditure on social security in purchasing power standards with the other EU states, **Germany ranked third in 2016** (Figure 9). In Austria, expenditure was only 1% higher.

Figure 9: Hardly any EU country awards higher social benefits than Germany

Per-capita expenditure on social security in Germany in euros, in PPS, 2016



Source: Eurostat.

Social finding 5: High concentration of wealth but every top earner can become a high-net-wealth individual

An analysis by the Deutsche Bundesbank determined that the Gini coefficient for net wealth in 2017 was 74, significantly higher than for disposable incomes. Wealth concentration decreased slightly on the year 2010. **The wealthiest 10% of households own 55% of total wealth, whereas the 50% least wealthy households own a mere 3%.**[7] That looks like very high inequality. More detailed studies show, however, that unadjusted distribution measures convey an inadequate portrait of wealth distribution for the following reasons:

- The data **do not take into account provident fund and pension entitlements**. An analysis by the German Institute for Economic Research (DIW) concluded that if we include the present value of these entitlements, the Gini coefficient drops from 77 to 51 on the basis of SOEP data for 2012/2013.[8]

- **Age differences also largely explain the high wealth disparities.** This is illustrated by a simple example: A law student has an income of EUR 10,000 per year and assets of EUR 10,000. A 60-year-old lawyer, who is among the top 10% for both income and assets, has a net annual income of EUR 60,000 and has built up assets of EUR 600,000 as provision for old age. Thus, his income is six times higher, but his assets are sixty times higher than the student's. If we discount the age effect from the wealth distribution, the Gini coefficient drops from 78 to 49, according to an analysis conducted by the German Economic Institute in Cologne on the basis of data from the Socio-Economic Panel (SOEP) of the DIW for 2012.[9]

- In 2017, a household with net assets of EUR 555,400 or more was among the wealthiest 10%. According to surveys by the Institute for Employment Research (IAB), university graduates earn a gross income of EUR 2.4 million on average in their lifetime. Graduates with advanced vocational training such as master tradespeople or technicians earn a good EUR 2 million. Workers with vocational training earn EUR 1.5 million and employees without vocational training earn EUR 1 million.[10] **It is therefore possible to move up to the league of high-net-wealth individuals for anyone who carries out well-paid work or runs a lucrative business, leads a sufficiently frugal lifestyle and invests their savings wisely.**

- The assets of 44% of private households include owner-occupied dwellings. **However, the market value of an owner-occupied home says nothing about housing quality.** An owner-occupied home with 50 m² of living space in the Berlin Mitte district has a market value of around EUR 500,000 while an urban mansion with 200 m² and a garden in the Saxonian town of Bautzen is valued at some EUR 250,000. Who is wealthier, the Berlinian residing in a flat with 50 m² without a balcony, or the Bautzener in the mansion with a hobby basement and garden barbecue parties? The comparison illustrates that someone who is particularly wealthy does not necessarily enjoy a particularly high standard of living.

Conclusions and findings on the social situation

The findings show that the social situation in Germany stands out positively in an international comparison. At the same time, Germany is one of the world's economically most successful nations. This permits the conclusion **that, since the introduction of the social market economy, the economic and social policies of the federal and state governments have combined productive competition with social balance in an exemplary manner in many respects**.

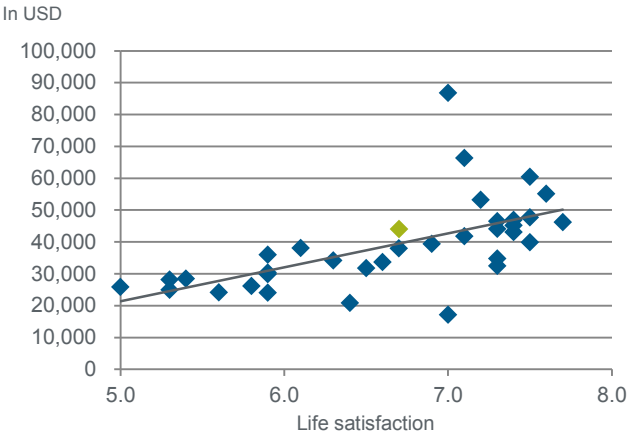
Nevertheless, there is permanent potential for improvement. One remaining social ill is **unemployment**. Another is **rental increases in conurbations**, which are currently putting a great or even overwhelming strain on local low-income earners. The federal and state governments have adopted a wide range of countermeasures and it remains to be seen whether they will lead to an easing of the situation soon, together with increased housing construction and lower immigration rates.

More prosperity for low income earners in particular could lead to higher satisfaction

Reducing the percentage of dissatisfied people seems reasonable from a social policy perspective. In addition to improving healthcare services, one important way of contributing to this would be to raise income levels in lower income brackets. A comparison of OECD countries shows **a positive statistical correlation between a country's per capita GDP and the level of satisfaction in the population** (Figure 10).[11]

Figure 10: The richer the country, the happier its people

Correlation between per-capita GDP (USD, PPP) and life satisfaction for OECD countries (scale of 1–10), 2017 or last available year



Source: OECD.

The correlation between life satisfaction and income equality is less clear.

In many OECD countries, income distribution is similar with a Gini coefficient between 30 and 35, although life satisfaction varies widely between 5 and 7.5 (Figure 11). Statistically speaking, however, growing income equality tends to lead to even higher satisfaction for the top group of highly satisfied people.[12]

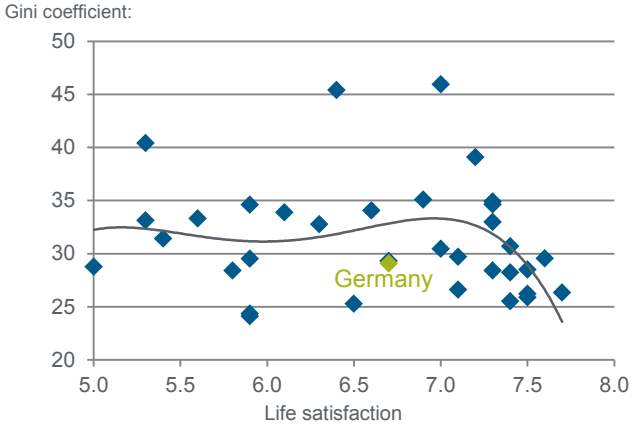
The finding suggests that most people are more interested in seeing their prosperity increase than incomes being distributed more equally.[13] That, in turn, speaks in favour of an economic policy that **is primarily geared towards strengthening growth and seeks to enable low income groups to benefit from growing prosperity as well.** But a bit more income equality may even bring about additional increases in the high satisfaction level in the country.

Skills and education are the key to higher income

The best way for unemployed and low-income earners to obtain jobs with higher pay is through further education and training. In the longer term, it is primarily by creating greater equality of opportunities in education that income-generating opportunities for disadvantaged persons can be improved. This can be achieved through easier access to early childhood services and higher education for children and youths from educationally disadvantaged parents. Reducing the cost of higher education for children of families with low and medium incomes would also contribute to this aim. Increasing the formation of human capital would also strengthen Germany's growth potential.

Figure 11: Top life satisfaction rates are achieved almost only in countries with high income equality

Correlation between Gini coefficient and life satisfaction
(Scale of 1–10) for OECD countries, 2017 or last available year.



Source: OECD.

Better information on the economic situation is also likely to increase satisfaction levels

When prosperity is as high and as evenly distributed as in Germany, it should also be in the interest of satisfaction as well as economic and political stability to inform the population accordingly. This applies in particular when right-wing or left-wing populist groupings have supporters who fuel discontent. As the current debate demonstrates, it appears appropriate to design balanced information aimed at creating awareness about economic policy in a way that also reaches the young generation and educationally disadvantaged groups through communication networks on the internet. In this context, it also appears to be useful to **examine the debate on income distribution**, as it often creates the **misleading impression that Germany was a country with particularly severe poverty (Box 2).**

Box 2: About the poverty debate: Is the at-risk-of-poverty rate a meaningful concept?

For more than ten years, the at-risk-of-poverty concept has shaped the debate about the need for social policy action. According to Eurostat, 16% of the population in private households in Germany, i.e. around 13 million people, is currently at risk of poverty. In percentage terms, this is almost as many as in Poland, which is far less prosperous. The threshold, according to the EU definition, is set at 60% of the needs-weighted median per-capita income of a country's private households.

The public debate indicates that the high at-risk-of-poverty rate has given many people the impression that a severe poverty problem has emerged in Germany. That has contributed to this emotionally charged concept being used as an indicator of social ills in scientific publications as well. We therefore recommend questioning whether the at-risk-of-poverty rate is an objective and meaningful tool for measuring social ills. A number of arguments against this can be put forward:

- Studies have shown that, in particular, young people, households with children and, above all, unemployed persons are below the at-risk-of-poverty threshold. There is reason to question **whether a student with high-income parents should not be assessed fundamentally differently from a social policy perspective than a low-skilled, physically impaired long-term unemployed person.**

- Germany has 2.9 million students, one million more than in 2002. Therefore, they represent a large and growing percentage of persons statistically at risk of poverty. **However, students usually have excellent income prospects. That raises the question whether it is appropriate to classify them as being at risk of poverty** – particularly as this expression would suggest that studying at a university was a social ill.

- The at-risk-of-poverty rate also does not show that the government supports students, among other things with tuition-free study programmes as well as subsidised accommodation and food. In general, **non-monetary transfers, such as free or reduced-price health insurance, do not appear in income statistics** although they are considerable.

- Many people at risk of poverty are asylum seekers and labour migrants from poorer EU countries. **The free movement of workers has allowed the number of labour migrants to grow strongly in the EU.** Is it reasonable to categorise a worker from Eastern Europe as being at risk of poverty in Germany while he would be a high or top income earner in his home country? Ultimately, labour migrants come to Germany because they find better income opportunities here.

- **The threshold of 60% of mean income was selected subjectively on the basis of value judgements and is therefore not a scientifically objective statistical parameter.**

- In every national economy there are many households that have less than 60% of mean income at their disposal. Identifying this as a social injustice would mean characterising income disparities per se as a social injustice. This would be like declaring the Gini coefficient as a measure of social justice and setting a value that all countries exceed by far as a 'threshold of injustice'. **The call for eliminating inequality, however, implies nothing less than disabling the functionality of the economy. That would not be in anyone's interest. What is ultimately lacking is a scientific debate on how much equality is actually achievable in a social market economy without jeopardising prosperity and competitiveness.** The necessary analyses could then possibly be used to arrive at a minimum threshold or range of income equality that could be realised without any aberrations. So long as economists fail to do this, they cannot offer an objective, scientific measure for assessing income disparities.

Conclusion: How urgent is the need to reform the German economy?

The analysis has shown that Germany continues to be one of the world's most successful economies. There is hardly a state with a similar level of prosperity where incomes are distributed more equally. Against the background of the discernible preference for prosperity, the need for reform therefore arises less from the status quo of our economy than from the need to make the German economy fit for the future. Given the great adaptability of the social market economy, there is good reason to be confident that we will successfully meet the imminent challenges. **This will require economic and social policy to be aligned with the principles that have made the social market economy a success**. The social balance between winners and losers of the inevitable and desirable structural transformation can then be further ensured. This appears appropriate not just for social reasons but also in order to minimise resistance against necessary reforms. Currently, there are at least **four key future issues that need to be tackled.**

Future issue 1: Maintaining the labour force potential despite the demographic trend

The ageing and shrinking of our population is set to become the greatest challenge in the coming decades. If the medium population scenario currently predicted by the Federal Statistical Office becomes a reality, the labour force potential will shrink by about 4 million persons of working age by 2040 unless countermeasures are adopted. The undesired consequences would be a loss of competitiveness, widening gaps in the supply of goods and services, declining prosperity and growing distribution conflicts. This can be addressed in a number of different ways such as:

- Raising the value of human capital through in-company **training and continuing education**, **early and improved career preparation in mainstream schools, improved education for children from educationally disadvantaged families and attracting more candidates to STEM professions.**

- Further increasing the labour force participation rate of women and older workers. Experts such as the Council of Economic Experts and the Advisory Board to the German Federal Ministry of Economics have proposed **coupling the statutory retirement age with the development of key indicators such as life expectancy, labour force potential and labour productivity**. That would significantly reduce the pressure to take action.

- Higher skilled **migration** from third countries. That would require foreign qualifications to be recognised and language barriers to be reduced.

Future issue 2: Strengthening unity within the EU and working towards cooperation in global trade

A European Union founded on solidarity with a strong economy is a guarantor of peace and prosperity in Europe. The most pressing challenges of the EU include:

- Strengthening investment and innovations,

- Consolidating public finances and the banking sector,

- Reducing high unemployment in southern Europe,

- Normalising monetary policy

- Strengthening solidarity and uniting against nationalist populists.

What is also necessary is a joint effort to agree on rules governing trade with the US, China and other countries in the world. Free trade should be sought as a matter of principle because of its impact on prosperity. However, Germany and the EU must protect their legitimate interests in conflicts and they must **find strategies for effectively engaging large corporations from third countries** that occupy monopoly-like positions in important markets.

Future issue 3: Advancing digitalisation successfully

Germany must **secure its competitiveness** in the digital transformation because it pervades all areas of the economy. Furthermore, digitalisation could **help to manage the consequences of demographic change through accelerated technological progress**. In Germany, as well as in other industrialised countries, economic development has clearly lost momentum since the 1990s. This is evident in slower structural change and a decline in the growth of labour productivity and per-capita GDP.[14] If a new digital revolution could again increase productivity growth then that would help to reduce the skills shortage.

Human capital formation plays a key role in the digital transformation as well. Small and medium-sized enterprises in particular need support. Also important is **a strong competitive environment** for innovative start-ups and for the development and market introduction of innovative products and services. Rural regions also need to be equipped with a **competitive digital infrastructure** to keep them from falling behind. A further challenge consists in reining in **large corporations of the digital sector**, whose market power also distorts and suppresses competition in related markets. If competition cannot be ensured in these markets, they must be effectively regulated, which in any case includes appropriate taxation.

Future issue 4: Energy transition and ecologically sustainable growth

Climate action is one of the challenges all of the world's nations are struggling with. There is reason to doubt that the main reason for this is worldwide policy failure because the majority of voters – at least in democracies – have a considerable amount of influence on policy-making. The task is gargantuan because humankind's energy generation still depends to a large extent on fossil fuels. Moreover, livestock farming causes significant methane emissions. Worldwide economic and population growth has led to further increases in emissions in the past decades. **In order to effectively re-**

duce greenhouse gas emissions, far-reaching changes in consumer behaviour, production and energy generation will be required around the world. This requires state intervention in the form of education, incentives and regulations to ensure that enough people and businesses participate. Putting a price on greenhouse gas emissions can make an effective and cost-efficient contribution.

Since 1990, Germany has been able to reduce its greenhouse gas emissions by nearly 30%, which is a noteworthy achievement. But the reduction rate has stalled since 2009. Further stimuli are required to ensure that the ambitious mitigation targets of -55% by 2030 and -80 to -95% by 2050 – measured against the 1990 baseline – can be achieved. But that alone will not be enough. **The turnaround must be global for climate action to be effective and that requires the introduction of competitive CO_2 prevention technologies in the global markets that crowd out greenhouse gas-intensive technologies.** Nuclear power plants will also only be shut down in Germany's neighbouring countries if they can be replaced by competitive alternatives. Germany and other countries of the climate alliance can advance these technologies. That also creates great economic opportunities because the demand is enormous and growing. But innovations and their market introduction take time. Efforts to introduce alternative vehicle drive technologies show that new technologies and their broad diffusion cannot be realised from one day to another. So they must be introduced even faster and with even greater determination to meet the urgent climate targets.

Many people who are worried about the future believe that alternative, naturalist lifestyles and **turning away from the paradigm of economic growth can be the answer**. But this option is hardly feasible and renouncing growth would not be enough either. After all, with today's technologies the economies of industrialised countries would have to shrink considerably to achieve the ambitious goals. One can justifiably assume that this would meet with considerable public resistance, especially because serious social aberrations would have to be expected. In addition, most of the earth's 7.5 billion inhabitants live in emerging and developing countries and many are struggling with hunger, water scarcity, disease and epidemics. One cannot expect that these countries give up trying to further improve their economic situation – which cannot be done without economic growth.

That is why effective climate action can succeed only with the aid of the ingredients that brought prosperity to social market economies: formation of new knowledge, investment and technological progress. Fundamentally, the likely most efficient and cost-effective way to make growth climate-safe and environmentally friendly is to reform taxation around the world in such a way that the costs of pollutants and environmental damage are reflected as much as possible in the prices of goods and services. In order to systematically record and evaluate the welfare-reducing effects of environmental pollution, the environmental-economic accounts of the Federal Government and the federal states could be further expanded.[15] ■

[1] Cf. Borger, K. and Müller, M. (2014): **Arrived at normality – Germany 25 years after the fall of the Berlin Wall**, Focus on Economics No. 73, KfW Research.

[2] Nordic Council of Ministers (2018): In the Shadow of Happiness, Analysis No. 01/2018, http://norden.diva-portal.org/smash/get/diva2:1236906/FULLTEXT02.pdf.

[3] It is hard to assess the quality of China's strong growth. For example, outside China the search engine Baidu is still vastly inferior, with its government control and censorship, to the world market leader Google. One may surmise that another reason China is preventing international competitors from accessing many local markets is that the players in those markets have little faith in the international competitiveness of their products.

[4] Cf. Oschmiansky, F. (2010): Folgen der Arbeitslosigkeit, Bundeszentrale für politische Bildung (*Consequences of unemployment, Federal Agency for Civic Education* – our title translation, in German only), https://www.bpb.de/politik/innenpolitik/arbeitsmarktpolitik/54992/folgen-der-arbeitslosigkeit?p=all and Nordic Council of Ministers (2018): In the Shadow of Happiness, Analysis No. 01/2018, p. 24 ff.

[5] Cf. Grabka, M. and Goebel, J. (2017): Realeinkommen sind von 1991 bis 2014 im Durchschnitt gestiegen – erste Anzeichen für wieder zunehmende Einkommensungleichheit (*Real incomes increased on average from 1991 to 2014 – initial signs that income disparity is increasing again* – our title translation, in German only), DIW weekly report 4/2017. The DIW data show a similar long-term progression of the Gini coefficient as the Eurostat data. Short-term deviations exist because the methodology is different and the sample data are fraught with statistical uncertainties. Minor variations and short-term fluctuations should therefore be interpreted with caution. https://www.diw.de/documents/publikationen/73/diw_01.c.550890.de/17-4.pdf.

[6] Cf. e.g. Grabka, M. and Goebel, J. (2017): Realeinkommen sind von 1991 bis 2014 im Durchschnitt gestiegen – erste Anzeichen für wieder zunehmende Einkommensungleichheit (*Real incomes increased on average from 1991 to 2014 – initial signs that income disparity is increasing again* – our title translation, in German only), DIW weekly report 4/2017.

[7] Vgl. Deutsche Bundesbank (2019): Vermögen und Finanzen privater Haushalte in Deutschland: Ergebnisse der Vermögensbefragung 2017 Monatsbericht April 2019, https://www.bundesbank.de/resource/blob/794130/d523cb34074622e1b4cfa729f12a1276/mL/2019-04-vermoegensbefragung-data.pdf.

[8] Cf. Bönke, T. et al (2017): A Head-to-Head Comparison of Augmented Wealth in Germany and the United States, SOEP-Papers 899/2017, https://www.diw.de/documents/publikationen/73/diw_01.c.554238.de/diw_sp0899.pdf sowie Peichl, A.; Stöckli, M. (2018): Ungleichheit und Umverteilung in Deutschland: Trends und Handlungsoptionen (*Inequality and redistribution in Germany: Trends and options for actions* – our title translation, in German only), ifo Schnelldienst 15 / 2018, p. 18–22.

[9] Cf. Niehues, J. (2015): Vermögensverteilung und Altersgruppeneffekte (*Income distribution and age-group effects* – our title translation, in German only), Short study, German Economic Institute Cologne, https://www.iwkoeln.de/fileadmin/publikationen/2015/251784/Vermoegensverteilung_Gutachten_IW_Koeln.pdf.

[10] Stüber, H. (2016): Qualifikation zahlt sich aus (*It pays to be skilled* – our title translation, in German only). IAB Short Report 17/2016, file: ///H:/Fokus%20SM/kb1716.pdf.

[11] Luxembourg and Mexico are notable exceptions. The example of Luxembourg shows that a very high income level does not necessarily lead to very high life satisfaction. Mexico, in contrast, illustrates that people can be highly satisfied even in a country with a relatively low per capita income level and vast income disparities.

[12] The top group includes the Nordic states of Denmark, Finland, Iceland, Norway and Sweden, as well as Belgium and the Netherlands. Incomes are distributed slightly more equally in these countries than in Germany.

[13] The limited influence of income distribution on satisfaction also has to do with the fact that income distribution is an abstract concept which most people are not even familiar with. Surveys have revealed that people in Germany overestimate income disparities. Cf. Schneider, J.-F. (2015): Was bestimmt Umverteilung? Wahrnehmung und Bewertung von Ungleichheit (*What determines redistribution? Perception and assessment of inequality* – our title translation, in German only), Focus on Economics No. 110, KfW Research.

[14] Cf. Müller, M. (2019): **Digitalisation: Much ado about nothing or is there more to come?** Focus on Economics No. 250, KfW Research.

[15] It will often be difficult or impossible to adequately quantify the costs of environmental and health impacts. An alternative could be to prioritise all significant environmental impacts according to their need for action and to set prices for selected impacts that can have a desired steering effect. In order not to increase the tax burden, the introduction of environmental taxes could be offset by reductions elsewhere.