Growth weakness due to skills shortages: What would business as usual mean, what can we do?

No. 505, 1 July 2025

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

In terms of demographic change, Germany will be facing very challenging years up to the start of the next decade as baby boomers will be leaving a gaping hole in the labour market. In the year 2023, the birthrate fell to 1.38 children per woman. As a result, the shortage of young skilled workers in Germany will probably not change much into the 2040s. If the reduced birthrate continues, the skills shortage will then worsen further unless the working-age population in the country works more or labour productivity improves through new technologies and more efficient production. Skilled migration at foreseeable levels and with anticipated qualifications will only partly be able to close the gap.

These are the facts. Either the German economy produces more or we will need to enter belt-tightening mode and become more patient, at least in some areas of the economy and life, as a result of demographic ageing and shrinking. That trend has already begun. Germany's competitiveness and action on climate change may also suffer as a result and social security benefits and public services may also have to be scaled back where there is a shortage of workers.

That raises the following question: What can Germany do? The present Focus on Economics will attempt to give some answers. The focus of the analysis is on labour market participation.

The first part of the study analyses the economic development that could be expected in Germany up to 2050, if the current trends around labour force participation, working hours and labour productivity were to continue, and how realistic that would be. In order to answer this question, a 'business-as-usual' scenario was calculated that carries over the growth of gross domestic product on the basis of the trends.

Even if labour force participation continues to increase, gross domestic product will grow only little in the coming years. The German economy would additionally have to considerably increase the labour productivity growth rate to achieve stronger growth. One consequence of weaker trend growth is that more frequent phases of stagnation or recession are to be expected. If economic downturns occur at the same frequency and intensity as in the past, Germany would have to expect stagnation or a decline in gross domestic product roughly every three years. That was the case in Japan, where the population has aged at a rate similar to that expected for Germany since the end of the 1990s.

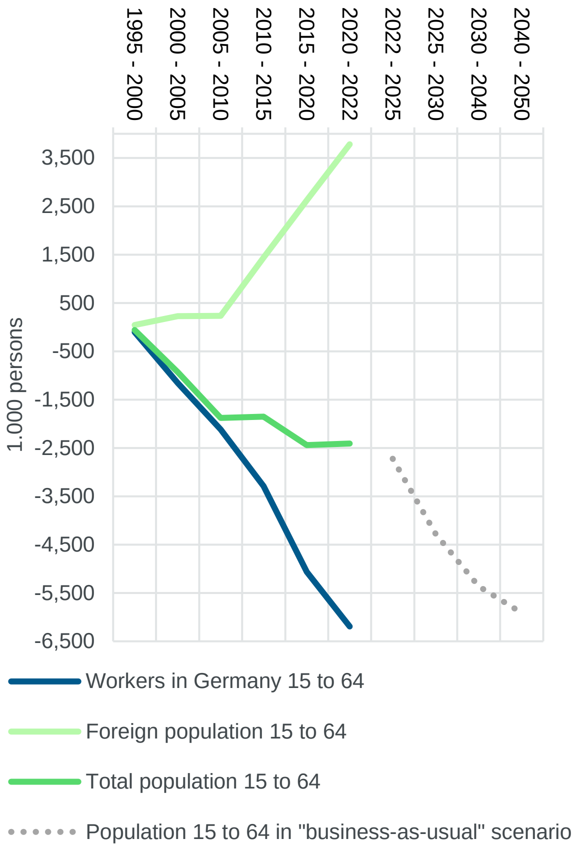
Another challenge is that most EU partners and principal sales markets of the German economy face a similar demographic trend. According to projections by Eurostat, the population of some of the large EU states will age even more than in Germany from the coming decade. Unless forward-looking countermeasures are adopted, this can weaken their crisis resilience. In order to limit the consequences, international cooperation with EU allies and other partner states will be necessary. Individual nations can hardly tackle the challenges of global demographic change alone.

The second part of the study outlines possible approaches that Germany can adopt to reduce the shortage of specialist and skilled labour. The focus is on measures which the public and private sector can take to further increase labour market participation. We also analysed studies conducted about measures and experiences in other countries and put together a comprehensive list of possible measures. A number of steps have already been initiated that can be built upon.

It appears to be highly advisable to pull out all the stops to secure growth and prosperity. For one thing, it is the best way to prevent bottlenecks and mobilise resources for the increased global challenges. For another, it is often difficult to determine in advance what measures will affect growth and prosperity and in what ways. What is generally helpful is to act with foresight and make continuous efforts since demographic change and its consequences are predictable. The areas in which to take action are also known. These include better education, mobilisation and qualification of the working-age population, making work input as effective as possible, reducing bureaucracy, increasing the efficiency of public and private sector administration as well as strengthening investment and innovation.

The contraction of the prime working-age population in Germany already began in the 1990s (Figure 1). Migration from abroad could only partly offset the decline. Under the 'business-as-usual' scenario (see study), the decline in the working-age population will accelerate. The population aged 15 to 64 years decreased by 2.4 million from 1995 to 2022. Under this scenario, it will drop by a further 3.5 million by 2050.

Figure 1: Germany's working-age population has been shrinking since the 1990s and that will accelerate



Cumulative change in the population aged 15 to 64 since 1995

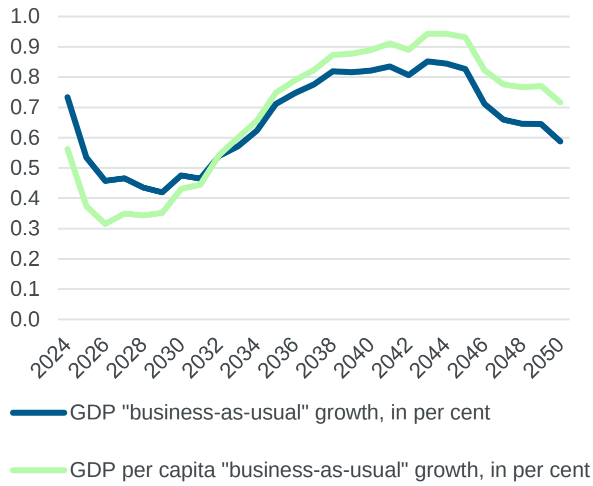
Sources: Federal Statistical Office, micro-census

Under the 'business-as-usual' scenario, the German economy will continue to grow moderately

The key finding of the trend analysis is that if labour market participation continues to rise at the rate of the past ten years, the number of hours worked per worker continues to drop at the same rate and labour productivity continues to grow at the same rate, the German economy will grow by only 0.7% per year on average up to the year 2050. As more and more baby boomers are going into retirement in the coming years, the 'business-as-usual' scenario would see a phase of relatively low economic growth of 0.4 to 0.5% per year up to the early 2030s (Figure 2).

That means although gross domestic product will still grow by almost 20% in real terms up to 2050, economic growth will weaken noticeably. By way of illustration: gross domestic product has grown by 1.2% per year since 2000. Given Germany's current gross domestic product, the half a percentage point less economic growth means that its economy would grow by only EUR 29 billion a year instead of EUR 50 billion. The difference increases over time. The scope for additional expenditure will therefore continue to decrease noticeably as a result of a growing scarcity of human capital. In times of growing economic challenges, that restriction makes setting new priorities unavoidable.

Figure 2: Under a 'business-as-usual scenario', the German economy would continue growing – but at a much slower pace



Index, 2024=100, GDP and per-capita GDP growth

Sources: Own calculations and presentation, Federal Statistical Office

GDP growth can deviate from trend growth in some years because of cyclical variations. Thus, GDP growth rates above the trend are to be expected when the economy climbs out of a current phase of weakness and capacity utilisation increases again. Economic boom phases, however, should not obscure the fact that in the long term, the demographic development will significantly hamper growth if the trend continues.

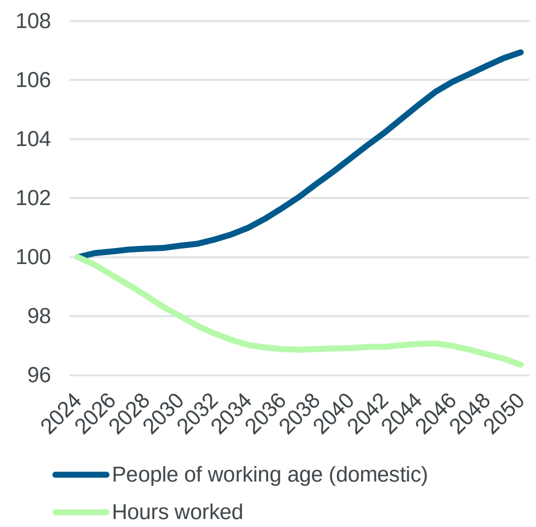
Per-capita gross domestic product will grow by only 0.4% per year on average up to the year 2031. Per-capita gross domestic product is the measure of the average material prosperity of a country's inhabitants. In other words, it can still increase slightly under a 'business-as-usual' scenario in the coming years. Nevertheless, the skilled labour shortage will likely lead to greater scarcities and supply bottlenecks in areas where there is growing demand or young workers are lacking to a significant extent.

That is already the case in a large number of occupations, including information services, healthcare, nursing, education, transport and residential construction. These are all sectors that are of great importance for delivering essential services to the population and ensuring the functioning and competitiveness of the economy. It is taking longer to book appointments with doctors and public services, postal deliveries are taking longer, train and bus schedules are being thinned out and nursing staff is becoming increasingly scarce. Shortages will become evident particularly in structurally weak, more sparsely populated and faster ageing regions.

The skills shortage analysis of the Federal Employment Office for the year 2023 classified 42% of all occupations based on in-company training and 20% of all academic occupations as shortage occupations. More than 30% of occupations requiring in-company training and tertiary degrees are also being monitored for signs of shortages.[1] According to the KfW-ifo Skilled Labour Barometer, the business activities of 27% of enterprises were hampered by skilled labour shortages in April 2025.[2] The share of affected enterprises has fallen in the past two years as a result of the economic lull. It is expected to rise again with increasing capacity utilisation. In 2022 the share was 50%, as significantly more businesses were affected.

Growth is generated solely by increasing labour productivity. The working-age population will still grow slightly but the number of hours worked will decrease (Figure 3).

Figure 3: Under 'business-as-usual' scenario, working-age population is increasing while hours worked are falling



Index, 2024=100, number of people of working age and hours worked

Sources: own calculations and presentation, Federal Statistical Office

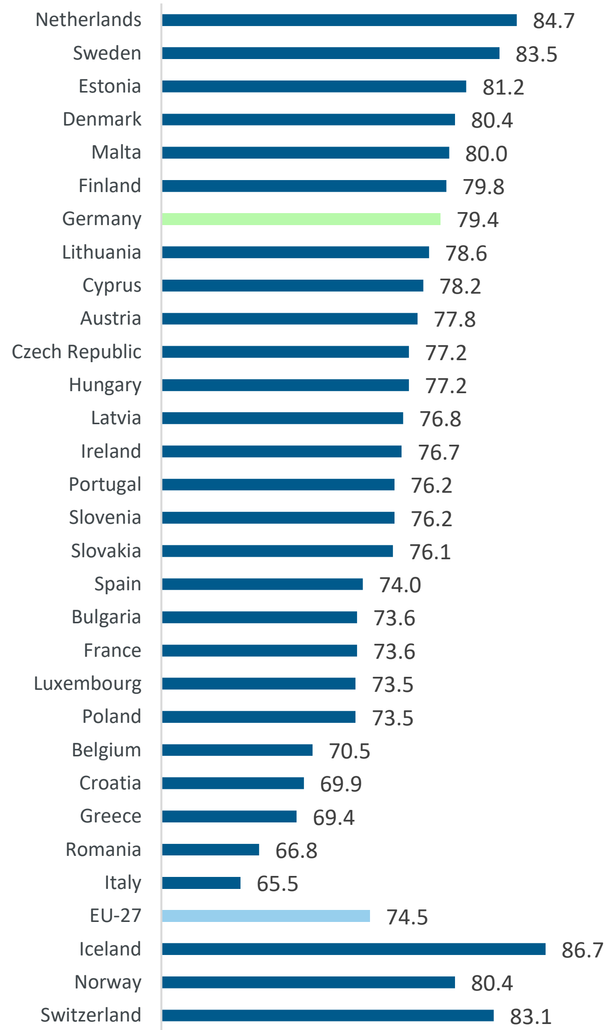
The 'business-as-usual' scenario requires a noticeable increase in labour force participation and there are downside risks

The 'business-as-usual' scenario is anything but guaranteed. It can be realised only if more people contribute to social welfare through economic activity. The labour force participation rate among the population aged 15 to 64 years would have to grow from 77% today to 84.5% in the year 2050. In the age group of 65+ the labour force participation rate would have to double to 16.8%. Comparisons with other countries show that these labour force participation rates would be achievable (Figure 4). Examples of this are the Netherlands, Sweden, Japan, New Zealand and Iceland.

In deviation from the scenario, workers could also take on more hours or labour productivity could grow more strongly. So far, however, there are no signs of this happening. Quite the opposite. Labour productivity is currently on the decline and on the level of four years ago. And with respect to the number of hours worked per person in paid employment, Germany lags far behind other OECD states, with the trend pointing lower. A further downside risk to the 'business-as-usual' scenario is that productivity growth can continue to trend lower. Productivity growth has weakened significantly both in Germany and in other industrialised countries in the past decades.[3]

Figure 4: Some EU states have higher labour force participation rates than Germany

Labour force participation rates of working-age people aged 15 to 64 years in 2022.



Sources: Eurostat, own rendition

Ageing and shrinking of economically active population will noticeably reduce growth all across the EU and non-European industrial countries

At 35%, Germany currently has one of the highest old-age dependency ratios of all EU countries and it is set to rise to almost 46% by 2050 according to the baseline projections of Eurostat (Table 1). The ageing and shrinking of the working-age population are challenges which almost all industrialised countries will be facing in the coming decades.

This applies in particular to the southern European EU states but also to eastern European countries, such as Poland. According to the baseline projections of Eurostat, in 2050 the old-age dependency ratio will reach 59% in Spain and more than

60% in Italy, Portugal and Greece. Skilled labour shortages and rising pension, nursing and healthcare expenditure will therefore become growing challenges all across the EU. China, too, will be heavily affected by an ageing society and growing skills shortages and the society in the US is also ageing, if still at a slower pace. Thus, the demographic development is expected to lead to a considerable shortage of workers in all of Germany's key sales markets, reducing the growth outlook of exports, too.

Table 1: Germany currently has one of the highest old-age dependency ratios in the EU. That will change

Old-age dependency ratio: Ratio of population aged 65 and older to population aged 15 to 64 years in per cent according to baseline projections of Eurostat.

EU country	2023	EU country	2040	EU country	2050
Luxembourg	21.5	Malta	28.5	Malta	34.2
Ireland	23.2	Luxembourg	30.6	Luxembourg	36.1
Cyprus	24.7	Cyprus	33.4	Cyprus	38.3
Slovakia	26.7	Ireland	33.6	Sweden	38.5
Malta	28.7	Sweden	36.9	Denmark	42.1
Poland	29.7	Hungary	37.7	Belgium	42.3
Austria	29.8	Slovakia	37.9	Netherlands	42.3
Lithuania	30.7	Poland	38.6	Ireland	43.2
Spain	30.8	Czech Republic	38.9	Hungary	45.5
Belgium	30.9	Estonia	39.5	Germany	45.7
Romania	30.9	Belgium	39.7	Finland	46.1
Netherlands	31.4	Denmark	41.5	Estonia	46.2
Czech Republic	31.8	Romania	42.0	Austria	46.4
Estonia	31.9	Netherlands	42.5	Czech Republic	47.2
Hungary	31.9	Finland	42.9	France	48.0
Denmark	32.3	Austria	43.3	Slovakia	49.7
Sweden	32.7	Bulgaria	43.4	Romania	50.2
Latvia	33.1	Germany	45.2	Poland	50.5
Bulgaria	33.8	France	45.3	Croatia	51.8
Slovenia	33.8	Latvia	45.3	Bulgaria	53.4
France	34.5	Slovenia	45.7	Lithuania	53.4
Germany	34.7	Croatia	46.3	Latvia	53.6
Greece	36.0	Lithuania	46.3	Slovenia	53.7
Croatia	36.1	Spain	48.4	Spain	59.0
Finland	37.5	Portugal	54.6	Italy	61.3
Portugal	37.7	Greece	55.0	Portugal	62.9
Italy	37.8	Italy	56.2	Greece	67.9

Sources: own presentation, Eurostat

What can Germany do about the skilled labour shortage and its negative growth impacts?

The main starting points are:

- Increasing labour market participation (including longer working hours),
- Skilled migration,
- Stronger labour productivity growth,
- and in the long term: stabilising the birthrate.

• The following approaches to tackling the skilled labour shortage are potentially among the most effective. They are already being partly addressed in Germany. The focus is on attracting skilled workers, that is, working-age people with vocational qualifications. To be sure, businesses are also being impacted by a shortage of unskilled workers. But with regard to the depressingly high unemployment rate among low-skilled workers it appears warranted for the public and private-sector to prioritise ways and means of training the large number of low-skilled workers looking for employment within the country or mobilising them for existing vacant unskilled job vacancies.

Increasing labour market participation of people of prime working age[4]

Helpful approaches include:

• Financial incentives from the private and public sector. Among others, abolition or reduction of tax relief or transfer payments that make taking on work or increasing the number of working hours financially unattractive. Examples of this are income tax splitting between married couples and mini-jobs, although it must be borne in mind that the lower tax payments on the latter also increase the incentive to work for low-wage earners.

• Increasing the difference between the lowest net wage and basic support for the unemployed. This can also be done by reducing taxes on employees subject to social security contributions. In order to minimise misguided incentives around the labour force participation of low-wage earners, sharp rises in the tax burden and high benefit reduction rates where income thresholds are exceeded should be avoided.

• Exceptions to the statutory minimum wage for unemployed with placement obstacles such as lack of qualifications.

• Improving the reconciliation of work and family life, for example by providing free or low-cost professional childcare and aged care, flexible working time models and working from home arrangements.

• Besides financial incentives, education and training are among the most effective measures for addressing the skilled labour shortage and strengthening productivity growth. To achieve this, lifelong learning should be aspired to, beginning with early childhood education at preschool age and comprising transversal skills (interpersonal skills, communication, self-management etc.). In order to establish lifelong learning as a guiding principle it is necessary to motivate young and economically active people to pursue further education on their own initiative. This can have many benefits both for the individual and for the economy.

The higher the educational qualifications, the higher the labour force participation (Figure 5) and the lower the unemployment level. Vocational or tertiary qualifications improve employment prospects enormously. Investment in human capital helps to increase productivity and innovative capacity in the economy. Retraining enables people to move to different roles when they lose their jobs, which will be helpful given the upcoming structural upheavals.

• The government can significantly contribute to further improving occupation-related infrastructures. This includes secure and fast Internet connectivity and public transport that enables workers to reliably commute to their workplaces under acceptable conditions.

• Guiding principles are also important as they generate motivation and align people's actions with goals and values.

Principles such as the following can be helpful in underpinning prosperity:

+ gender equality at the workplace free of discrimination

+ lifelong learning

+ a free market with competition and private enterprise as a source of strong economic performance and prosperity

+ advancing digitalisation and strengthening technological competitiveness

+ ensuring the reconciliation of work and family life

+ a lifestyle that is conducive to mental and physical fitness and health

+ the desire to apply oneself in order to make an appropriate contribution to social welfare

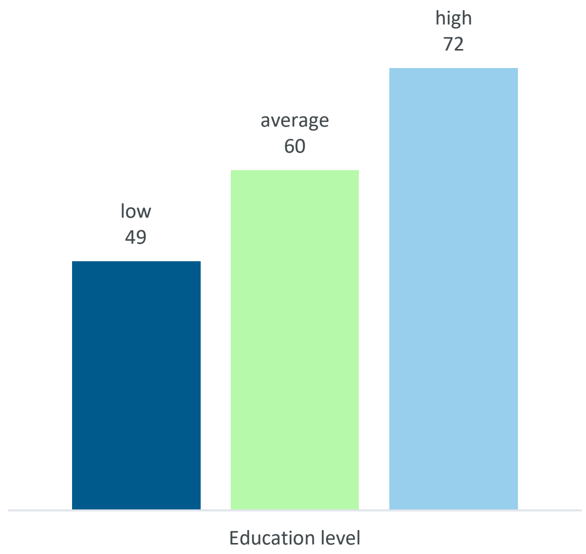
+ promotion of skilled migration and efforts towards integration by all sides

+ maintaining and deepening cooperation with partners in the European Union to preserve the Europe-wide mobility of labour and capital, the common market, technological exchange, cooperation for prosperity and peace, and the green transition in Europe and the world.

In order for guiding principles to spread effectively they must be extensively conveyed, accepted by the majority, upheld and lived out.

Figure 5: Labour market participation rises with the level of education

Labour force participation rate in per cent by level of qualifications



Low qualifications: no formal qualifications, not in school or training;
Medium qualifications: with completed apprenticeship / vocational training;
High level of education: technical college, tertiary degree

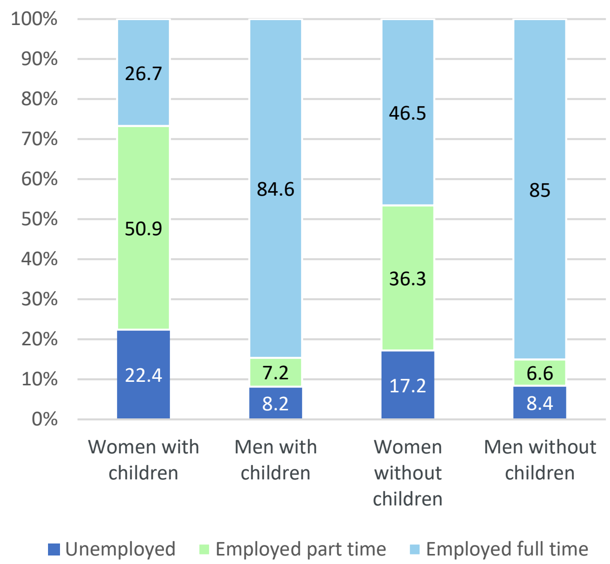
Sources: Federal Statistical Office, own rendition

Guiding principles are of particular importance with regard to female labour force participation. In the old Federal Republic, the idea that a woman's only place was in the home was embedded in society well into the past century. Up until 1977, the German Civil Code allowed married women to seek paid employment only if it was deemed compatible with their duties as a housewife and mother. In the GDR it was normal for women to be in employment. But there, too, they were expected to mainly perform domestic chores and were granted a monthly 'housework day'.

This principle reverberates until today. Unlike men, many married women still remain unemployed even when there are no children to be tended to (Figure 6). Even among single women, the share of women who are not employed or work part-time is significantly higher than among men.[5] If that is to change, there needs to be an image of a society where it is regarded as normal and desirable that women pursue gainful employment and can generally fill all roles for which they have the required qualifications.

Figure 6: Significantly more married women than married men are unemployed or work part-time – even without children

Occupational status of married women and men aged 25 to 59 years in 2023, in per cent



Sources: Federal Statistical Office, own rendition

Increasing the labour force participation of people of retirement age[6]

In order to increase the labour force participation of retirement-age workers, all measures are expedient that increase incentives and motivation to continue working for longer and that maintain the ability to work effectively and adapt. The labour force participation rate of older workers can be increased using the following approaches:

- Reducing taxes and social security contributions for retirement-age workers.

- Managing work incentives through the level of pension payouts. International studies show that the higher the pension is in relation to the last net income, the lower the labour force participation is in retirement age.

- Dismantling early retirement incentives. That includes deduction-free early retirement. Arrangements for earning extra income without deduction of pension payouts and social security contributions for early retirees can also encourage early retirement.

- Employee retention strategies can help businesses to plan ahead for meeting their workforce requirements, adapt to an ageing workforce and recruit, retain and develop employees. Small SMEs in particular need support in this.

- Businesses can seek to put in place working conditions that improve motivation and job satisfaction and remove barriers to effective performance. These include reducing in-company bureaucracy, removing inefficiencies in the use of labour and workflows and providing efficient and well-functioning work tools.

- Post-2030, aligning the maximum retirement age with life expectancy and raising the retirement age above 67 years with the option of retiring earlier, while working longer is rewarded with a bonus. Aligning the retirement age with life expectancy is already being practised in the Netherlands and has been decided in Finland and Sweden. Up to the year 2022 there has been no industrialised country whose statutory retirement age went beyond age 67.

One alternative is voluntary further employment beyond age 67 with the option of earning extra income and reduced government levies on earned income. If such benefits are granted to people retiring early, however, this can reduce the incentive to continue working full-time while also resulting in lower revenue and additional costs for social insurance schemes.

The decline of both mental and physical abilities takes place at a different pace and in different ways in each person. Research findings on mental and physical decline show that it would be wrong to assume that older workers regularly work more slowly or should be less innovative than younger ones. Acquired knowledge, experiential knowledge and routine can often enable more experienced workers to work more quickly and reliably. However, this finding must inevitably turn negative when the regular retirement age is increased to a sufficiently high level. It could therefore cause problems to employers if they were generally required to enter into employment agreements beyond age 67.

Mental and physical acuity can be maintained and promoted. This results in individual differences that usually appear increasingly with advancing age. The general rule is 'use it or lose it'[7]. Steps that have positive results include:

- Higher education, continuing education and lifelong learning. A person's entire educational history has an influence on mental fitness in older age.

- Changing activities and demands as well as mentally demanding tasks

- An active, healthy lifestyle with sufficient exercise, a balanced diet and rest

- Avoidance of frequent negative stress and other working conditions that are unhealthy and may lead to accidents

- Preventive medical checkups and other preventive health measures

The labour force participation rate of people aged 65 and over in Germany currently sits at 9%. In some other industrial countries it is much higher, for instance in Japan, New Zealand and Iceland, where it is over 20%.

Most working pension recipients in Germany work significantly fewer working hours: On average, 40% of those aged 65 to 74 work fewer than 10 hours, 25% between 10 and fewer than 20 hours a week. This shows that the willingness or ability to work of most pensioners who are in employment appears to be only limited.

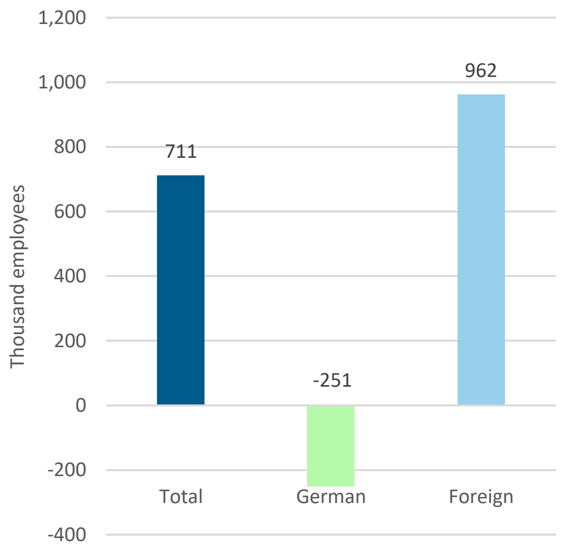
Germany could learn from Japan, where physical and mental fitness can be maintained for longer. In Japan, healthy life expectancy stands at 73.4 years, 4.5 years higher than in Germany – even though the labour force participation rate of over 65-year-olds is three times as high. Working during retirement appears to be compatible with good health in older years.

Attracting skilled migrants will close many gaps but is becoming more challenging

Between December 2021 and December 2024, the number of employees subject to social security contributions increased only thanks to the inflow of migrants – by 711,000 (Figure 7).

Figure 7: Employment in Germany is now growing only because of foreign workers

Change in the number of employees subject to social security contributions from August 2021 to August 2024, in thousands.



Sources: Federal Employment Agency, own illustration

The migration balance with the remaining EU countries turned negative for Germany in 2023 and international competition for scarce skilled labour will intensify. This requires greater efforts to attract skilled workers from third countries outside the EU. From 2020 to 2022, the share of people migrating to Germany for work in total migration from third countries fluctuated between 4 and 25%. In total, a good 72,400 people migrated to

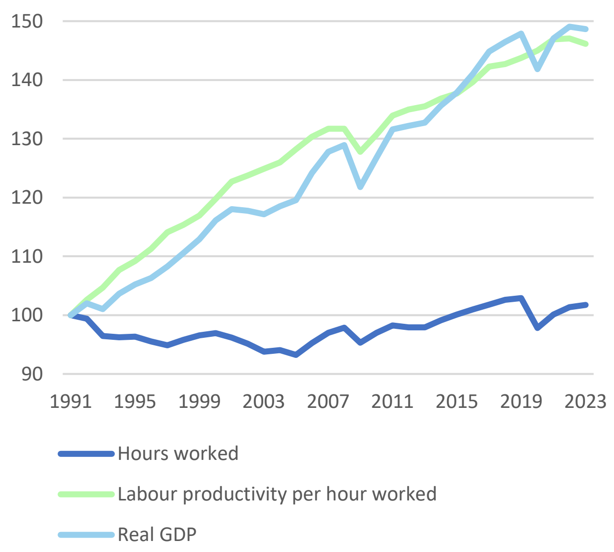
Germany for work in 2023. The Skilled Immigration Act that came into force in 2020 has so far led to only a moderate increase. Compared with the year 2019, the number of people who came to Germany for work from third countries rose by a mere 8,200. Further growth would be desirable to address the skills shortage.

Good knowledge of German and demand-oriented qualifications are essential for integration. In order to attract skilled workers, it is important to reduce administrative hurdles for migrants and employers to a minimum and offer attractive living conditions as well as support in integration, especially when they are accompanied by school-age children.

In the longer term, it may be useful to leave less up to chance when it comes to the migration of skilled workers with demand-oriented vocational training. To achieve this, one could invest in offering children and young people in third countries a school and vocational education in line with German standards with the option of working in Germany after graduating. For this, partnerships with willing countries could be entered into.

Finally, procuring more services and inputs from abroad could also be helpful. Improving digital communications technologies opens up additional opportunities here. Foreign workers can also increasingly work from home in another country. For many office jobs, migrating to Germany is not necessary. Translation tools can help overcome language barriers. It would also be conceivable, for example, to introduce English as a second language.

Figure 8: Labour productivity has been a driver of economic growth in the past as well



Indexes, 1991=100.

Sources: own calculations and presentation on the basis of data from the Federal Statistical Office

Higher labour productivity growth is the key to stronger economic growth

Productivity increases were almost the sole drivers of economic growth already in the past (Figure 8). More systematically deploying existing labour in ways that add value and increasing productivity could also be useful in addressing skills shortages.

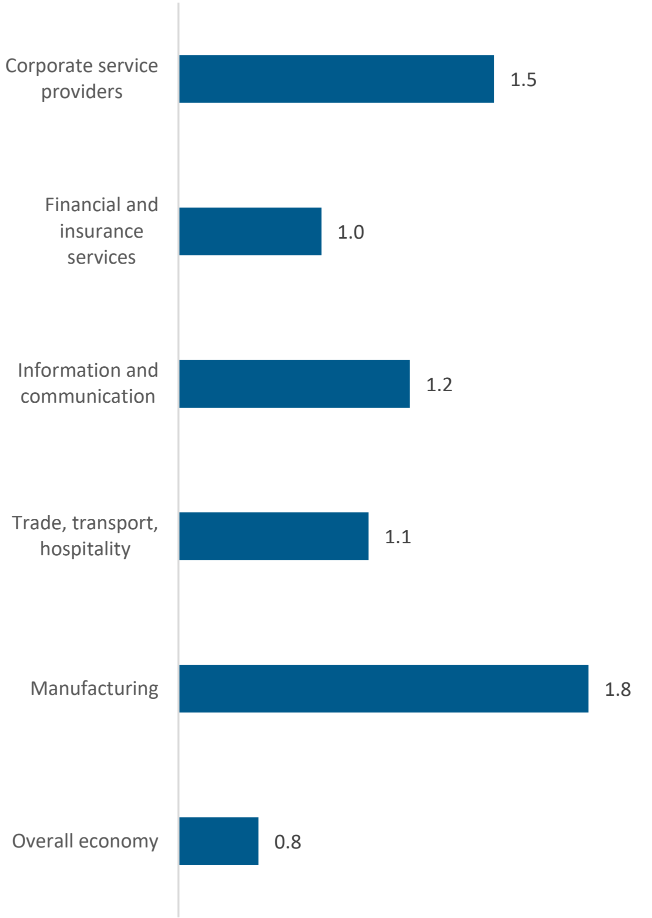
One prerequisite for this is to mobilise more private capital so that German businesses invest more and become more innovative. Besides, Germany needs to catch up with other countries in digitalisation. The most recent advances in AI have opened up the prospect of increasing productivity more strongly in the services sector as well. In that sector, productivity has so far increased at a slower pace than in industry (Figure 9).

With respect to the question what conditions would enable greater productivity growth, Germany might actually learn even more from other countries. According to international statistics, labour productivity in the USA and Sweden has grown by around 0.5 percentage points more per year than in Germany since 2002. And labour productivity in Switzerland is significantly higher. Half a percentage point more productivity growth could currently reduce labour demand by around 230,000 people per year or increase GDP by EUR 20 billion in the given employment situation.

Studies with international comparisons have established that ICT production and utilisation have had a great influence on productivity growth in the past decades. Comparisons with the USA show that ICT investments there have been higher than in Germany. Sectors that produce ICT and those that use ICT have both made less of a contribution to aggregate labour productivity in Germany than in the USA. Studies have determined that this was due to the faster acquisition of ICT skills and more effective adaptation of organisational structures and management practices to ICT technologies in the USA. The company size structure has also been found to play a role, as do labour market regulations in Germany, which make it difficult for innovative enterprises to reduce their headcount when innovative projects fail.[8]

According to an estimate by the Institute of Applied Industrial Engineering and Ergonomics, more effective use of labour could also leverage efficiency potentials to the tune of approx. 4 million employees in the German economy.[9] First, this opens up possibilities for reducing and automating roles where labour is in short supply. Second, it allows workers to fill gaps elsewhere. Once again, this presupposes a willingness to adapt and learn. The private and the public sector can support a change of jobs and retraining where necessary.

Figure 9: Productivity increases are possible in the services sector, too



Variation in productivity per hour worked per year from 2013 to 2023 in per cent

Sources: German Federal Statistical Office, own calculations and presentation

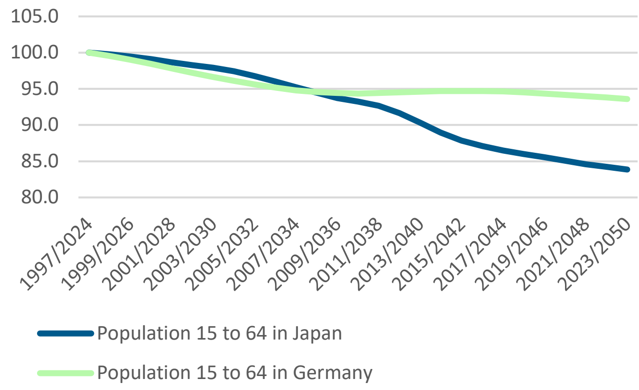
Just as important is to streamline public-sector and private-sector bureaucracy under cost-benefit considerations and to put in place a modern, functioning, cost-efficient business infrastructure in areas such as digital infrastructure, energy and transport. Public administrations, too, can render services more efficiently if they succeed in expanding digital offerings and thus addressing service bottlenecks caused by staff shortages.

A look into the 'crystal ball' Japan

An analysis of the development in Japan enables us to look into the 'crystal ball', as it were, of Germany's demographic future and its economic consequences. That is because since the end of the 1990s, Japan has experienced a similar demographic development as what is expected to be imminent for Germany. How Japan has so far coped with it can give courage and impetus.

At the end of the 1990s, the population of primary working age began to shrink in Japan and it did so to a far greater extent than is to be expected for Germany up to the year 2050 according to the median population scenario of the Federal Statistical Office (Figure 10).

Figure 10: The working-age population contracted more sharply in Japan than is expected for Germany up to 2050



Germany from 2024 to 2050 (G2L2W0 scenario). Indexes, 1997 and 2024=100.

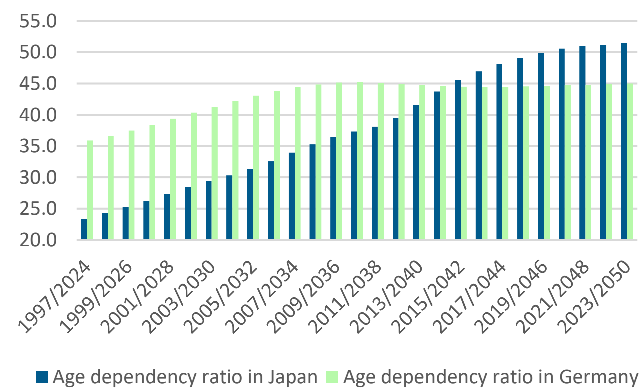
Note: 1997/2024 are the years for Japan/Germany on which the index values are based.

Sources: Federal Statistical Office, World Bank, own calculations and presentation

At the same time, the old-age dependency ratio in Japan rose from 23 to 51%. The Japanese population thus aged much more quickly than the Federal Statistical Office predicts for Germany up to 2050 in its median scenario (Figure 11).

Figure 11: The old-age dependency ratio has increased more steeply in Japan than is to be expected for Germany up to 2050

Development of old-age dependency ratio from 1997 to 2023 and Germany from 2024 up to 2050. Indexes, 1997 and 2024=100.

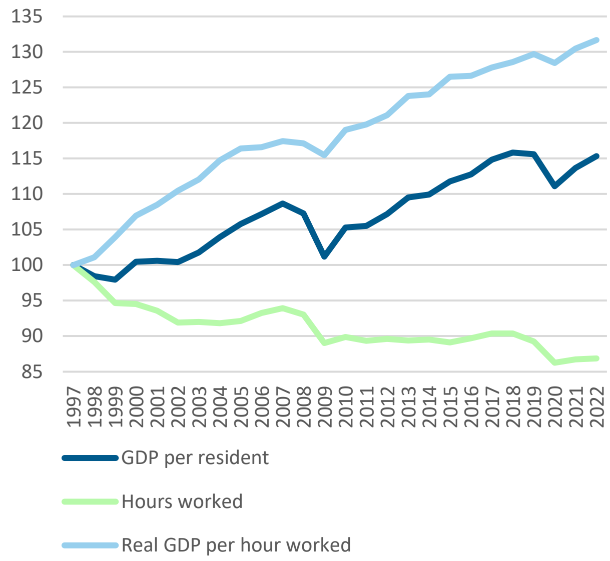


Note: 1997/2024 are the years for Japan/Germany on which the index values are based.

Sources: OECD, World Bank, own calculations and presentation

Per-capita working hours dropped in Japan, too, as they did in Germany, by 14% from 1997 to 2022. As a result, the total number of hours worked by all workers fell by 13%. As a result of the increase in labour productivity by 32%, however, gross domestic product nonetheless grew by 15% in the same period (0.6% per year). The growth rate per inhabitant was the same (Figure 12).

Figure 12: Per-capita GDP in Japan has continued to increase since 1997 as a result of labour productivity growth



Indexes, 1997 and 2024=100.

The development in Japan supports the expectation that gross domestic product in Germany will continue to grow moderately with the foreseeable demographic development if – as assumed under the business-as-usual scenario – labour force participation continues to rise and productivity growth can be maintained. To be sure, productivity growth would be lower than that experienced by Japan since the turn of the millennium (1.1% per year) but aggregate hours worked would fall less sharply.

One remarkable aspect of the labour market in Japan is the high participation rate of the age group of 65+. In 2023, the labour force participation rate for the population as a whole was 61% in Japan, which was moderately higher than in Germany. For the age group of 65+, however, it was significantly higher than in Germany, at 25% compared with 9%. Consequently, it should be possible to significantly increase the labour force participation rate of older workers in Germany, if with limitations on working hours. The vast majority of employed people in the age group of 65+ works part-time in Japan as well.

The economic incentive to remain employed after retiring is higher in Japan than in Germany because of the significantly lower income and pension level.[10] Furthermore, the widespread Japanese concept of 'ikigai' may be a contributor to the high participation rate of pensioners in that country. Those who adhere to the concept seek to discover a purpose that gives them joy and enables them to make a useful contribution to society.[11]

What favours the high labour force participation of older people in Japan is the fact that they are healthy for relatively long. In 2022, life expectancy there was 84 years compared with 80.7 years in Germany.[12] According to the WHO, healthy life expectancy in 2021 was 73.4 years in Japan, compared with 68.9 years in Germany. This is noteworthy also because there are only half as many physicians per capita of the population in Japan and the share of public health expenditure in GDP is significantly lower than in Germany. The following hypotheses can be drawn from this:

1. The significantly higher labour force participation of people of retirement age entails neither lower life expectancy nor higher morbidity across society as a whole. Quite the opposite. On average, the Japanese live longer and stay healthy for longer.

2. Lifestyle may be more important for life expectancy and good health than high physician density.

3. Germany might be able to organise its healthcare system more cost-effectively and with less labour by focusing more on preventive health care through a healthy lifestyle.[13]

These differences suggest that Germany should be able to draw on Japan's experience in some aspects in order to learn how demographic change can be successfully managed. Taking a closer look at other countries, too, should be worthwhile. For example, the labour force participation rate of the age group of 65+ is roughly as high in Iceland and New Zealand as it is in Japan. Sweden and Norway, too, have a higher participation rate among the age group of 65+ than Germany – for both women and men.

Conclusion: Germany can rise up to the demographic challenge if all actors play their part

Demographic change is a formidable and growing challenge for the economy and society. It includes skills shortages and sharply rising costs for pension, healthcare and long-term care insurance providers. The need for action is immediate because retiring baby boomers will be leaving major gaps in the economy up until the beginning of the 2030s. That is already occurring.

Many steps were taken in the past to address skills shortages and the labour force participation rate has increased steadily in recent decades. In order to maintain the level of prosperity achieved, however, efforts must be intensified. For this to occur, many levers must be set in motion. Just like the green transition, the demographic challenge is not a Gordian knot that could be sliced in half with a single stroke. It requires forward-looking action, stamina and, in many areas, the will to step out of the comfort zone. This also applies to the social protection systems. If necessary reforms are delayed for too long, the price for this will be paid in the form of supply bottlenecks, higher costs and the need to rush through measures that take time to have an impact and can have unwanted side effects.

In order to further increase labour force participation, what is needed is to put in place a mix of economic incentives and demand-oriented education and training, dismantle barriers to employment and create production and labour conditions that promote motivation, the ability to perform effective work and job satisfaction.

Increasing labour force participation will require incentives and conditions that lead to higher investment, more innovation and increased digitalisation. It also requires the mobilisation of private capital. Leveraging efficiency potentials will benefit from less bureaucracy and improved efficiency of bureaucratic processes. Opportunities for this should not only be sought in the public sector. Bureaucracy also arises in private-sector enterprises and can exceed an efficient level and they, too, should permanently scrutinise processes and structures for their effectiveness.

Tackling demographic change calls for the willingness to make challenging changes and be proactive in many areas. By no means is this a task of the public and the private sector alone. All citizens that are active in the workforce and vote for political decision-makers have a responsibility. In order to safeguard prosperity, it is therefore necessary to generate an understanding among the population of the challenges and opportunities in order to generate acceptance of unavoidable limitations and changes that will occur when they step outside the comfort zone. On this pathway, Germany will continue to be one of the world's most successful economies and most prosperous countries into the future.

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[1] Link to the skills shortage analysis as at 10 February 2025: Individual issues - statistics of the German Federal Employment Agency

[2] Cf. Müller, M. (2024): Despite economic lull, skills shortages are growing again in parts of the services and construction sectors, KfW-ifo Skilled Labour Barometer December 2024, KfW Research, KfW-ifo Skilled Labour Barometer | KfW.

[3] Cf. Müller, M. (2021): Deutschland muss produktiver werden, um die künftigen Herausforderungen zu meistern (Germany must become more productive to meet the challenges of the future – in German), Focus on Economics No. 356, KfW Research, https://www.kfw.de/PDF/Download-Center/Konzernthemen/Research/PDF-Dokumente-Fokus-Volkswirtschaft/Fokus-2021/Fokus-Nr.-356-November-2021-Arbeitsproduktivitaet.pdf and Geis-Thöne, W. et al. (2021): Wie lässt sich das Produktivitätswachstum stärken? (*How can productivity growth be strengthened?* – Our title translation, in German)

[4] Cf. Cipollone, A.; Patacchini, E. and G. Yallanti (2013) Women Labor Market Participation in Europe: Novel Evidence on Trends and Shaping Factors, IZA DP No. 7710, Institute of Labour Economics.

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[5] Differentiated data on the labour force participation of women and men by marital status can be found at the Federal Statistical Office: Personen im Alter von 25 bis 59 Jahren nach Familien- oder Lebensformentyp und Erwerbsstatus 2023 (in %) (*Persons aged 25 to 59 by type of family or living arrangement and occupational status in 2023 (in %)* – our title translation, in German) - Federal Statistical Office

[6] Cf.: BMAS (2010): Aufbruch in die altersgerechte Arbeitswelt, Bericht der Bundesregierung gemäß § 154 Abs. 4 Sechstes Buch Sozialgesetzbuch zur Anhebung der Regelaltersgrenze auf 67 Jahre (*Moving into an age-appropriate working world, Report by the Federal Government pursuant to Section 154 (4) of the Sixth Book of the Code of Social Law on raising the statutory standard retirement age to 67 years* – our title translation, in German)

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[8] Cf. Geis-Thöne, W. et al. (2021): Wie lässt sich das Produktivitätswachstum stärken? *(How can productivity growth be strengthened?* – Our title translation, in German), expert opinion by the Cologne Institute for Economic Research, p. 64 ff. Wie lässt sich das Produktivitätswachstum stärken?

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[10] Cf. Moriyama, T. (2022): Why does the older population in Japan work so much? Japan Labor Issues, vol.6, no.39, October, 2022.

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[11] Miralles, F. and Garcia, H. (2016), Ikigai, Allegria.

[12] Data source World Bank.

[13] Studies on life expectancy confirm the paramount importance of lifestyle, which includes exercise, nutrition and social connection. Cf. e.g. z. B. Nguyen, X. et al. (2024): Impact of 8 lifestyle factors on mortality and life expectancy among United States veterans: The Million Veteran Program, The American Journal of Clinical Nutrition Volume 119, Issue 1, January 2024, Pages 127–135, Impact of 8 lifestyle factors on mortality and life expectancy among United States veterans: The Million Veteran Program - ScienceDirect.