Committee for a Future with Children

NO 1: THE SILENT CRISIS - THE IMPACT OF DECLINING BIRTH RATES ON SWEDEN'S ECONOMY AND WELFARE

ÅSA HANSSON AND KRISTOFFER LUNDBERG

The silent crisis: The impact of declining birth rates on Sweden's economy and welfare

Åsa Hansson and Kristoffer Lundberg

Publication 1
Committee for a Future with Children

Preface

As part of its commission of inquiry, the Committee for a Future with Children has been asked to identify obstacles to higher birth rates, increased gender equality and high employment rates; propose measures to promote family formation and thus a more family-friendly society; and analyse how this affects the real economy.

An important element of this work is to contribute to public education and discussion through a series of short publications. The aim is to contribute to an open and knowledge-based debate in which different perspectives and key considerations are highlighted and made available to a wider audience.

This publication is the first in a series that will be published on an ongoing basis on the Committee's website (www.futurewithchildren.se). The report was written by me and Kristoffer Lundberg and marks the first in our series of publications. The authors are responsible for the content and assessments in the reports.

The report is largely based on calculations made in the dynamic SESIM microsimulation model developed by Tomas Ekerby and Joakim Hussenius at the Public Health Agency of Sweden. These calculations are based on specially commissioned population projections produced by Lena Lundkvist, a demographer at Statistics Sweden. We would like to express our warmest thanks to them for their valuable contributions and collaboration, which have made this report possible.

We would also like to extend a special thank you to the members of the Committee’s reference group (consisting of Anna Björklund, Erik Carlsson, Eskil Wadensjö, John Sjögren, Maria Pleiborn, Maria Stanfors, Marika Lindgren Åsbrink, Micael Dahlén, Per Rosencrantz and Ulla Waldenström) for their valuable insights and contributions during the course of the work. Furthermore, we would also like to thank the staff at the Ministry of Health and Social Affairs' Policy Analysis Unit, who have continuously supported and contributed to the work, as well as Anne-Marie Flink Engdahl for her important contributions in all matters, large and small.

The Committee would like to express its warmest thanks to all the staff and representatives who contributed their knowledge and

experience during our study trip to South Korea and our participation in the Korea Population Forum 2025. We would also like to thank the organisers, the Ministry of Health and Welfare and CBS Media Group, for their invitation, as well as Ambassador Karl-Olof Andersson and the staff at the Embassy of Sweden in Seoul for their valuable support the Committee received during the trip. Special thanks go to the Ministry of Health and Welfare, the Bank of Korea, the Economic, Social and Labour Council, the National Assembly Research Service, the Korea Development Institute, the Korea Institute for Health and Social Affairs, the Korea Labor Institute, the Ministry of Employment and Labour and the SNU Population Policy Research Centre, as well as to representatives from the business community and academia who generously shared their insights and contacts.

We would also like to express our gratitude to Jon Pareliussen, head of the OECD Korea-Sweden Desk, and his colleagues in Paris at the OECD Economics Department for their excellent cooperation and valuable advice, as well as to our Nordic colleagues Rannveig Kaldager Hart in Norway and Anna Rotkirch in Finland.

The Committee will publish further reports and analyses of other interesting issues in the future. We invite readers to contact the investigator and secretariat via our website.

Lund, January 2026

Åsa Hansson
Head of the Committee

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1 Introduction – demographic imbalance – a historic trend reversal

The declining birth rate is one of the most significant long-term challenges for the Swedish economy and welfare system. Between January and May 2025, there were 41,161 births, a decrease of 955 compared with the same period last year (SCB 2025). The total fertility rate in 2024 was 1.43 children per woman, the lowest level recorded since measurements began in 1751. The downward trend has been ongoing since 2010. According to the Organisation for Economic Co-operation and Development (OECD), the total fertility rate in Sweden of 1.45 children per woman in 2023 is just above the average for both OECD countries (1.43 in 2023) and the European Union (EU) (1.39 in 2023).

Today, mortality from the moment of birth to the end of the fertile period is very low. Thus, an average of 2.1 children per woman is sufficient for the population to reproduce over time. Historically, this figure was higher in the past due to a higher mortality rate. Differences in the birth ratio between boys and girls also affect the exact replacement level.

With a fertility rate of 1.43, each generation reproduces only 68% (≈1.43/2.1). This means that each future generation will be 32% smaller than the parent generation. The ultimate consequence of this is a shrinking population.[1] In the short term, this development may be masked by an increase in life expectancy for the elderly, which

[1] With a constant total fertility rate at this level, Sweden's population will consist of one single person in about 1,400 years. Although this example is exaggerated and therefore unlikely, it clearly shows the demographic effect of not reproducing.

temporarily increases the population when fewer people die at an older age.

Net migration does contribute to increasing the population in Sweden, but since the total fertility rate among foreign-born women is now also below the replacement level of 2.1 (1.55 in 2024), this cannot compensate for the effects of declining birth rates in the long term. Although this helps to maintain population levels, significant and continuous net migration is required to sustain stable population growth.

Sweden's population growth is not in a state of demographic equilibrium, but is characterised by a significant ageing process and a gradual decline in population in the long term, given current demographic conditions. The alternative projections presented in this report point to a high sensitivity to future total fertility and migration and are likely to indicate a trend reversal that is unprecedented in modern times. Such a dramatic decline in population growth has not been observed in Sweden since the demographic crisis that followed in the wake of the Black Death around 1350–1370 (Krantz 2017).

If the trend is not reversed, it will have far-reaching consequences for society and the economy as a whole – all economic sectors and markets will be affected. The transition to this change will be complex and not without challenges.

The population crisis is a silent crisis, but it is already beginning to be felt in the municipal sector and in activities such as preschool education. In the last year alone, 500 preschool units have been closed, largely due to declining birth rates (SKR 2025). At the same time, other activities need to be developed, and the need for elderly care will increase (*ibid*). This development will continue and gradually spread throughout society.

This publication, the first in a series of short analyses, highlights how the Swedish economy is affected by the declining birth rate. The aim is to assess how sensitive the size and development of the economy are to various demographic developments. At a later stage, this will be useful for discussing possible courses of action and how much financial resources it is economically justified to spend on measures to reverse the trend. The Committee will therefore return to this type of net cost calculation later in the inquiry process.

To highlight the consequences of a sustained low birth rate, the Committee, working in collaboration with demographers from Statistics Sweden, developed five alternative scenarios based on today's total fertility rate. These complement previous calculations and aim to provide a broader understanding of possible future developments given different scenarios.

The SESIM microsimulation model (see appendix) was used to calculate the long-term economic effects of declining birth rates. SESIM is an advanced individual-based model that covers virtually the entire Swedish tax and transfer system, several public welfare services and detailed information about individuals and households. The strength of the model lies in its high precision over time and its detailed representation of the Swedish population based on data from approximately 300,000 individuals. The model is managed by the Public Health Agency of Sweden and is also used by the Ministry of Finance and the Ministry of Health and Social Affairs to assess long-term economic effects.

The purpose of the projections is to analyse what will happen if today's low birth rate remains unchanged. The report focuses on how this can be expected to affect Sweden's demographics, gross domestic product (GDP), economic growth, the dependency ratio and the political economy in the long term. The report concludes with a discussion of the importance of stable demographic development as a basic prerequisite for continued economic growth and sustainable welfare, and emphasises the need to discuss the trade-offs that Sweden faces given today's initial values and course of events.

1.1 Individual freedom and political responsibility

It is the firm opinion of the Committee that it is not the task of the state or politics to define how individuals should live their lives, what family structures they choose to live in, or how many children they want to have. However, politics has a central role in identifying and removing structural barriers that limit the scope for action of individuals and families and their ability to have the desired number of children.

The observed demographic changes may well be a consequence of people's free choices and changing life preferences. At the same time, there appears to be a gap between the number of children people want and the number of children they actually have in many countries (Friedrich & Bujard 2025). If falling birth rates are due to individuals' voluntary choices, the challenge going forward will be to adapt society to the consequences of an ageing and gradually declining population. Ensuring that this adaptation takes place in an orderly, strategic and long-term sustainable manner is a crucial task for society going forward.

According to the Committee's mandate, the work should focus on identifying obstacles to higher birth rates, increased gender equality and high employment rates (Government Offices 2025). The Committee has been asked to propose measures that promote family formation and contribute to a more family-friendly society, and to analyse how this affects the real economy in the short and long term (*ibid*). This is also the policy that research shows can increase the total fertility rate in society (Doepke et al. 2023).

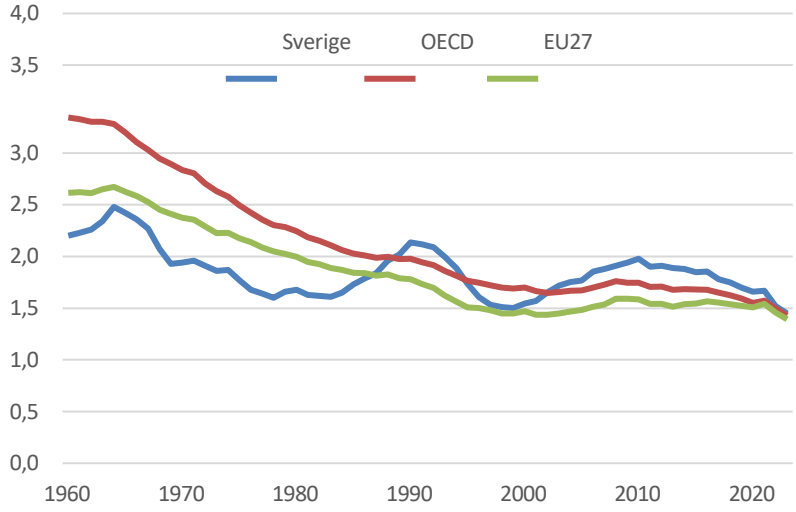
However, it is important to emphasise that the future, although uncertain, is not predetermined. Thus, there is scope to influence the future through political decisions, the free choices of individuals and open discussion.

2 Total fertility is historically low

Total fertility has been on a downward trend since the 1960s in Sweden, the EU and the OECD (Figure 1). However, the trend has been more stable within the EU since the turn of the millennium. The birth rate in Sweden has been on a downward trend since 2010, and the total fertility rate in 2024 was the lowest recorded since we began measuring it in 1751 (SCBa 2024).

Figure 1. Total fertility rate per woman in Sweden, the EU and the OECD

1960–2023. Computed number of children per woman



Source: OECD Family Database, OECD (2024)

Previously, Sweden's fertility rate followed the economic cycle, with more children being born during economic upturns and fewer during downturns. Despite these fluctuations, cohort-based fertility

has remained fairly stable at around 2 children per woman since the early 1990s. However, there are now signs that the link between the economic cycle and period-based fertility has been broken (Ritzén 2022) and that cohort fertility has also fallen to below 2 children per woman (Hellstrand et al. 2021).

This new situation indicates a deeper structural change in society. Fertility has continued to decline regardless of the economic cycle, which may indicate changing norms and priorities regarding family formation and that this has a greater impact on childbearing than economic conditions. The inquiry is still open with regard to this issue, and the Committee will provide explanations for the demographic development and return to the question of the importance of the economy in an upcoming publication.

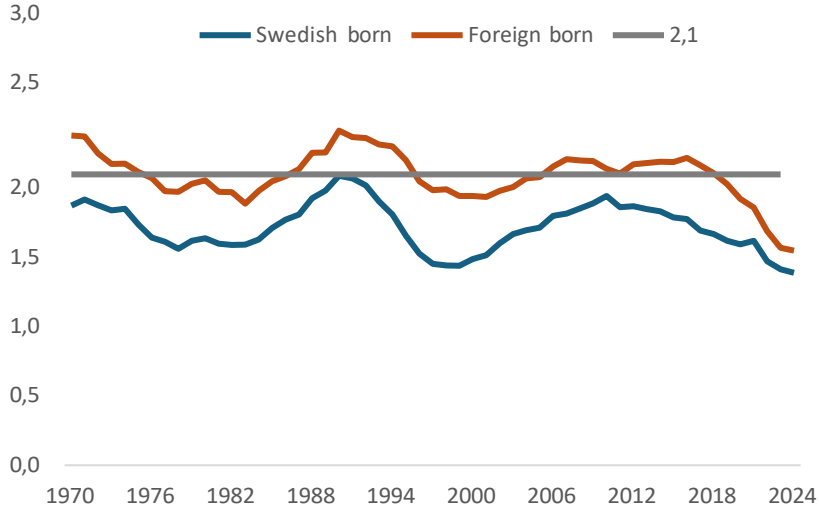
2.1 Migration contributes to population growth and fertility – but is no longer sufficient

Since 1970, it has been possible to measure differences in the total fertility rate for both native-born and foreign-born women in Sweden. Foreign-born women have consistently had a higher total fertility rate than women born in Sweden (Figure 2). Women born in Sweden have only reached the level of 2.1 children per woman once since 1970. The highest level was 2.1 in 1990, while foreign-born women had a rate of 2.4 that same year. Foreign-born women have had a level above 2.1 in 28 of 54 years, but the level has also fallen below this level since 2018. In 2024, the lowest birth rates were recorded for both groups: 1.4 for native-born women and 1.6 for foreign-born women. Overall, the trend shows that neither group is reaching the replacement level anymore.

However, the difference has varied over time. In the 1970s, the difference was often between 0.4 and 0.5, while in the 1990s and 2000s, it decreased to around 0.3–0.4. Since 2017, the difference has decreased every year, from around 0.5 in 2016 to just under 0.2 in 2024, which is the lowest difference during the entire period. This trend shows that previous differences between foreign-born and native-born women are levelling out.

Figure 2. Total fertility rate per native-born and foreign-born woman in Sweden

1970–2024. Computed number of children per woman



Source: Statistics Sweden (SCB)

2.2 The Committee's demographic projections

In Sweden, Statistics Sweden (SCB) is responsible for annual population projections of Sweden's future demographics. Every three years, a more comprehensive analysis is carried out, in which a main scenario and alternative development paths are presented. In the intervening years, follow-ups and adjustments are made based on new statistics. The scenario that is considered most likely is presented as the main alternative. In the short term, the projection serves as a forecast of the most likely development. In the longer term, it is a calculation of the population based on the assumption that current behaviours and historical trends will continue in the future. The projections are based on various assumptions about mortality, migration and fertility, which are presented in the report "The future population of Sweden 2024–2070" (SCB 2024b). In its analysis, the Committee has extended the projections 30 years to 2100. The assumptions and their implications are summarised below.

Assumptions:

- **Mortality:** All projections in this report are based on the same assumptions from Statistics Sweden regarding life expectancy for the period 2025–2100, which ensures comparability between all projections. Life expectancy is increasing continuously, mainly for older people of all ages.
- **Migration:** There is considerable uncertainty surrounding assumptions about future migration. In its inquiry, the Committee uses the levels in the main scenario or an alternative with lower migration developed by Statistics Sweden (SCB 2024b). As a complement to these two, a special zero alternative has been commissioned by Statistics Sweden, where net migration is assumed to be zero in order to highlight the effects of a complete absence of migration.
- **Total fertility:** The latest main scenario assumes a gradual recovery in total fertility to 1.73 children per woman in the long term (SCB 2024b).

Statistics Sweden's main alternative – stable demographics

According to Statistics Sweden's main alternative, Sweden's population is expected to increase to 12.6 million by 2100. The projection is based on assumptions of continued positive net migration and a return to a total fertility rate of 1.73 children per woman. Population growth is mainly driven by migration and increased life expectancy, especially among the elderly. This means an increase of approximately 2 million people from 2024 (10.6 million), with an assumed net migration of around 30,000 people per year. Based on these assumptions, the alternative is considered a target function for stable demographics, which is also the term used hereafter in the report.

The actual trend over the past decade, both in Sweden and globally, has been characterised by a clear decline in fertility. In light of this, a return to higher levels appears less and less likely. The Committee therefore concludes that this level will not be achieved automatically. Without extensive political or structural measures, it is more likely that Sweden will follow the global trend towards lower

fertility, although some annual variation may occur in line with previous patterns.

Alternative projections

The Committee has commissioned five supplementary scenarios to Statistics Sweden's main alternative (SCB 2024b). These projections are intended to highlight different possible developments. They are based on current observed levels and trends, as well as the assumption of unchanged policy until 2100. Some scenarios are used to illustrate possible future development paths, while others primarily serve as sensitivity analyses.

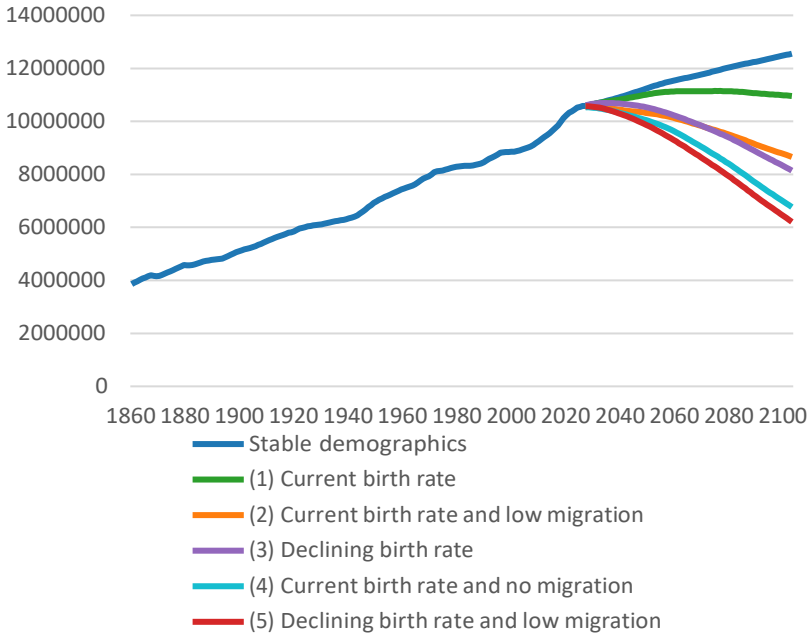
1. **Current birth rate:** Low fertility remains at current levels, with the same migration and mortality rates as in the stable demographics scenario.
2. **Current birth rate and low migration:** Low fertility is combined with low net migration (approximately 16,500 individuals per year).
3. **Declining birth rate:** Fertility continues to decline in line with the historical trend from 2010 until 2050, after which it stabilises at 0.72 children per woman (OECD's lowest level). Other assumptions are the same as in the stable demographic's scenario.
4. **Current birth rate and no migration:** Same fertility and mortality as the main alternative, but with zero migration.
5. **Declining birth rate and low migration**: Combines declining birth rate with low migration.

2.3 Historical turning point – population growth turns into population decline

The future demographic outlook, presented according to the six projections above, from 2024 onwards indicates a significant range in expected population development (Figure 3). In the stable demographic scenario, the population increases to 12.6 million in 2100, which is a growth of 2 million people from 2024, mainly driven by continued positive net migration and increased life expectancy. In scenario (1), current birth rate, fertility is assumed to remain at

current levels, resulting in a more limited increase to 11.0 million (+0.4 million). If migration also declines ((2) current birth rate and low migration), the population will fall to 8.7 million, a decrease of 1.9 million. In a scenario with (3), declining birth rate, in line with historical trends, the population will fall further to 8.1 million (−2.4 million). If migration ceases completely ((4) current birth rate and no migration), there will be a dramatic decline to 6.8 million (−3.8 million). The most extreme alternative, (5) declining birth rate and low migration, leads to the largest decline, with a population of only 6.2 million in 2100, representing a reduction of 4.4 million people.

Figure 3. Sweden's population from 1860 to 2025 and projections up to 2100



Source: Statistics Sweden (SCB), SESIM, own calculations

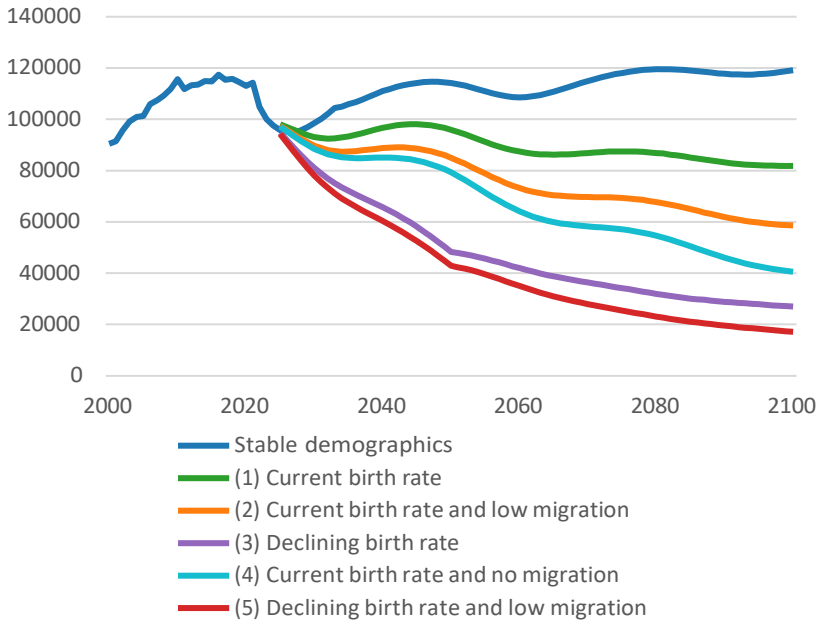
These alternative projections stand in sharp contrast to historical developments between 1860 and 2024, when Sweden's population increased from 3.86 million to 10.55 million – a growth of almost 175% (Figure 3). During the period 1860–1900, the population increased by over 30%, mainly as a result of reduced mortality and relatively high birth rates, despite extensive emigration. The post-

war period, and especially the 21st century, has been characterised by accelerated growth, with the population increasing by nearly 20% between 2000 (8.85 million) and 2023 (10.55 million), primarily driven by positive net migration and favourable natality.

The development of the number of births in the six projections clearly shows how future demographics are affected by fertility and migration (Figure 4). In the stable demographic scenario, the number of births increases gradually from around 95,820 in 2025 to 119,160 in 2100, which means long-term growth driven by assumptions of higher fertility and continued migration. In scenario (1), current birth rate, the number of births falls from 98,070 to 81,840, a decrease of 16,230 children, despite some migration. When migration decreases ((2) current birth rate and low migration), the effect of low fertility is amplified, and the number of births falls from 97,440 to 58,620 (−38,820). In scenario (3), declining birth rate, where fertility continues to fall according to historical trends, there is a dramatic decline from 94,770 to 27,000 (−67,770).

In scenario (4), current birth rate and no migration, the number of births falls from 97,110 to 40,560, a decrease of 56,550 children. The most extreme alternative, (5) declining birth rate and low migration, leads to a sharp decline in the number of births from 94,260 to 17,160, corresponding to a decrease of 77,100 children or 82% over 75 years.

Figure 4. **Number of children born with different assumptions regarding total fertility and migration from 2025 to 2100 compared with actual outcomes from 2000 to 2024**



Source: Statistics Sweden (SCB), SESIM, own calculations

The marked difference between historical population growth and the other future scenarios illustrates a possible demographic turning point. Declining migration flows, an ageing population with increased life expectancy, and a sustained decline in fertility are critical factors that justify a reassessment of long-term expectations for Sweden's demographic development and the Swedish economy.

3 Real economic consequences

A society without children is, in practice, a society that fails to invest in its future production capacity. This development can be compared to a company that ceases to invest in research, skills or real capital. In the short term, this may lead to improved cash flows and reduced costs, but in the longer term, it undermines the capacity for growth, innovation and value creation. If capital depreciation exceeds the level of investment, the company moves along a path towards closure. Similarly, a society with low birth rates risks losing its demographic base for future welfare and economic stability.

Substitution between different economic activities obscures the above fact (e.g. when resources are shifted from preschool and children to elderly care). Or when adults as a group shift consumption from (unborn) children to themselves. In the short term, the wheels keep turning, but in the longer term, a steadily shrinking population has serious consequences and requires continuous adaptation that is both painful and costly.

SESIM's limitation is that it does not capture short-term dynamics and initial demographic effects. It does not include the corporate sector or the private sector and therefore cannot fully illuminate how current population changes affect economic growth in the short to medium term for these sectors. This is likely to lead to economic growth being underestimated in the short and medium term for these sectors (i.e. until around 2035). The Committee welcomes further analysis and modelling of the demographic effects within the corporate sector and will return to this issue.

The macroeconomic development in SESIM follows the assumptions and assessments that apply in the Government's assessment of the long-term sustainability of fiscal policy (Government Offices 2025a). Furthermore, the economic situation

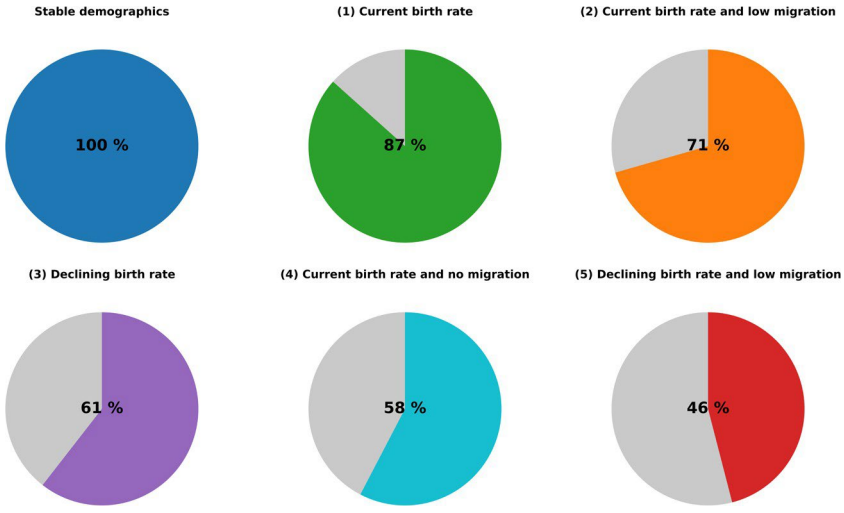
is considered to be balanced, with no new disruptions affecting the economy. This means that the projections are based on a state of equilibrium four years after the most recent year with outcome data. In this scenario, GDP growth is determined by the supply factors of the economy. The consumer price index is assumed to increase in line with Sveriges Riksbank's inflation target.

3.1 The effect on the size of the gross domestic product

A lower economic growth rate means that the economic "pie" becomes smaller. If the population shrinks, the pie also shrinks. With lower total fertility and reduced migration, the population declines, which in turn limits economic potential.

Figure 5 shows the total size of the GDP in 2100 in different scenarios compared with stable demographics. As can be seen, the size of the pie is very sensitive to future fertility and migration. In the most extreme scenario, (5) declining birth rate and low migration, the GDP in 2100 is only 46% of the level with stable demographics. If the birth rate remains at today's level (1), GDP will be 87%, while scenario (3) with a decline in the birth rate will result in GDP at approximately 60% of the level with stable demography. Migration has a clear positive effect. In scenario (2), with current birth rate and low migration, GDP shrinks to 71%, while in the scenario with no migration (4) it shrinks to 58%, compared with 87% if migration remains unchanged.

Figure 5. GDP size in 2100, per scenario



Source: Statistics Sweden (SCB), SESIM, own calculations, assumptions from SCB and the Ministry of Finance's long-term forecast

The fact that a shrinking population has serious consequences for the economy and GDP is supported by calculations from the OECD (OECD 2025a). With a decline in population, GDP per capita in the OECD area is estimated to fall by an average of 40% between 2024 and 2060. This corresponds to a decline in the growth rate from around 1% per year during the period 2006 to 2019 to around 0.6% per year between 2024 and 2060. Fernández-Villaverde et al. (2025) show that the gap between growth in GDP per capita and GDP per person of working age has increased in many developed countries. For example, Japan's unfavourable economic development is largely explained by population trends. Japan's GDP per capita growth has been modest and worrying, but GDP growth per person of working age has been relatively strong.

Internationally, there is considerable variation in population trends and their impact on the economy. Sweden is in a relatively good position so far, although there are significant regional differences within the country. As a small, open, export-dependent economy, Sweden is vulnerable to developments and conditions in other countries. In addition, the economy and the welfare society are particularly sensitive to demographic developments, as society

has extensive public life-cycle transfers based on today's employed population financing the needs of younger and older cohorts to a large extent. In order to maintain the welfare state, it is therefore important for employment to be high in all groups in society. Since women already participate in employment to a high degree and the retirement age is relatively high, Sweden has less scope to utilise the unused labour force than many other countries.

Lower total fertility is a global trend and something that has significant consequences for society as a whole. As a result, many countries have tried to reverse the trend and introduced a range of measures and incentives aimed at increasing the birth rate. Evaluations of these measures show that, in many cases, they have had a limited effect and have not had a decisive impact on total fertility. A general conclusion from evaluations is that these measures may have a short-term effect on specific groups in society and may influence the timing of births, but that the effects are very limited at the population level (Spears & Geruso 2025 and Rotkirch 2025).

Measures to increase total fertility are central to the inquiry and are an issue that the Committee will return to later.

3.2 Effects on economic growth

Stable demographic development is a fundamental prerequisite for high economic growth in Sweden. A total fertility rate below the replacement level and low migration lead to a declining and ageing population. Such a development reduces the size and potential productivity of the labour force, which in turn hinders economic growth.

When the amount of labour (L) decreases, value creation in total gross domestic product shifts to the technological factor and to the amount of capital (K). The change in capital stock (ΔK) depends on several factors, including investment and capital depreciation. When new investments are made in capital goods such as machinery, buildings and technology, the capital stock increases. These investments can come from savings or loans and help to increase production capacity. However, over time, the value of capital goods decreases due to wear and tear and technological obsolescence. This

is called capital depreciation or amortisation. To maintain or increase the capital stock, investments must equal or exceed capital depreciation.

When the population declines, it is likely to become more difficult to maintain or increase capital stock. With fewer people, the need for housing, schools, infrastructure and all sorts of other things diminishes. It then becomes likely that these empty buildings will not be repaired or maintained when choosing between consumption and maintaining capital stock.

Economically, this does not have to be a problem, and there may be advantages when the supply of capital exceeds demand in certain cases. It is also conceivable that the surplus of capital will reduce the need for savings, as future generations will not need to set aside production to replace capital depreciation. However, there are also risks associated with this development, e.g. for the value of the stock market, the housing market and other markets that are sensitive to falling demand and where prices are set at the margin and depend on future expectations. Current examples from municipalities experiencing population decline in Sweden and abroad clearly show the effect of this.[2]

Thus, the technological factor (A) remains, and technology and development will be crucial in a future with a declining amount of work and where it will be more difficult to maintain the amount of capital (K). According to The Economist magazine, the latest advances in AI are therefore timely. Robotics can support more pensioners and make elderly care less labour-intensive (The Economist 2023). If technology helps to overcome these challenges, it will follow historical patterns where productivity advances prevented demographic crises (*ibid*). However, this is uncertain, and AI's productivity potential is unevenly distributed across sectors. Ekman and Ellegård (2023) argue that many tasks in healthcare are difficult or impossible to automate.

Figure 6 shows simulations of Sweden's nominal GDP growth based on the household sector and total wages. The scenario with stable demographics has the most even development: growth starts

[2] Plots of land are being sold for SEK 1 per square metre – the highest sales pressure in Hällekis in 20 years | SVT Nyheter. There are also other examples of housing being sold for one euro in countries such as Italy. About – Renovita 1 Euro Houses

at a relatively high level (around 3.9–4.3% per year) but gradually declines towards the end of the period, with some temporary peaks.

The alternative with (1) the current birth rate follows a similar trend, but with slightly less variation and a slow decline to around 3.6% per year at the turn of the century.

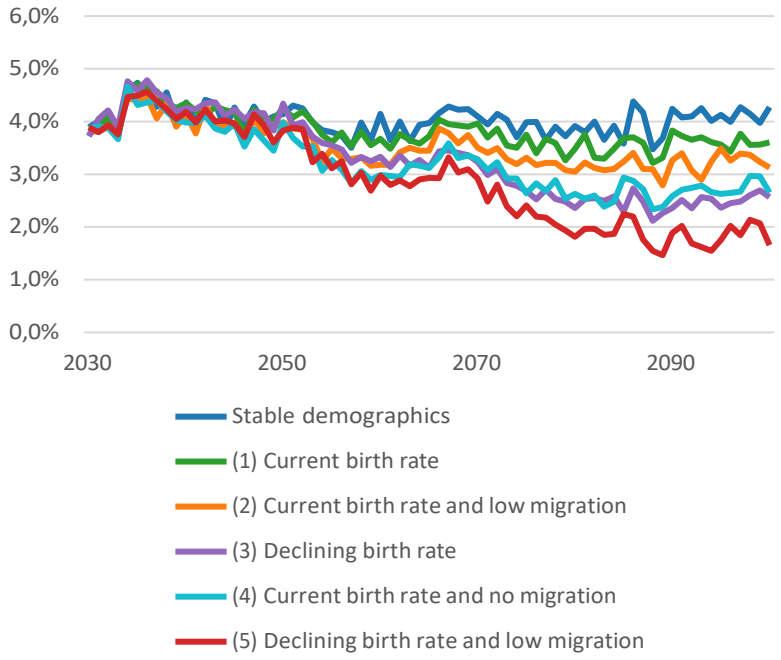
When the current birth rate is combined with low migration (2), the decline becomes more pronounced: from around 3.8–4.0% per year to around 3.1% per year towards the end.

With scenario (3), declining birth rate, growth deteriorates significantly after 2050, with values falling to around 2.6% by 2100.

In scenario (4), current birth rate and no migration, growth falls further, down to 2.7%, while the most pessimistic alternative – (5) declining birth rate and low migration – shows a sharp decline to around 1.7% at the turn of the century.

All series show a downward trend over time, reflecting demographic deterioration and its impact on the economy. Periods of stability alternate with declines, especially in scenarios with low or no migration, indicating sensitivity to external factors. Possible cyclical patterns can be discerned, but require further analysis to be confirmed.

Figure 6. Nominal GDP growth (volume) per year in six scenarios, 2030 to 2100



Source: Statistics Sweden (SCB), SESIM, own calculations, assumptions from SCB and the Ministry of Finance's long-term forecast

The Committee's calculations for the inquiry are in line with estimates from South Korea, which show that the annual GDP growth rate as a consequence of falling fertility in South Korea will decline from 4% in 2000 to 1.1% in 2050 (Kwon 2015). Even though life expectancy is increasing, this does not compensate for a shrinking labour force. Estimates of the effect of an ageing population on the growth rate in the United States also support the results for Sweden. Maestas et al. (2023) estimate that an ageing population reduces the annual growth rate by 0.3 percentage points.

3.3 Effects on economic policy

A shrinking and ageing population that affects both the size of the economy (GDP) and the rate of economic growth will not only place demands on structural reforms but also on cyclical policy. In

an economy with falling growth, the demands on fiscal and monetary policy are likely to increase. It is therefore relevant to reflect on how fiscal and monetary policy are affected by demographic developments and their ability to stabilise the economy.

Fiscal policy: An ageing population poses economic challenges for fiscal policy, which must cope with a shrinking and less productive labour force while age-related expenditure increases. Accelerated ageing affects public finances through two channels: a decline in the labour force, which reduces production capacity and thus tax revenues, and increased budgetary pressure from pensions, social care and healthcare. Although research provides limited causal evidence on the magnitude of the effects (Kotamäki & Lehtimäki, 2025), figures show that Finland's rapid ageing over a decade significantly reduced GDP per capita and productivity, while public debt rose sharply (*ibid*). To avoid the serious consequences of an ageing and shrinking population, public finances need to be strengthened, while structural reforms are becoming increasingly important to improve the functioning of the labour market to maintain a high level of employment.

Monetary policy: An ageing and shrinking population represents a structural change that is reshaping the conditions for monetary policy. Managing this change requires more than short-term demand management, and structural reforms are crucial (Lee et al. 2025). According to the Bank of Korea, there is empirical evidence that an ageing population can lower potential growth and the natural real interest rate, while at the same time weakening the foundations of financial stability (*ibid*). Falling real interest rates drive up risk in the financial system for banks through, for example, mortgages and loans to businesses. On the one hand, the risk of default increases in an economy with falling house prices and companies going bankrupt, while on the other hand, demand for loans decreases when the economy shrinks. Banks may be forced to adapt their operations to more risky activities in order to compensate for shrinking volumes. Overall, this may affect the financial stability of banks (Iman & Schmeider 2024).

At the same time, there is much to suggest an increased risk of deflation when demand in the economy and property prices fall (Yoon et al. 2018, Anderson et al. 2014, Lee et al. 2025).[3]

A general conclusion is that fiscal policy may need to take greater responsibility for cyclical policy, but above all that policy should focus on structural reforms that encourage investment in long-term growth.

3.4 Real economic consequences – the public sector

Demographic changes are creating a new reality for the country's municipalities and regions. The challenge is no longer about meeting a growing demand, but about adapting operations to a declining child population and a growing proportion of elderly people who are driving up care costs as the tipping point in population growth becomes a reality. At the same time, the regions are facing growing care needs and staff shortages as the population ages. According to the stakeholder organisation Swedish Association of Local Authorities and Regions (SKR), a long-term perspective and adaptability will be key for municipalities going forward (SKR 2025).

Many municipalities are facing difficult decisions when adapting their operations to fewer children, raising water and sewage fees, and restructuring individual and family care. Although fewer children will reduce costs (and improve cash flow) in the short term, trends show that savings are not occurring at the same rate as the decline in the number of children. Between 2018 and 2024, the number of children in municipal preschools fell by 34,000, and the number is expected to fall by a further 45,000 by 2030 (SKR 2025). Compulsory schools are also expected to be affected.

The challenge is particularly great for many smaller municipalities. In as many as 76% of the country's municipalities with fewer than 15,000 inhabitants, costs are higher than expected (SKR 2025). In 2024, the number of children of preschool age (1–5 years) fell by just over 3%, while costs fell by around half, i.e. 1.6%

[3] There is empirical support for the view that younger elderly people (aged 65–74) push up inflation, while older elderly people (aged 75+) push it down (Lee et al. 2025).

in fixed prices (*ibid*). This is a sign of slow and challenging adaptation.

At the same time, the staffing structure is changing, with fewer preschool teachers and childcare workers, with childcare workers disappearing at a faster rate. 500 preschool units closed down in the last year alone, and the number of children per certified preschool teacher has decreased, likely a sign of prioritising trained staff (SKR 2025). Despite reduced total costs, the cost per enrolled child increased by 5.5% (*ibid*). Premises costs per child in municipal preschools increased by nearly 10% (corresponding to a real increase of 4.5%). The number of preschool units continued to decline for the third consecutive year: there were approximately 6,200 municipal preschools in 2024 (almost 500 fewer than in 2021), while the number of private preschools decreased by just over 120 to approximately 2,700.

Compulsory and upper secondary schools also saw increased costs (0.8% in fixed prices), despite fewer pupils. Premises costs in compulsory schools rose by 4.2%, which underlines the difficulty of reducing structural costs. This highlights the difficulties of adapting the premises structure to fewer pupils in schools as well (SKR 2025).

At the same time, municipalities and regions are under pressure from increased costs for an ageing population. Even though the younger members of the elderly population will be healthier than today, the proportion of elderly people will increase and is likely to require more resources in terms of both personnel and healthcare and medication costs (Kågeson 2025). According to reasonable assumptions, the net additional cost of healthcare and social care in 2070 is estimated to amount to approximately 2% of the GDP in 2024 (*ibid*).

Although long-term forecasts show that the tax base per capita in real terms will return to a level in line with the trend, low population growth means that the economy is entering a new normal. This is characterised by weaker demographic growth, but with higher interest rates, prices and wages than in the years before the pandemic, according to SKR economists (SKR 2025).

Adapting to the new demographic situation is a political challenge that requires both courage and strategic decisions. Decision-makers must take a long-term view even in election years,

as demographic shifts are long-term and require sustainable solutions, according to SKR (*ibid*).

3.5 Real economic consequences – the business sector

The declining number of children in preschool does not just create challenges for municipalities and regions.[4] It also affects many private companies operating as providers of healthcare, education and care for children and young people, who are therefore dependent on tax revenue for their funding. This distinctive feature means that the business sector is strongly linked to the municipalities' economy and demographic development, giving the issue an additional dimension and making it a broader concern than in many other countries.[5]

Shrinking markets are likely to lead to a shift from markets aimed at younger people to those aimed at older people. Anecdotally, it is telling that the Christmas gift of 2025 was toys aimed at adults (HUI 2025). According to The Swedish Retail Institute (HUI), sales in the toy industry increasingly consist of products marketed to adults.

For the business sector, the adjustment is likely to mean lower productivity growth. Since 2010, productivity growth among Korean companies has stalled (Lee et al. 2024). This is explained by reduced investment in research and development (R&D) and a decline in the entry of new innovative companies as a result of demographic trends (*ibid*).

Another aspect that should be noted is how low fertility affects future entrepreneurship and economic renewal. According to statistics from the Swedish Agency for Growth Policy Analysis, 27% of all those who started businesses in 2024 were under 31 years of age, half were between 31 and 50 years of age, while the remainder were over 50 years of age or no information was available.[6] This age distribution means that a decline in younger cohorts will have direct consequences for the pace of innovation, new business start-ups and

[4] Effektivitet i kommuner 2025 | Rådet för främjande av kommunala analyser | SKR
[5] See e.g. Blix M. & Jordahl "Privatizing Welfare Services – Lessons from the Swedish Experiment", Oxford University Press) on these structures in Sweden.
[6] Statistics database of the Swedish Agency for Growth Policy Analysis: Newly started companies per year 2020-, by industry and age. PxWeb

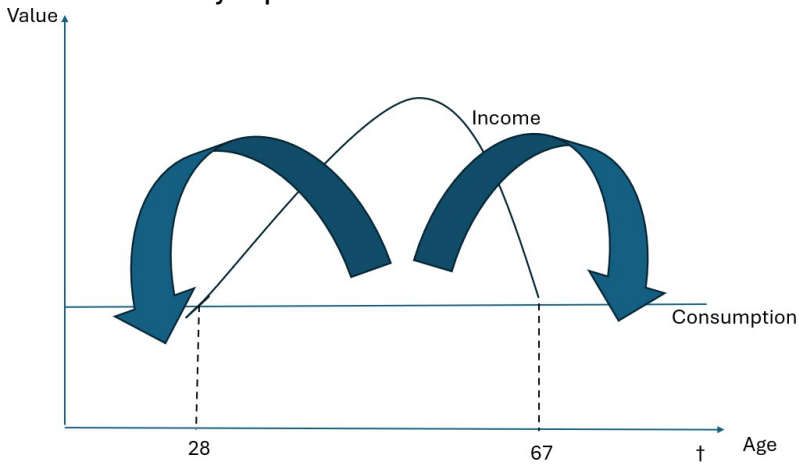
productivity growth – and, by extension, Sweden's competitiveness. The effect is likely to be particularly significant in a high-tech economy such as Sweden's, where entrepreneurship, start-ups and innovation in existing companies are key drivers of productivity. It is therefore important to reflect on how a shrinking proportion of younger people may affect the future dynamics of the business sector.

In addition, Sweden is a small, open, export-dependent economy that is heavily dependent on global demographic developments. Many countries have greater problems with lower birth rates and poorer public finances than Sweden, which in the long run may affect demand for Swedish products. These effects are not modelled in SESIM, which means that the estimates probably underestimate the effects on GDP. The Committee will discuss how the business sector is affected by demographic developments in later publications.

4 Challenges for the life cycle puzzle when the birth rate declines

Lower birth rates also have consequences for welfare over the course of a lifetime. Earned income is only received during working years, while there remains a relatively constant need for welfare or consumption throughout life. To solve this, some form of redistribution of income from working years to the years before and after the working period is required. This is usually referred to as the life cycle puzzle or life cycle hypothesis and is illustrated in Figure 7. In the figure, consumption over the course of a lifetime is assumed, somewhat simplistically, to be constant from birth to death. The figure assumes that individuals are working between the ages of 28 and 67 and have an income from gainful employment that initially increases and then decreases sharply at the time of retirement. The surplus income, i.e. the difference between income and consumption during working years, can be redistributed to the years before the age of 28 and the years after the age of 67.

Figure 7. The life cycle puzzle



There are various methods for solving the redistribution of income over the course of a lifetime. Traditionally, this has been solved within the family and continues to be so to varying degrees in all countries. Children's consumption of food and clothing is mainly financed through their parents' income. When it comes to other consumption, such as childcare, this can be done in different ways, even though it has traditionally been done within the family. In many countries, children also take care of their parents in their old age. When the family is responsible for redistribution, it can be said, somewhat simplistically, that the working generation finances and cares for their children and parents. The income surplus in Figure 7 is then redistributed within the family.

Another method is to let the market handle the redistribution. The idea is that young people take out loans to finance their studies, for example, and then pay back the surplus during their working lives, during which they also save for their pensions. This model relies heavily on the returns and stability of the financial system. In this model, social care is also purchased on the market.

In Sweden, it is largely the public sector (the state, regions and municipalities) that solves the life cycle puzzle. The state redistributes income to young and elderly people through the tax and pension system and provides subsidised care. Children and young people are financed to some extent through child allowance and student grants, and their care is subsidised by the public sector.

After their working years, people are financed by deferred saved wages. The state taxes or forces redistribution over the course of a lifetime through the social security system. Care for the elderly is also largely financed by the public sector, i.e. by the working population.

In reality, these systems exist in parallel, but there are differences between countries in how much they rely on the various methods. The Swedish model relies heavily on the public solution, and one of the main roles of the welfare state is to redistribute wealth over the life cycle (Ministry of Finance 2017).

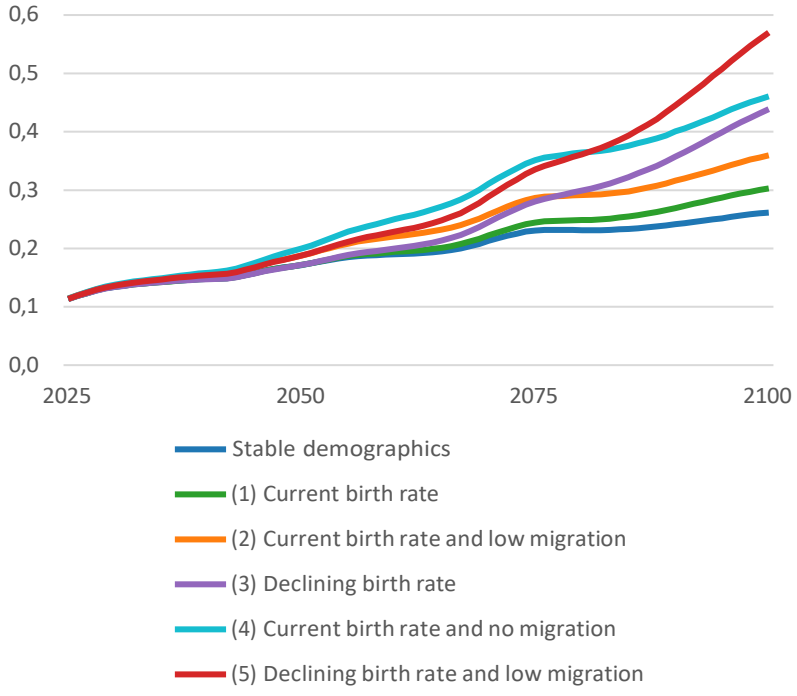
There are advantages and disadvantages to the different methods. If it is the family that is responsible for redistribution, individuals are dependent on their family and therefore also vulnerable to their relationship with the family, as well as the family's financial position. How well the market solution works depends partly on the scope for saving and partly on the rate of yield and confidence in the capital market. In addition, there is considerable uncertainty about how much needs to be saved to ensure that the buffer is large enough to finance a person's entire old age. Letting the public sector be responsible for life-cycle redistribution has many advantages. In addition to the financial position of an individual's own family becoming less important, risks can be spread across the entire population, and there is no risk of having saved too little. Subsidised care contributes positively to women's participation in the labour market in particular, which in turn contributes to the financing of care. However, the public solution is based on the working generations paying for the younger and older generations, which makes the solution vulnerable to demographic changes. The system works well when the number of working individuals is large relative to the number of elderly and younger people, i.e. when the dependency ratio is relatively low, but less well when fewer children are born, and the elderly population grows in number and lives longer.

Below, we discuss how sustainable the various methods of redistributing resources over the life cycle are in relation to demographic developments.

4.1 Family: does not function without children

The family model is dependent on the existence of children who, in the future, will be able to care for their own children but, above all, their elderly parents. This solution fails when the birth rate declines. The fact that the birth rate has fallen among first-time mothers in particular and that many households therefore have no children at all makes the family model particularly vulnerable. Figure 8 shows how the proportion of elderly people (aged 80+) is developing as a proportion of those in the 20–64 age group. Younger elderly people are likely to be healthier than today's 65+ age group and able to participate in the labour market for longer than today's 65+ age group, which is why Figure 8 focuses on the number of people aged 80+ as a proportion of the number of people aged 20–64.

Figure 8. Number of people aged 80+ as a proportion of the number of people aged 20–64 per year in six scenarios, 2025 to 2100



Source: Statistics Sweden (SCB), SESIM, own calculations

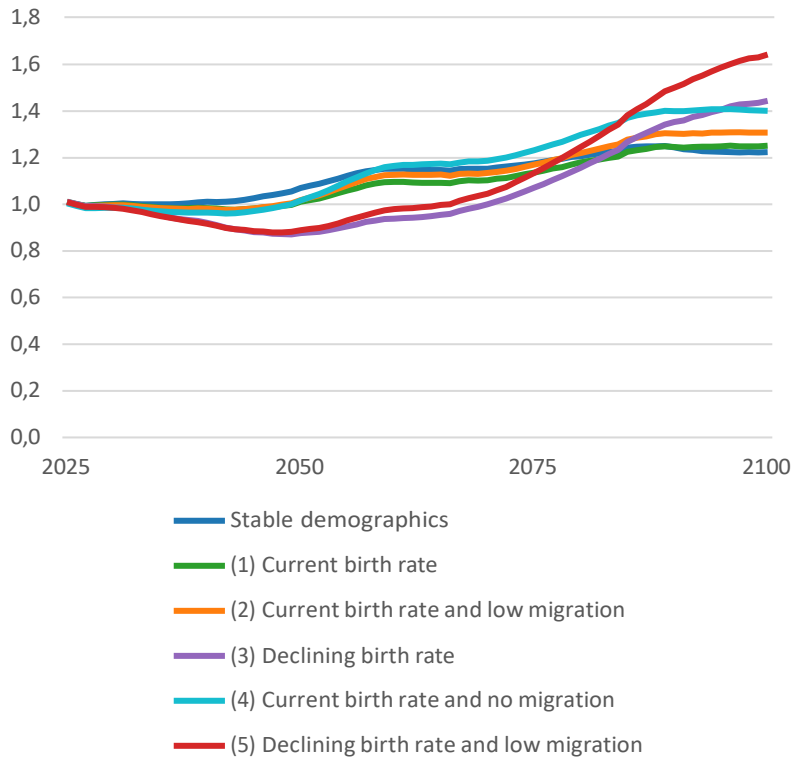
Initially, the proportion of people aged 80+ accounts for less than 15% of the 20–64 age group, but this proportion is increasing rapidly, particularly in the most extreme scenario, (5) declining birth rate and low migration. In the scenario with declining birth rate and low migration, the proportion of people aged 80+ will account for 57% of the 20–64 age group in 2100. Even in a stable demographic, the proportion of people aged 80+ will more than double, from 11% to 26%.

As birth rates decline and the population ages, it is becoming increasingly difficult to rely on the family model. A transition to a more family-based life cycle model would likely have far-reaching consequences for gender equality and negatively affect employment, further undermining the welfare state, which requires a high employment rate to be tax-funded. As those of working age are expected to finance and care for their parents' generation, the employment rate is likely to decline, particularly among women, and this also risks leading to increased stress and sick leave. Research suggests that fewer children are born when gender equality weakens and the balance between work and family life becomes more difficult (Doepke et al. 2023). A family-based model for life cycle transfers is therefore not a sustainable solution in a society with low fertility.

4.2 State: does not function without a high employment rate

The public solution is also challenged when the birth rate declines and the dependency ratio increases for those in employment. Figure 9 shows the dependency ratio, defined as the number of people aged 0–19 and 65+ as a proportion of the number of people in employment aged 20–64.

Figure 9. **Dependency ratio measured as the proportion of people aged 0–19 and 65+ as a percentage of employed persons aged 20–64 per year in six scenarios, 2030 to 2100**



Source: Statistics Sweden (SCB), SESIM, own calculations

Initially, the dependency ratio decreases if the number of children decreases, but in the long term, lower total fertility leads to a sharp increase in the dependency ratio for the working population. The dependency ratio is sensitive to assumptions about future fertility and migration. The lowest future dependency ratio in 2100, 1.22, is found in the scenario with stable demographics. In the most extreme scenario, (5) declining birth rate and low migration, the dependency ratio rises to over 1.6 in 2100. This means that one employed person supports 1.6 others in addition to themselves. Even scenario (3), with a decline in the birth rate, results in a high ratio, 1.44. Migration has a clear improving effect: scenario (1) – current birth rate and migration at the same level as in a stable demographic situation – gives a significantly better dependency ratio of 1.25 in 2100,

compared with scenarios (2) – current birth rate and low migration – and (4) – current birth rate and no migration – where the ratios in 2100 are 1.31 and 1.40, respectively. As early as 2025, low migration will contribute positively to the dependency ratio compared with a situation with no migration.

An aggravating factor of an increased dependency ratio, i.e. higher taxes and social security contributions is that these have negative incentive effects on the working population's effort and participation in the labour force (Saez et al. 2012), which shrinks the tax base and further complicates the equation due to the risk of a decrease in the working population.

Since many of the 65-year-olds of tomorrow will be healthier and more energetic than those of today, they will be able to participate in gainful employment for longer, which will improve the dependency ratio. It is also important that labour productivity is high. Productivity usually declines with age (Eggertsson et al. 2019), so it is important to maintain productivity through further education and retraining, as well as a flexible labour market that encourages mobility. Hopefully, technological developments will also help to increase productivity. However, there is no getting away from the fact that continued low birth rates challenge a model based on a generational contract. This also risks leading to conflicts of interest between different generations.

4.3 Market: requires a functioning financial market and demand for assets

When lower birth rates make it difficult to redistribute resources over the life cycle within the family or through the public sector, a natural solution is to shift more of the responsibility for future pensions and old age to the individual, e.g. through increased savings. Since individuals have greater opportunities to save when they do not need to spend resources on financing their children, this solution may seem reasonable. One of the main tasks of the financial system is to redistribute resources over the life cycle, i.e. to borrow when necessary and save surpluses for future consumption and needs.

The question is how the financial system is affected by a shrinking and ageing population.

In real and global terms, there is no other income to distribute in a society than that generated by contemporary gainful employment. In the world as a whole, or in an economy that is closed to the outside world, there is no other production to consume than that which is actually produced. The size of financial wealth – in the form of money or securities – does not change this fact. Through savings, e.g. via bank accounts or stock shares, individuals can secure consumption opportunities at a later date. However, this always occurs through the future working population foregoing a portion of the production they create. If the population shrinks as a result of falling birth rates, the shortage of working people may affect the value of financial assets. In an extreme scenario in which the labour force almost disappears, there is a risk that securities assets will lose their value. A more likely scenario is that a low number of working people will limit returns, reducing the value of such assets.

Since falling birth rates and an ageing population are a global trend, it is of little help that the capital market is highly globalised. As more and more individuals around the world increase their savings, there is a risk that asset prices will skyrocket, which means that people will enter the market when prices are high. When these assets are later realised, demand may have decreased, which increases the risk of price drops. This applies to both financial instruments and real estate. Added to this are the risks to financial stability and the difficulties of conducting effective economic policy through monetary and fiscal policy, as discussed earlier in this report. All in all, it is therefore far from certain that the market, via the financial system, will be able to redistribute income in a sufficient and satisfactory manner over the life cycle. In addition, some form of public solution is required for those who are unable to save or have saved too little.

5 Political economy and the median voter

It is important that politicians start engaging with this issue now. The effects of lower birth rates are already visible in childcare, but will not be felt in full force until much later, when they will likely be more difficult to address and require more challenging adjustments. In this way, the challenges of demographic change are reminiscent of the climate crisis and infrastructure maintenance – the effects do not become apparent until much later and therefore risk being deprioritised by politicians.

It will probably also become more difficult to pursue policies that are more child- and family-friendly as the median voter's age increases and the median voter demands policies that meet the needs of older people rather than younger people. Since it is uncertain which measures will work and the search may take time, it is important to start now in order to avoid acting in panic and instead act in a calm and considered manner.

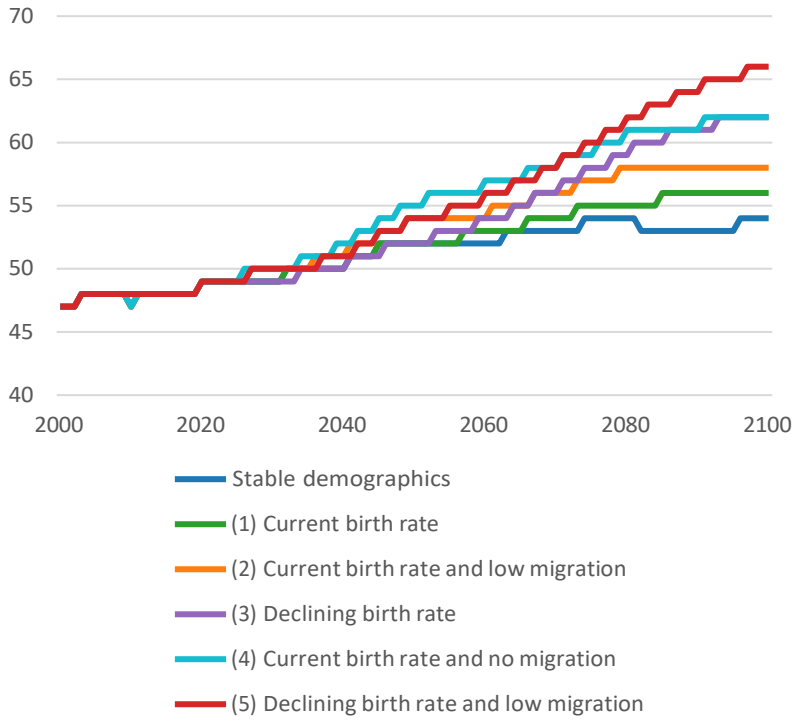
In political economy, the median voter theorem states that in a world where politicians want to win elections and thus maximise the number of votes, politics will focus on capturing the preferences of the median voter, i.e. the middle voter, in order to increase the likelihood of winning elections. As the median voter gets older, the likelihood of politics focusing on more child- and family-friendly policies decreases. Instead, there is a risk that politics will cater more to the demands of older people, at the expense of younger people.

In addition to the median voter theorem, there is another aspect that exacerbates the challenge. Younger voters tend to be more open to change and have a higher tolerance for risk, while older voters place greater priority on security and stability (Rekker 2024). As the younger cohorts shrink, not only does their voting power decrease,

but so does the overall political will to implement reforms. In addition, young people are less likely than older people to vote in elections (Dessler 2024). This makes it even more difficult to implement the adjustments required in a society with an ageing and shrinking population.

Figure 10 shows how the median age in the 18+ age group, i.e. the age of the individual who is exactly in the middle of the 18+ age range, rises in the six different scenarios. Today, the median age is 49. In the scenario with stable demographics, the median age in 2100 will be 54, while in the most extreme scenario, (5) declining birth rate and low migration, the median age will be 66, i.e. an increase of 12 years.

Figure 10. Median voter age in the scenario with stable demographics and in five scenarios, 2000 to 2024 and forecast from 2025 to 2100



Source: Statistics Sweden (SCB), SESIM and own calculations

A rising median age increases the risk of intergenerational conflicts arising if policy focuses too narrowly on one generation. For example, many young people in South Korea seem to feel overlooked and fear that there will be fewer attractive job opportunities for them when the retirement age is raised and, above all, those with sought-after jobs continue to work. Alternatively, and just as likely, older people may block reforms that benefit younger people and are necessary to adapt pension systems, for example, as the population ages.

This dynamic may make it difficult to implement the measures needed to remove barriers to family formation and the social adjustments required in the face of demographic imbalance. It takes both courage and foresight to push through measures that disadvantage strong voter groups.

Some argue that political and economic constraints may justify changes to the electoral system. For example, Kleinfeld and Sachs (2025) suggest that parents could be given the right to vote on behalf of their children. Regardless of how this is handled, it shows that demographic imbalance affects not only the economy but also the ability to implement political reforms.

6 Conclusions

Sweden's population development is currently not in a stable equilibrium and is likely to face a historic trend reversal given current birth rates and migration levels. The trend is towards a future with an ageing and shrinking population. This will have significant real economic effects and require extensive adaptation of both policies and society.

The report's projections show that the size of the economy, the growth rate and the dependency ratio are sensitive to a decline in total fertility. A shrinking population means lower economic growth and reduced production capacity. Scenarios show that GDP growth could fall to less than half by the turn of the next century in the report's most pessimistic scenario, compared with the scenario with stable demographics. Technological advances may mitigate the effects, but are unlikely to fully compensate for a shrinking population and declining labour force.

Migration may mitigate the effects of a shrinking population, but since declining birth rates are a global trend and Sweden is relatively well positioned internationally in terms of population, it is doubtful whether migration alone can solve our population problem. With a global population decline, it is far from certain that Sweden will succeed in attracting immigrants.

Sweden should learn from other countries that are further along in the demographic imbalance and start trying to break the trend and prepare for adaptation now. Experience shows that measures such as increased child allowance, extended parental leave and subsidised childcare introduced in other countries have had a positive but rather limited effect on population development in general. Although these reforms may have an effect, the Committee finds that more forceful

measures will probably be needed to succeed in increasing total fertility and to adapt society and the economy to a shrinking population.

A shrinking population with lower economic growth and reduced production capacity will be a challenge for economic policy.

Fiscal policy will face growing expenditure pressures as age-related expenditure on pensions, healthcare and social care increases, while the labour force and tax base shrink. This double pressure – lower revenues and higher costs – runs the risk of becoming a permanent feature and putting continuous and endless pressure on public finances.

Monetary policy faces new risks and reduced effectiveness. An ageing and shrinking population dampen potential economic growth and lowers the natural real interest rate, making traditional monetary policy tools less effective. When demand in the economy and house prices fall, the risk of deflation and prolonged stagnation increases. At the same time, banks' profitability is being squeezed by reduced demand for loans, which may push them towards more risky activities and thus increase the vulnerability of the financial system.

With challenges for both fiscal and monetary policy, policy should focus on structural reforms that build confidence in the future and security, encourage long-term economic growth and maintain high labour force participation over the different stages of the life cycle. The Committee will discuss more concrete measures at a later date, but achieving these goals will likely require a more flexible and dynamic economy that benefits younger generations. This is particularly important in light of economic policy – both fiscal policy and, to an even greater extent, monetary policy – being affected by demographic developments and may lose its effectiveness or, in the worst case, become counterproductive for this particular group.

More children and young people in society are a fundamental prerequisite for long-term and higher economic growth, secure welfare and increased social sustainability. Their existence and development are not only a demographic reality, but also a strategic resource whose value is manifested through future labour and human capital. In this light, expenditure on children and young people should be regarded as an investment. The Committee's population scenarios show that those with a high proportion of

children and young people in the future will achieve higher growth trajectories, lower dependency ratios and greater resilience to demographic and economic challenges.

Lower economic growth and a shrinking population will affect all markets and all economic sectors. It is therefore crucial that politicians begin to engage with this issue now. Children and people make a difference, and the population issue deserves attention long before the population issue reaches crisis level. There is great uncertainty about which measures are most effective, and it may take time to find solutions that remove barriers to family formation. Adapting to an ageing and shrinking population is likely to be both complex and extensive. Experience from the municipal sector, which is already seeing fewer children in preschool, shows that cost adjustments are difficult to implement. It is therefore important to act proactively to avoid panic measures, and instead implement well-considered reforms in a calm and thoughtful manner.

Furthermore, it is unlikely to become easier to push through necessary and desirable reforms in the future, as the population ages and the median voter becomes older, with preferences that reflect the needs of older people rather than younger people. This also underlines the importance of starting to engage with these issues now.

The effects of low birth rates are long-term and difficult to remedy once they materialise. This requires courage, foresight and a broad social debate on how to create the conditions for a sustainable demography and economy. As early as 1934, Alva and Gunnar Myrdal noted (Myrdal et al. 1934):

"Fertility incentives, tax breaks for large families and similar measures may give us a short-lived illusion that we are pursuing a positive population policy, but they will leave fertility trends largely unchanged. If we want to achieve more than an illusion, we will have to thoroughly reform society as a whole."

References

Anderson, D., Botman, D., & Hunt B. (2014). *Is Japan's Population Aging Deflationary?* IMF Working Paper WP/14/139.

Blix, M., & Jordahl, H. (2021). *Privatizing Welfare Services – Lessons from the Swedish Experiment*. Oxford University Press.

Doepke, M., Hannusch, A., Kindermann, F., & Tertilt, M. (2023). *The Economics of Fertility: A New Era.* IZA Discussion Paper No. 15224. https://doi.org/10.2139/ssrn.4114800.

Dressler, M. (2024). *Youth turnout in the 2024 European elections: a closer look at the under 25 vote*. Foundation for European Progressive Studies.

Eggertsson, G., Mehrotra, N., & Robbins J. (2019). *A Model of Secular Stagnation: Theory and Quantitative Evaluation.* American Economic Journal: Macroeconomics 11 (1), 1–48.

Ekman, B., & Ellegård, L. M. (2023). *Digitaliseringen av svensk vård och omsorg*, Center for Business and Policy Studies (SNS), Stockholm.

Fernández-Villaverde, J., Ventura, G., & Yao, W. (2025). *The wealth of working nations*, European Economic Review, Volume 173.

Friedrich, C., & Bujard, M. (2025). *Intended, ideal, and actual fertility in 11 European countries. Evidence on fertility gaps in different age groups from the Generations and Gender Survey.* BiB Working

Paper 2/2025. Wiesbaden: Federal Institute for Population Research (BiB).

Government Offices. (2017). *Den svenska modellen*. Ministry of Finance den-svenska-modellen.pdf.

Government Offices. (2025a). *Regeringens bedömning av finanspolitikens långsiktiga hållbarhet*. Ministry of Finance metod-for-regeringens-bedomning-av-finanspolitikens-langsiktiga-hallbarhet.pdf.

Government Offices. (2025b). *Utredningsuppdrag S2025/01311*. Appendix to Government Offices decision §162. Ministry of Health and Social Affairs.

Hellstrand, J., Nisén, J., Miranda, V., Fallesen, P., Dommermuth, L., & Myrskylä, M. (2021). *Not Just Later, but Fewer: Novel Trends in Cohort Fertility in the Nordic Countries*. Demography (2021) 58(4), 1373–1399.

Imam, P., & Schmieder, C. (2024). *Aging Gracefully: Steering the Banking Sector through Demographic Shifts*. BIS Working Papers No 1193, Monetary and Economic Department.

Kleinfeld, J., & Sachs, S. (2025) *Give Parents the Vote*. 100 Notre Dame L*aw* Rev*iew*, 1201.

Kotamäki, M., & Lehtimäki, J. (2025). *Getting too old for this: Population ageing and its economic consequences in Finland*. Economic Analysis and Policy, Volume 88, Pages 1720–1750. ISSN 0313-5926, https://doi.org/10.1016/j.eap.2025.10.040.

Krantz, O. (2017). *Swedish GDP 1300–1560: A Tentative Estimate.* Lund Papers in Economic History: General Issues; No. 152. Department of Economic History, Lund University.

Kwon, K. (2015). *Korea's Demographic Changes and a Long-term Growth Projection: a General Equilibrium Analysis*. 1–77, Korea Development Institute Working Paper.

Kågeson, P. (2025). *Om konsekvenserna för samhället av en minskad befolkning,* Ekonomisk Debatt, No. 8, 39–51.

Lee, D., Sung, W., Chung, J., Choi, E., Kim, D.J., & Cho, T. H. (2024). Innovation and Economic Growth: Review of Korean Firms' Innovation Performance (23 May 2024). Bank of Korea (Forthcoming).

Lee, J. W., Hwang, I. D., Hwang, S., Jang, H., Kwak, B., Lee, Y., & Kim, W. (2025). *Impact of Super-Aging on the Monetary Policy Environment: Implications for Korea*. Korea Economic Outlook – May 2025, Economic Research Institute, Bank of Korea.

Maestas, N., Mullen, K., & Powell, D. (2023). *The Effect of Population Aging on Economic Growth, the Labor Force, and Productivity*. American Economic Journal: Macroeconomics, 15 (2): 306–32.

Myrdal, A., & Myrdal, G. (1934). *Kris i befolkningsfrågan*, Albert Bonniers Förlag, Folkupplagan, third and revised edition, Stockholm.

OECD. (2024). *Society at a Glance 2024: OECD Social Indicators*, OECD Publishing, Paris, https://doi.org/10.1787/918d8db3-en.

OECD. (2025a). *OECD Employment Outlook 2025: Can We Get Through the Demographic Crunch?* OECD Publishing, Paris, https://doi.org/10.1787/194a947b-en.

OECD. (2025b). *Korea's Unborn Future: Understanding Low-Fertility Trends*. OECD Publishing, Paris, https://doi.org/10.1787/005ce8f7-en.

Rekker, R. (2024). *Electoral change through generational replacement: An age-period-cohort analysis of vote choice across 21 countries between 1948 and 2021*. *Frontiers in Political Science*, Volume 6.

Ritzén, J. (2022-07-08). Barnafödandet minskar drastiskt i år. *Dagens Nyheter*.

Rotkirch, A. (2025). *20 ehdotusta lapsitoiveiden tukemiseksi: Selvitys syntyvyyden laskusta Suomessa* [*20 proposals to support the desire to have children: Report on the decline in fertility in Finland*]. Valtioneuvoston julkaisuja/Government publications 2025:22. Valtioneuvosto/Finnish Government.

Saez, E., Slemrod, J, & Giertz, S. (2012). *The Elasticity of Taxable Income: Evidence and Implications.* Journal of Economic Literature, 50(1): 3–50.

Spears, D., & Geruso M. (2025). *After the Spike: Population, Progress, and the Case for People*. Simon & Schuster, New York.

Statistics Sweden. (2024a). *Lowest population growth in 22 years (scb.se).*

Statistics Sweden. (2024b). *The future population of Sweden 2024–2070*. Demographic reports 2024:1.

Statistics Sweden. (2025). *Lägre barnafödande under våren.*

Swedish Association of Local Authorities and Regions. (2025). *Ekonomirapporten oktober 2025 - Om kommunernas och regionernas ekonomi*. https://extra.skr.se/skr/tjanster/rapporterochskrifter/publikationer/ekonomirapportenoktober2025.92694.htm.

The Economist. (3 June 2023). The baby-bust economy, *The Economist*; London Vol. 447, Iss. 9349, page 10.

Appendix: SESIM – a dynamic microsimulation model

SESIM is an individual-based, dynamic microsimulation model used to analyse the effects of political decisions on the Swedish population. The model was developed in 1997 by the Ministry of Finance to evaluate the student finance system and has since become a general tool for analysing tax and transfer systems, particularly pensions, health and healthcare.[7]

SESIM is managed by the Public Health Agency of Sweden and is also used by the Ministry of Finance, the Ministry of Health and Social Affairs and the Swedish National Audit Office for long-term forecasts and distribution analyses.

Core functions:

- Dynamic model that tracks individuals over time and enables analyses of resource distribution and lifelong effects.
- Generates longitudinal data for variables such as unemployment duration and average income over time.
- Based on a sample of approximately 300,000 individuals (LINDA database and foreign residents).
- Forecast horizon: entire life cycle.

Assumptions and limitations:

- Demographic and macroeconomic developments, indexation of taxes and benefits.
- Partial representation of the economy (household sector only).

Technology:

- Programming languages: R, C++, Julia.

[7] Chapter 3 SESIM: A Swedish Micro-Simulation Model