27 November 2015

Research US

Don't expect a rebound in the participation rate

- **The participation rate has declined rapidly based on the Great Recession. Since January 2009, the participation rate has declined from 65.8 to 62.4 in October 2015, i.e. fallen 3.4pp in total. It is tempting to ascribe this to the downturn in growth but this conclusion would be wrong, in our view.**
- **We estimate that close to half of the decline in the participation rate is due to demographics, in particular the retirement of the Baby Boomer generation. The impact of cyclical forces is currently small (-0.4pp), while there is a larger unexplained residual (-1.4pp) which may be temporary or structural in nature.**
- **Historical high duration of unemployment could be a part of the explanation behind the residual drop, as longer-term unemployed people could be discouraged and eventually drop out of the labour force. This could indicate structural damage from the Great Recession.**
- **Looking forward, the aging of the workforce will continue to be a headwind for the participation rate over the next 10 years. Although we factor in a decline in both the cyclical and residual component over the coming two years, it will only just cancel out the downward pressure from the aging effect. Hence, we expect the participation rate to be roughly stable in the near term before trending lower again.**
- **Our calculations suggest that trend growth in the labour force is around 150,000 per month in the next couple of years. In 2015 so far, employment growth has been around 200,000 per month, which implies that employment growth has to slow significantly before it will become a concern for the Fed.**

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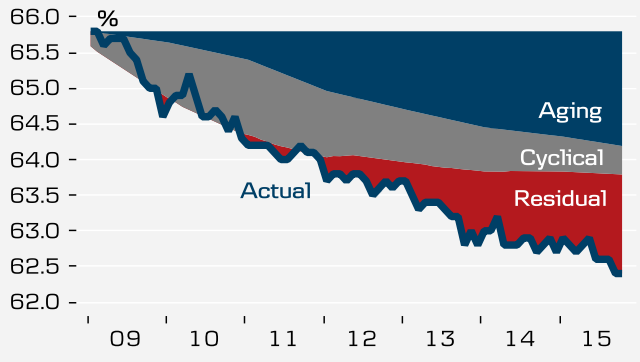
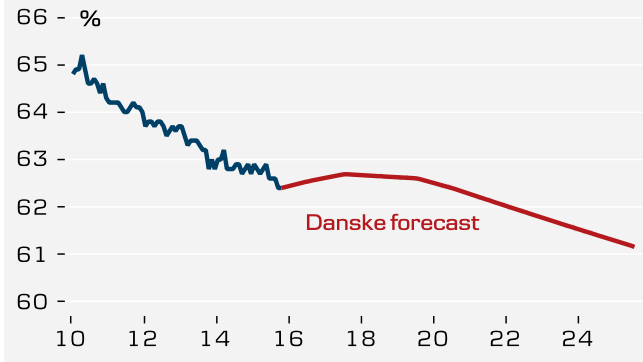
Aging effects account for around half the decline in the participation rate in the past years



Source: U.S. Bureau of Labor Statistics (BLS), Council of Economic Advisers (CEA), Danske Bank Markets

The participation rate is set to stay roughly stable over the coming years, but decline eventually



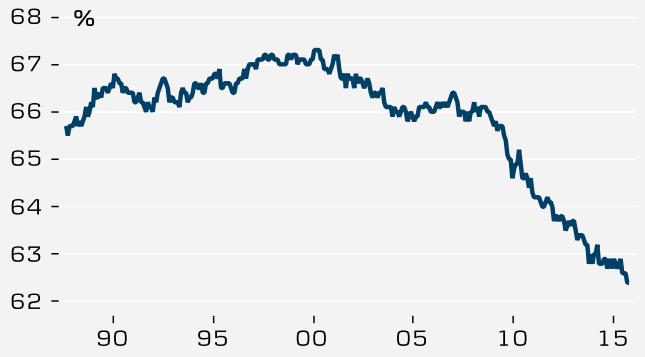
Source: U.S. Bureau of Labor Statistics (BLS), U.S. Census Bureau, Danske Bank Markets

On a declining trend

The participation rate is defined as the share of population by the labour force, where the labour force is the number of people who are either employed or actively looking for work. The participation rate plays an important role for determining the potential employment, and therefore the natural unemployment rate. As shown in chart 1, we have since the start of the Great Recession seen a large drop in the labour participation rate from 66 percent in Q4 08 to 62.4 in October 2015. Note that we are now facing the lowest participation rate since October 1977. We will in this paper focus on the reasons for the decline and especially how much of it can be attributed to the Great Recession. In this connection we divide the decline into three causes:

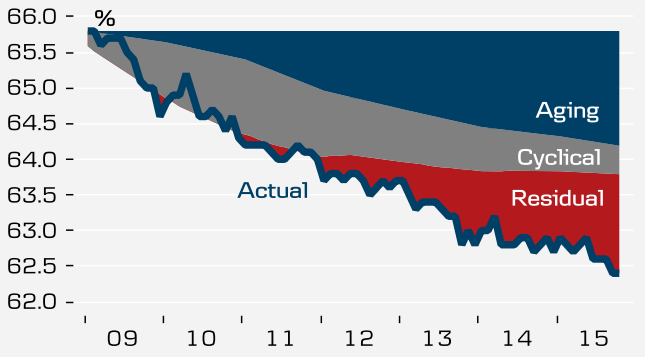
1. Aging of the Baby Boomers
2. Business cycle effect
3. Other factors

Chart 1: Participation rate has fallen sharply in the past years



Source: U.S. Bureau of Labor Statistics (BLS)

Chart 2: Aging effects account for around half the decline



Source: U.S. Bureau of Labor Statistics (BLS), Council of Economic Advisers (CEA), Danske Bank Markets

Aging of the Baby Boomers

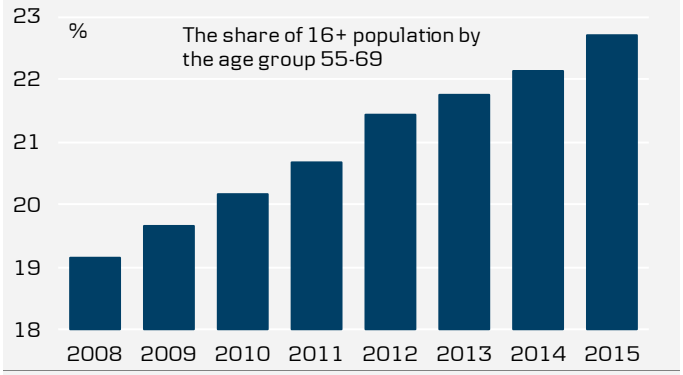
Aging of the workforce, especially the large Baby Boomer generation (people born in the years 1946-1964), is the largest single reason for the overall decline in the participation rate. Leading studies by Aaronson et al. (2014), Federal Reserve Board, and The Council of Economic Advisers (CEA) show that the aging of the workforce accounts for around half of the decline. By holding the age-specific participation rates constant at the end of 2008 and letting the population evolve as it did, we also calculate the aging effect to be around half (-1.6pp) of the overall decline (-3.6pp). This is illustrated in chart 2, which divides the total decline into the three mentioned effects. Note that the decline due to the aging of the workforce was already predicted before the Great Recession, among others by Aaronson et al. (2006), as the projection of the population is quite certain.

The above effect is primarily due to retirement of the first Baby Boomers as the people born in 1946 turned 62 in 2008 - the age where they become eligible for Social Security early retirement benefits, which is around 75 percent of the full benefit. The full retirement age is between 66 and 67 for the Baby Boomers. The aging of the Baby Boomers has implied that the share of the 16+ population by the age group 55-69 has increased significantly over the past years (chart 3). In this age group, the participation rate falls sharply (chart 4), although older workers today participate in the labour force at

a higher rate compared to earlier generations. Combining these two effects you get the large effect on the overall participation rate.

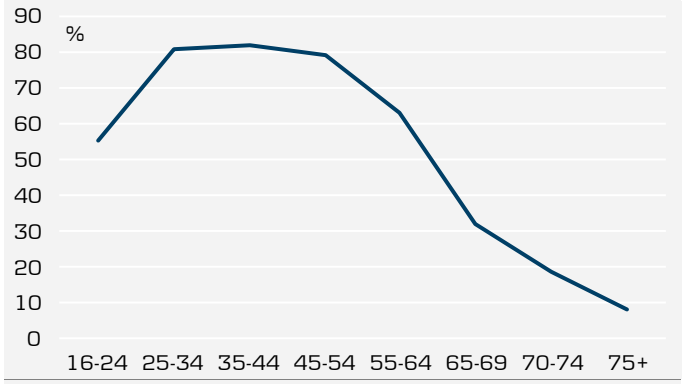
Using population projections by the U.S. Census Bureau, we expect that the aging of the workforce will continue to be a drag on the participation rate and alone lower it by 2.3 percentage points over the next 10 years. This is due to the fact that the retirement of the Baby Boomers will continue over the next 10 years, as the last Baby Boomers will reach retirement age in 2026. The decline in the participation rate from this effect will be gradual over the years with a constant annual drag of around 0.2-0.3 percentage points. Note that we can be relatively sure on the population projection, which means that our forecast is in line with the leading studies.

Chart 3: Baby Boomers start retiring



Source: U.S. Census Bureau

Chart 4: Participation rate drops significantly around retirement age



Note: August 2015 data
Source: U.S. Bureau of Labor Statistics (BLS)

Business cycle effect

The direct business cycle effect on the participation rate is a bit harder to quantify than the aging effect. Intuitively, one could argue that the overall participation rate would be quite cyclical as a high prolonged unemployment rate could induce some people to drop out of the labour force. However, historically the participation rate has not exhibited sizeable cyclical fluctuations. For example, Aaronson et al. (2014) estimates that a sustained one percentage point increase in the unemployment rate reduces the participation rate by around 0.2 percentage points. One reason that the cycle effect is not larger is that it is the participation of younger people which is most sensitive to business cycle fluctuations, as they have an alternative to working in terms of education. Moreover, the young only account for a relatively small part of the population. That the cycle effect is small is supported by the fact that the monthly net transition rate of people going from not being in the labour force to being in the labour force does not fluctuate with the level of the unemployment rate. On the one hand, transition into employment decreases as the unemployment rate rises (chart 5), but at the same time the transition into unemployment increases (chart 6), leaving the net transition acyclical (chart 7). Where the first effect seems intuitive, the latter is more puzzling. Several researchers find this effect hard to explain, but a part of the explanation could be persons who are moving into the labour force regardless of the employment opportunities, such as recent graduates.

CEA also confirms Aaronson's estimate as they find that the pattern has roughly held over the past recessions (chart 8). At the same time, chart 8 also shows that the participation rate is estimated to be around 1.0 percentage point lower in 2010 due to

cyclical factors. Thus, the cyclical effect is in line with previous recessions – just amplified this time due to the severity of the Great Recession.

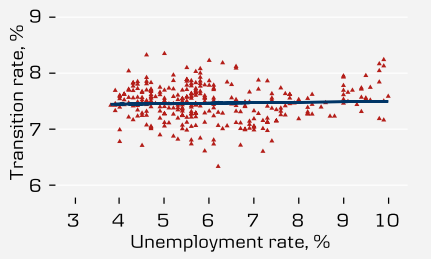
Chart 5: Not in the labour force to being employed

Source: U.S. Bureau of Labor Statistics (BLS), Danske Bank Markets

Chart 6: Not in the labour force to being unemployed

Source: U.S. Bureau of Labor Statistics (BLS), Danske Bank Markets

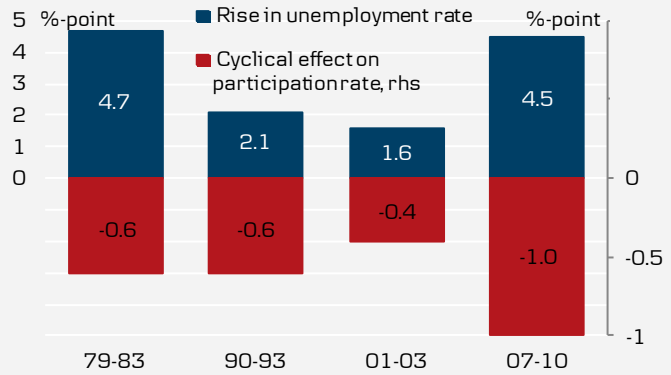
Chart 7: Acyclical net transition rate



Source: U.S. Bureau of Labor Statistics (BLS), Danske Bank Markets

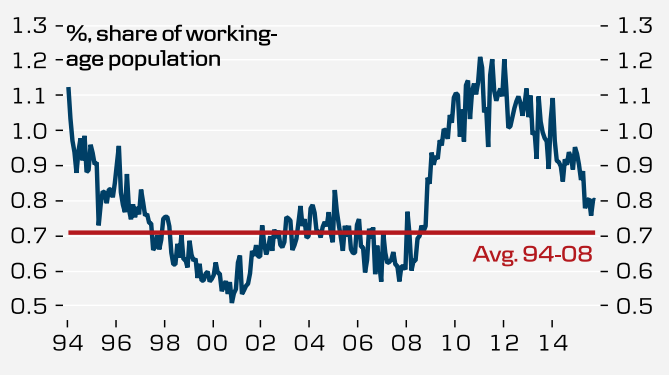
CEA estimates that the negative cyclical effect on the labour participation rate was 0.5pp by Q2 14, which is in line with Aaranson's estimate. Note that the estimation of the cyclical component is computed by using econometric time series analysis, where the business cycle is defined by the unemployment gap. This means that the cyclical component only captures standard business cycle effects. Assuming that the cyclical component continued the downward trend from Q2 last year till today suggests that cyclical factors currently suppress the participation rate by around 0.4 percentage point. This implies that the cyclical impact has broadly halved since the peak in 2011. The cyclical improvement started back in 2012, and explains why the participation rate has moved more or less sideways in the past two years as the cyclical improvement has cancelled out with the aging effect. One of the explanations behind the cyclical component is the development in the share of marginally attached persons out of the working-age population, which is illustrated in chart 9. Here you can see that the share of marginally attached increased rapidly in the period 2007-2010, corresponding to the increase in the cyclical effect as shown in chart 2 previously. Similarly, the share of marginally attached persons[1] started decreasing around 2012 in line with the beginning of the fall in the cyclical effect.

Chart 8: Cyclical declines in participation rate



Source: U.S. Bureau of Labor Statistics (BLS), Council of Economic Advisers (CEA)

Chart 9: The share of marginally attached is declining, but is still high in a historical perspective



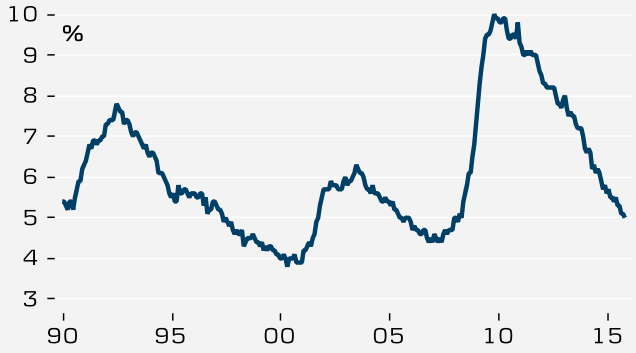
Source: U.S. Bureau of Labor Statistics (BLS)

[1] Persons who want a job, are available to work and have searched for work during the past 12 months, but not the 4 past weeks

Going forward, we expect the cyclical component to vanish gradually over the years to come as we expect the economy to continue growing above trend. However, as we estimate the cyclical component to be around -0.4 percentage points now, the potential improvement in the participation rate from this effect will be limited. Our expectation reflects among others a continuation of the decline of the marginally attached. As shown in chart 9, although we have already seen a substantial fall in the share of marginally attached from its top, the level is still the highest in almost 20 years. Therefore, in our opinion, there is still room for further improvement on this parameter, which would affect the participation rate positively. This is especially due to the fact that the unemployment rate has now reached quite low territory, which makes it more likely that the marginally attached will enter the labour force.

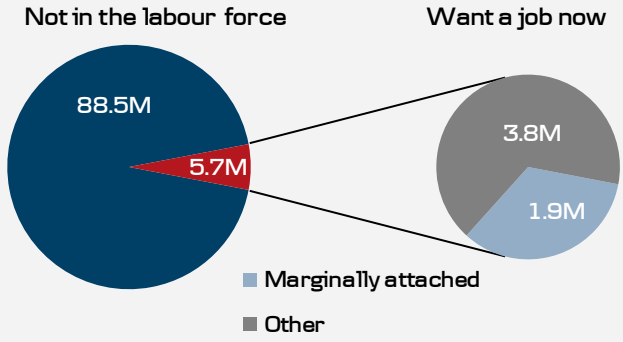
More precisely, we expect the share of the marginally attached to decline over the next year to its historical average level of 0.7 (1994-2008). This will increase the participation rate by 0.1 percentage point. The remaining 0.3 percentage point cyclical improvement in our forecast reflects an inflow into the labour force from other groups than the marginally attached. As chart 11 shows, although the marginally attached are probably the ones with the strongest attachment to the labour market, they make up a fairly small size of the persons not in the labour force. For instance, the people wanting a job, but have not searched as actively for work (other) is double the size. Thus, our forecast also builds on a gradual inflow into the labour force from this group of people. Bear in mind that, if we see a larger cyclical improvement than we expect, the effect will still be fairly limited on the participation rate. For instance, Aaronson et al. (2014) estimate that the cyclical component was around positive 0.2pp. in the booming years of 2006-2007 (compared to -0.4pp currently). If we get an improvement to this level, the increase in the total participation rate will still only be around 0.6 percentage points from cyclical effects alone. Thus in total, our main point is that we do not expect any large improvement in the participation rate due to cyclical improvements.

Chart 10: Low unemployment rate means better chances of getting a job for the people outside the labour force



Source: U.S. Bureau of Labor Statistics (BLS)

Chart 11: The marginally attached only constitute a small fraction of the people not in the labour force



Note: October 2015 data

Source: U.S. Bureau of Labor Statistics (BLS), Danske Bank Markets

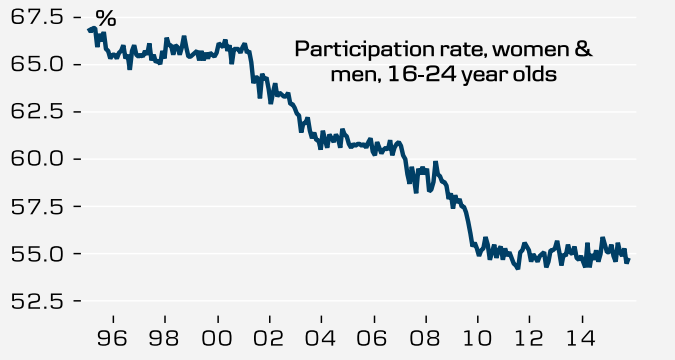
Other factors

The remaining decline in the participation rate, which is neither due to the aging nor the cyclical effect, is in general difficult to explain in detail as this a residual effect caused by several, some unknown, factors. The residual components could be both structural and cyclical in nature. We will in the following put forward a few possible explanations, which will shed light on the most important trends, but not constitute a comprehensive decomposition of the residual effect. Currently, the residual component contributes to 1.4pp of the decline in the overall participation rate.

Lower participation rate for young people

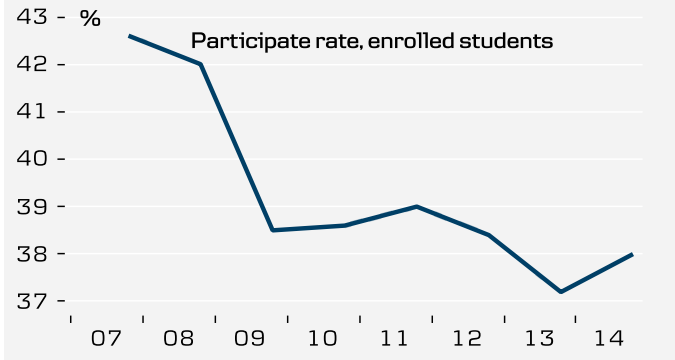
As shown in chart 12, the participation rate declined rapidly for 16-24 year olds during the Great Recession. However, as the chart also shows, the decline started already back in the beginning of the 00's, which mostly reflects increasing school enrolment. Nevertheless, the participation rate declined more in the years 2008-2010, which corresponds to the fact that school enrolment tends to be countercyclical. Note here that any cyclical effect on school enrolment is already included in the estimate of the above-mentioned cyclical component. Having said that, Aaronson et. al (2014) estimates that only around a fourth of the decline in participation rate among the 16-24 year olds is a result of increased school enrolment, and instead points to the participation rate of the already enrolled students as the main explanation behind the development. This is illustrated in chart 13 and is not already included in the cyclical estimate, as this only catches the cyclical changes from school enrolment itself. As seen, the participation rates for the enrolled students have decreased significantly since the start of the Great Recession, and can therefore be a part of the explanation behind the residual decline in the total participation rate. The fall in the participation rate for the enrolled students reflects among others a trend of a higher return to education, which make students study harder and work less. Secondly, a reduction in middle-skilled jobs has implied that some adult workers have been forced to take lower skilled jobs. This is a result of a phenomenon called 'labour polarisation'. The idea is that the demand for middle-type jobs is declining while the demand for high-type jobs is increasing. Some of the middle-skilled workers have been moved to high-type jobs while some have moved to lower-type jobs. Some have left the labour market as wages in lower-type jobs are below their minimum requirements. Labour polarisation could potentially have long-lasting effects on the labour market and labour supply and thus participation rates.

Chart 12: Participation rates for the young declined rapidly



Source: U.S. Bureau of Labor Statistics (BLS)

Chart 13: Participation rate decline for enrolled students

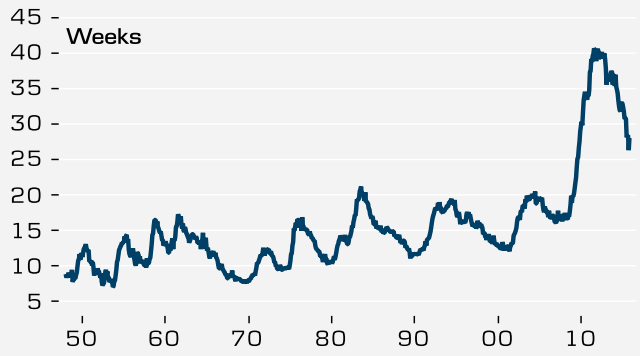


Source: U.S. Bureau of Labor Statistics (BLS)

Historically high duration of unemployment

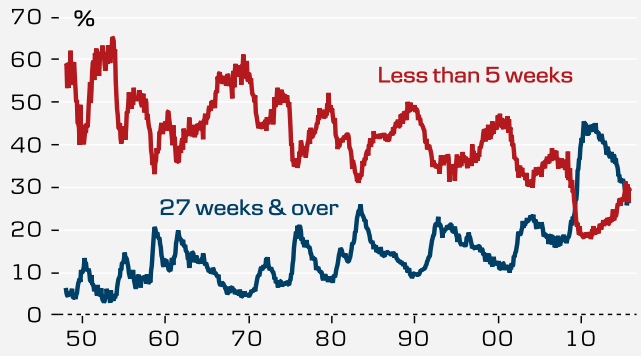
The Great Recession led not only to a large increase in the unemployment rate, but also in the duration of the unemployment as the average duration of unemployment increased to new record highs (chart 14). Chart 15 shows a significant change in the duration distribution of unemployment, where the share of people being unemployment for more than 27 weeks rose significantly, while it decreased for the ones being unemployed for less than five weeks. This development suggests that the natural rate of unemployment could have increased, and indicates that there is some structural damage from the Great Recession. This will therefore not be captured in the cyclical component, but could instead be a possible explanation to a part of the residual decline in the participation rate as longer term unemployed persons could be discouraged and eventually drop out of the labour force. However, notice that the Great Recession did not cause additional earlier retirements, as within-age retirement rates only declined marginally in line with its declining trend from the late 1990s, so this has not caused the participation rate to fall further than suggested by the aging effect alone. On the one hand, more people have likely left the labour market as they have not been able to find employment, but on the other hand some people have postponed retirement as the financial crisis lowered financial wealth. In total, it seems as if these two opposite effects net out. Still, it is interesting that the large increase in the duration of unemployment coincides with the relatively large residual drop in the participation rate. Moreover, CEA also finds a statistically significant relationship between the residual component and the extent of longer term unemployment.

Chart 14: Average duration of unemployment increased to new record highs



Source: U.S. Bureau of Labor Statistics (BLS)

Chart 15: Significant change in the duration distribution of unemployment



Source: U.S. Bureau of Labor Statistics (BLS)

Some of the residual decline will return

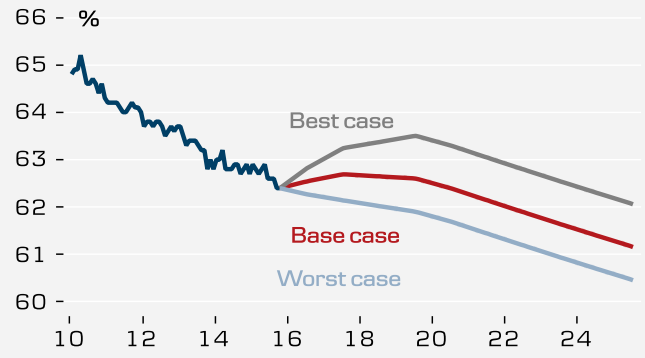
Given the above-mentioned explanations, we expect in our base case scenario that around half of the residual decline in the participation rate could return over the coming years, as we forecast the economy to keep up its current growth pace. Isolated, this amounts to around a 0.7 percentage point improvement in the participation rate. The reason why we do not believe that the residual component will disappear completely is that we believe some of the above-mentioned trends are structural. In particular, there seems to be some structural damage in the participation rate from the high duration of unemployment. Having said that, the development of the residual component is difficult to forecast and our estimate should not be interpreted as an exact forecast, but rather as our best guess. This means that it is also likely that we get a smaller or larger improvement in the participation rate from the residual component. This could for instance be triggered by a change in the participation rate for enrolled students.

The participation rate will be roughly stable in the near term, but decline eventually

Combining our estimates for the three components implies that we expect in our base case scenario that the participation rate will be stable or rise slightly over the coming years. This reflects that we forecast the cyclical improvement to cancel out the drag from the aging of the workforce combined with a reduction by half in the residual component. However, given the uncertainty about the timing and the evolution of the cyclical, and, especially, the residual component, the participation rate could also fall slightly or increase further in the near term. Therefore, we have put forward two additional scenarios, beside our base case scenario, to illustrate the range of possible changes, which are shown in chart 16. All three scenarios build on the same forecast of the aging effect, as the population projection is relatively certain. However, one major demographic uncertainty is the future migration, which can affect the participation rate as immigrants typically are in their prime working years. A yearly net international migration of 1.2-1.3 million persons over the coming 10 years is included in the population projection by the U.S. Census Bureau, which has been used as input in our calculations.

Our best case scenario reflects that the residual component shrinks to zero and that we see a larger cyclical improvement than we expect (+0.2pp as in 2006-07). On the other hand, our worst case scenario includes no improvement in the residual component and only a slow gradual rebound in the cyclical component. As the scenario analysis shows, the participation rate should stay fairly stable over the coming years, but when the positive effects die out as the remaining labour market slack vanishes, the aging effect will sooner or later dominate and pull down the participation rate.

Chart 16: The participation rate will be fairly stable over the coming years



Source: U.S. Bureau of Labor Statistics (BLS), U.S. Census Bureau, Danske Bank Markets

Chart 17: Scenario assumptions

	Base	Best	Worst
Aging effect	Yearly drag of 0.2-0.25pp		
Cyclical component	Disappear in 2 years (+0.2pp per year)	Larger improvement the first 2 years (+0.3pp per year)	Disappear in 4 years (+0.1pp per year)
Residual component	Reduction by half in 4 years (+0.175pp per year)	Disappear completely in 4 years (+0.35pp per year)	No improvement

Source: Danske Bank Markets

Disclosure

This research report has been prepared by Danske Bank Markets, a division of Danske Bank A/S ('Danske Bank'). The authors of this research report are Mikael Olai Milhøj, Analyst, and Kristian Olsen, Assistant Analyst.

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