# BTMU Economic Brief

# *Germany – Inflation to remain subdued despite positive output gap*

**HENRY COOK**
**ECONOMIC RESEARCH OFFICE | LONDON**
**T: +44-(0)20-7577-1591**
**E: henry.cook@uk.mufg.jp**

**23 OCTOBER 2017**

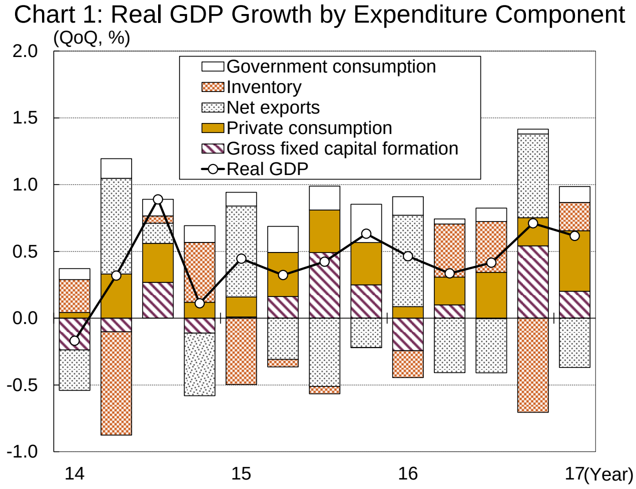
**The Bank of Tokyo-Mitsubishi UFJ, Ltd.**
A member of MUFG, a global financial group

Last month's election in Germany was held amid firm economic activity. The Bundesbank described the 0.6% QoQ GDP growth in the second quarter as "much faster than potential output". It seems likely that the growth will remain above potential in the second half of the year. Against this backdrop, we consider if there are risks of the German economy overheating. To our minds, inflation and wage growth are likely to remain subdued until the positive output gap closes, despite capacity constraints. There are some concerns about the housing market, especially in the largest cities, but prices still seem affordable if compared to incomes.

## 1. Firm growth through H1 2017

Seasonally and calendar-adjusted GDP expanded by 0.6% QoQ in Q2, the twelfth successive quarterly expansion (see chart 1). This came on the back of an upwardly revised 0.7% in the first quarter of the year. Looking at both quarters together, domestic demand remains the main growth driver. Private consumption leads the way, helped by firm real disposable income. Investment was sluggish in Q2 but will probably pick up as firms respond to capacity constraints. There was an unexpected drag from net exports but, going forward, there should be support from improving global trade and the continued recovery elsewhere in the euro zone.

Chart 1: Real GDP Growth by Expenditure Component




Source: Eurostat, BTMU Economic Research Office

Chart 2: Real GDP Growth, ifo Expectations

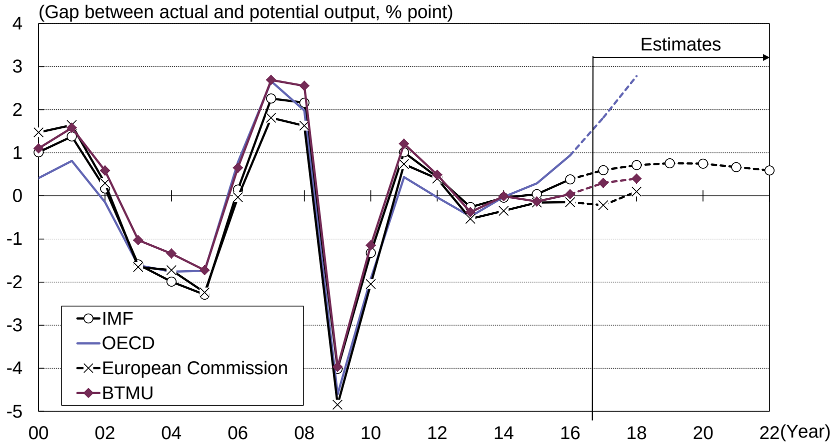

Source: Eurostat, ifo, BTMU Economic Research Office

An immediate end to the upswing is not likely (see chart 2), but we do expect activity to ease in the second half of 2017. Hard data available for Q3 so far has come in below consensus with retail sales (-0.4% MoM in August, after -1.2% in July) and industrial production (-0.1% MoM in July, but recovering in August) generally disappointing. Meanwhile, business surveys remain buoyant but there have been hints of moderation in some series. There was only a partial recovery in the composite PMI after a mid-summer dip. The quarterly average for Q3 is a robust 56.1, but has softened from 56.8 in Q2 which points to a small slowdown. However, for 2017 as a whole, we still expect annual real GDP growth of 1.9%.

## 2. Mind the gap

Does this relatively buoyant, broad-based growth signal that the German economy is operating above potential? Referring to the first half of 2017, the Bundesbank reports that “GDP growth was much faster than potential output in both quarters”. IMF and OECD data suggest that Germany was already growing above potential in 2015. By contrast, the European Commission believe that Germany has been growing below potential since 2012 and does not expect a positive output gap until 2018 (it is possible this will be revised in the November forecast round given the strong growth in the first half of this year). Our own analysis, based on a standard Hodrick-Prescott filter, suggests there was a small positive output gap in 2016 which will widen this year and remain in 2018.

Chart 3: Output Gap Estimates



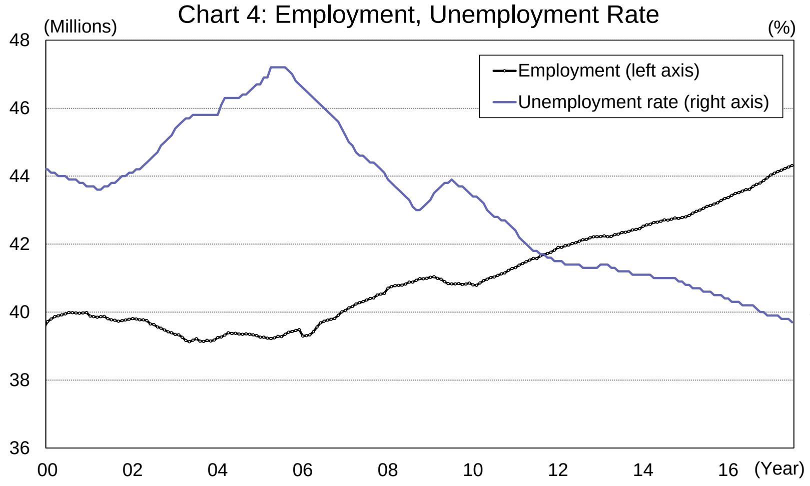

Source: IMF, OECD, European Commision, BTMU Economic Research Office

Potential growth is unobservable and notoriously hard to estimate retrospectively (let alone forecast) which leads to this range of views shown in chart 3. Nonetheless, to our minds, it seems likely that the German economy has been operating above potential for some time. The purpose of the discussion in the following sections of this report is to determine how much of an overheating risk exists currently. We look at the labour market, capacity utilisation, inflationary pressures and housing prices.

## 3. Overheating risks are rising

A very healthy labour market, as shown in chart 4, provides the backdrop to much of the analysis in this report. Unemployment reached another post-unification low of 3.7% in July as, even now, the benefits from the Hartz reforms in the early 2000s continue to be felt[1]. Forward looking survey indicators such as the BA-X index suggest that there is scope for further improvement over the next months before a floor is reached. Employment has been rising steadily but growth has started to slow (0.3% QoQ in Q2 2017, down from 0.5% QoQ in the first quarter). Firms in some sectors, notably construction, have reported recruitment difficulties.

Chart 4: Employment, Unemployment Rate

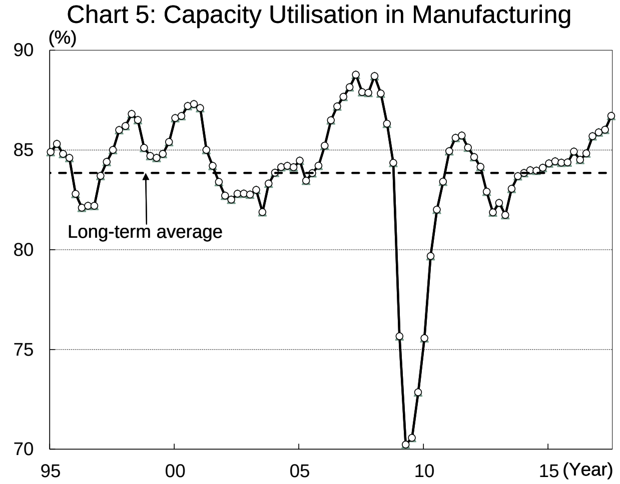



Source: Eurostat, BTMU Economic Research Office

[1] The reforms led to sustained falls in the unemployment rate from a peak of 12.7% in 2005 to just 3.6% in July 2017. We note that structural reforms could have the capacity to boost potential growth in other euro zone countries. In France, Macron's wide-ranging labour market proposals, if passed, may have a similar long-term effect on joblessness.

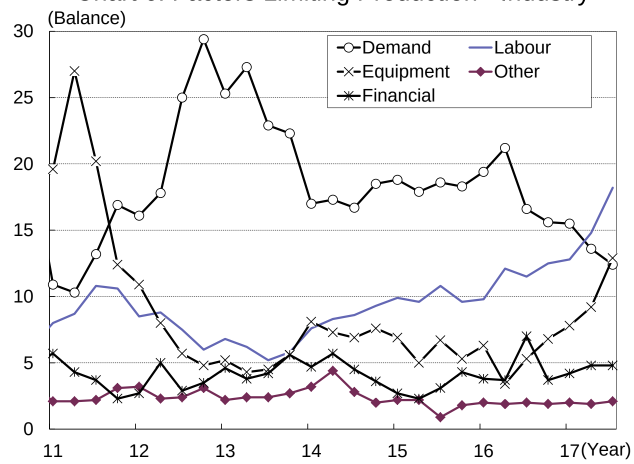
As well as hiring troubles there seem to be more general bottlenecks in supply. Capacity utilisation in manufacturing, already well above the long-term average, rose again in Q3 2017 and is approaching the cyclical peaks seen in 1998 and 2000 (see chart 5). The European Commission survey reflecting spare production capacity in industry tumbled in Q3 2017 to a five year low. Chart 6 shows the factors cited by industrial firms as limiting supply. There has been a sharp increase in reports of constraints from both labour and equipment since the start of the year. These constraints suggest a real threat of overheating, especially as demand remains high with the composite PMI new orders index rising to a very firm 56.6 in September.

Chart 5: Capacity Utilisation in Manufacturing




Source: ifo, BTMU Economic Research Office

Chart 6: Factors Limiting Production - Industry

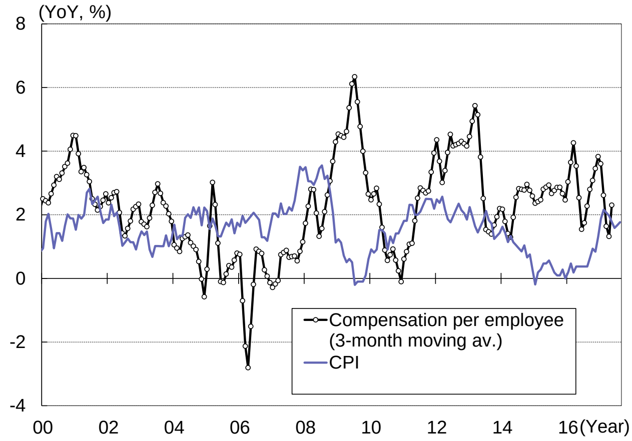



Source: European Commission, BTMU Economic Research Office

## 4. But wage growth likely to be muted

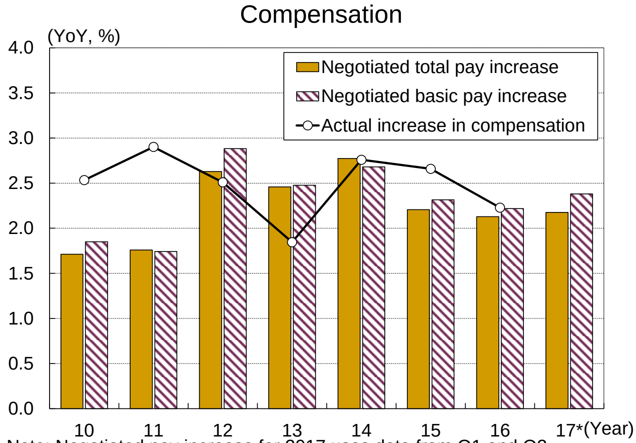
This blend of capacity constraints and a tight labour market suggests that firms may have to offer higher salaries to attract much-needed workers. But wages look very subdued at around 2.5% YoY, and have been struggling to take off in real terms (see chart 7).

Chart 7: Compensation per Employee, CPI Inflation




Source: Eurostat, Bundesbank, BTMU Economic Research Office

Chart 8: Negotiated Pay, Actual Increase in Compensation




Note: Negotiated pay increase for 2017 uses data from Q1 and Q2.
Source: Bundesbank, BTMU Economic Research Office

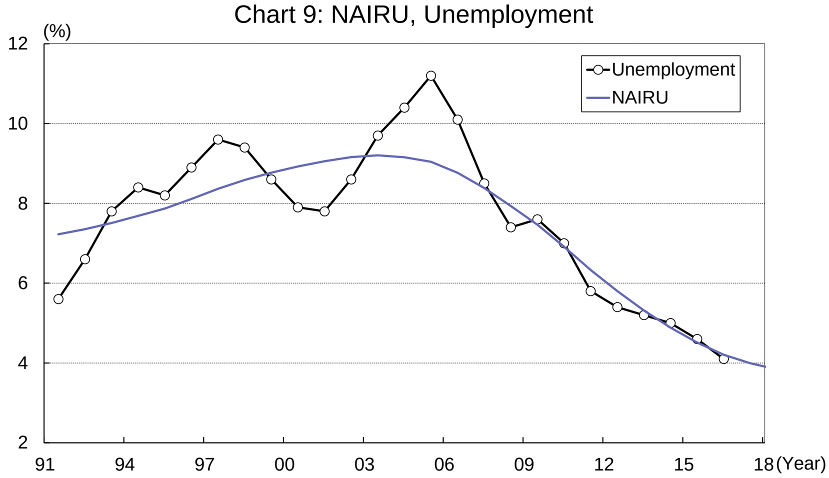
Collective bargaining over salaries is common in Germany and the next round of wage negotiations at the end of the year will be informative. The indications are that increases will be relatively modest; recent concluded agreements have seen wages rise by just 2.0-2.5% annualised. Unions, aware that some positions could be filled more cheaply in Eastern Europe, are looking for improved job conditions (e.g. flexible working) rather than simply higher salaries according to the Bundesbank[2]. Note, however, that average wage negotiations do not always correspond that closely with salary increases (see 2010 and 2011 in chart 8). Either way, we do expect a gradual uptrend in inflation to be reflected by slightly higher wage settlements over the next few years, but runaway wage growth seems unlikely.

[2] The Bundesbank write that "Such components can increase labour costs directly or indirectly but, viewed in isolation, are likely to at least dampen the agreed rise in negotiated wages". (Deutsche Bundesbank "*Monthly Report August 2017*")

We note, too, that NAIRU (non-accelerating inflation rate of unemployment) has been falling as sustainable inflation has failed to materialise despite this tightening in the labour market. After peaking at 9.2% in the early 2000s, the European Commission's 2016 estimate (4.2%) was only slightly above unemployment (4.1%). The Commission estimate that NAIRU will fall further, to 3.8% by 2018 (see chart 9). [3]

[3] No explanation of the forecast is given in the most recent Economic Forecast for Germany. However, in the Commission Paper "*The Production Function Methodology for Calculating Potential Growth Rates & Output Gaps*" (2014) the forecast methodology is explained. Over the medium term, the projection is 50% of the change in the previous period, followed by a flat extension. This explains the forecast for NAIRU to decrease further. It fits with the notion that, in the long-run, NAIRU is the stable level of unemployment.

Chart 9: NAIRU, Unemployment



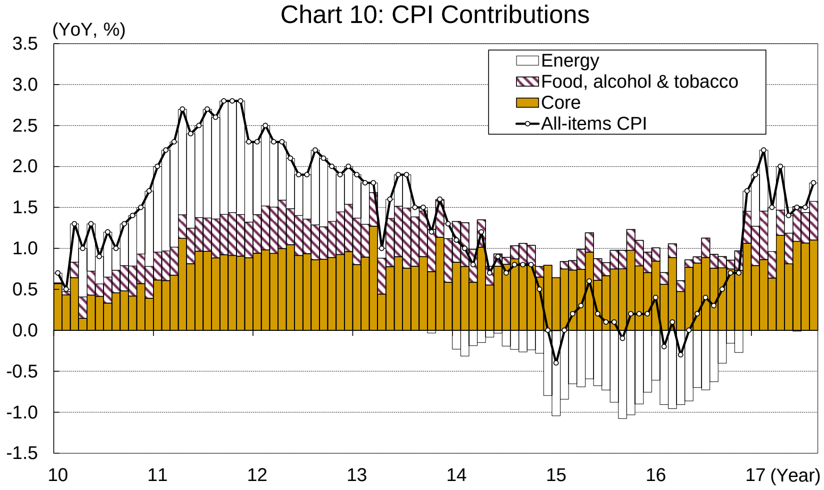
Source: European Commission, BTMU Economic Research Office

## 5. Core inflation to remain subdued despite bottlenecks

Core prices remain subdued in this absence of significant wage pressures (see chart 10). While headline inflation stayed at 1.8% YoY in September, the core rate, which excludes food and energy prices, fell to 1.5%. Further ahead, there may be some additional pressure as the tight labour market feeds through to service prices, but, as mentioned above, NAIRU of around 3.8% in 2018 suggests this will be limited. We also note that inflationary pressure from the tight labour market is eased somewhat by labour force gains which increase the productive capacity of the economy.

Labour force growth is driven by immigration (mostly refugees and Eastern EU migrants), and more women and older people participating in the job market. The female labour force participation rate has steadily increased from 49.4% in 2000 to 54.5% in 2016, according to World Bank data. This is still below comparable peers (Austria, UK, Switzerland, Netherlands, each Scandinavian country and the US all have higher female participation rates) suggesting that there is scope for further improvement. Meanwhile, the Federal Statistical Office of Germany reported in 2016 that over the previous decade the labour force participation of people aged between 65 and 69 had doubled. As the age group grows as a share of total population it bodes well for potential growth if workers are staying in employment for longer. The employment rate for people aged over 65 is roughly in line with the EU average at 5.8%. Again, there appears to be room for further improvement compared with other countries, but we note that many of these older workers are in the agriculture sector which accounts for just 0.6% of German GVA.

Chart 10: CPI Contributions




Source: Eurostat, BTMU Economic Research Office

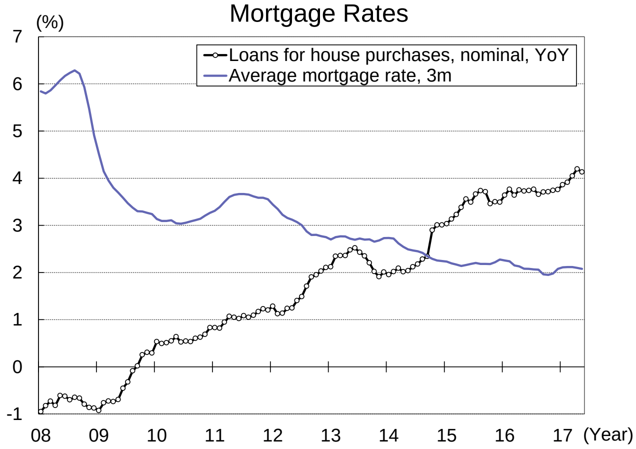
Meanwhile, headline inflation will likely slow over the next few months due to base effects from increases in the previous year. Given the sluggish core drivers and recent appreciation of the euro (which has strengthened by over 5% since the start of the year on a nominal trade-weighted basis) we see CPI averaging just 1.6% YoY in 2017 and 1.8% in 2018 (although the recent upward trend in oil prices suggests that risks are tilted to the upside).

## 6. Concerns over the housing market, especially in large cities

While there are few signs of overheating in consumer price inflation, the housing market is looking a little frothy. Mortgages are cheap (see chart 11) as a result of the ECB's loose monetary policy, disposable income is firm and immigration is high. The result has been several years of heady house price growth, shown in chart 12. We note that there have been especially high price increases in some major cities. Chart 13 shows how Berlin and Munich are showing the most extreme house price growth[4].

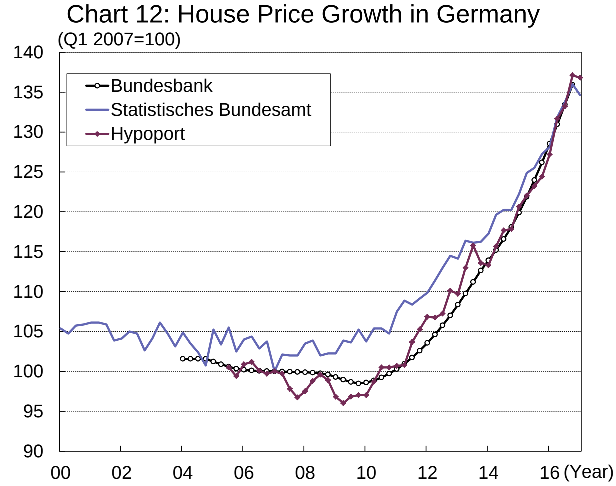
[4] Germany's asylum policy may be a factor. Refugees are distributed proportionally across Germany according to regional tax revenues and population but there is evidence that this system places unique burdens on the large city-states. (Brookings Institution "*Cities and refugees: The German experience*").

Chart 11: Loans for House Purchases, Average Mortgage Rates




Source: Bundesbank, BTMU Economic Research Office

Chart 12: House Price Growth in Germany

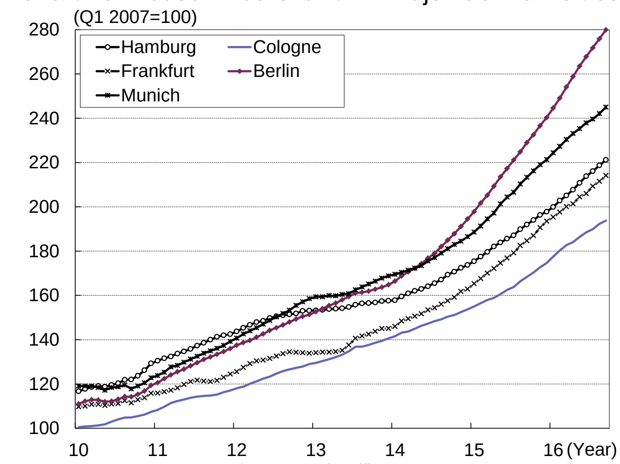



Source: Macrobond, BTMU Economic Research Office

As chart 14 shows, housing supply is increasing in response and construction output has increased rapidly[3]. But building permit data and construction industry surveys are pointing to capacity constraints. The number of construction firms citing employment difficulties limiting their business has risen from 6.4% in March to 14.6% in September this year. This suggests that house prices will continue to rise.

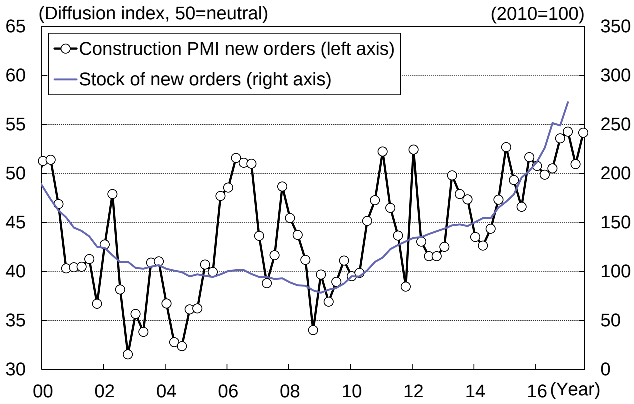
[3] Some care should be taken when drawing conclusions from construction output time series. The number of construction firms which are required to report was widely expanded in Q1 2017.

Chart 13: House Price Growth in Major German Cities




Source: IMX, BTMU Economic Research Office

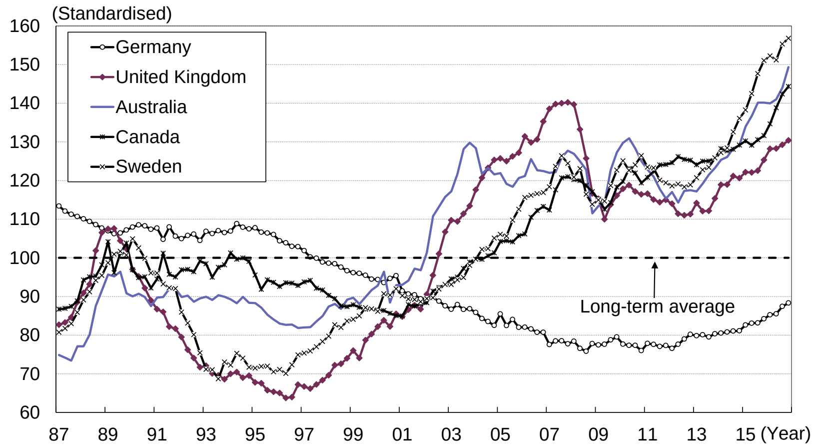
Chart 14: New Orders (houses), Construction PMI New Orders




Source: IHS Markit, German Statistical Office BTMU Economic Research Office

However, despite the steep increase in prices, the ratio of house prices to income is below the long term average, and well below the ratio in other countries with overheating housing markets (see chart 15). While this may partly reflect the long unification boom (house prices rose by 15% in real terms between 1988 and 1994) it does show there is no need to be alarmed about any immediate housing bubble. Any corrections would likely be localised in the larger cities which have seen the most extreme price growth.

Chart 15: House Price to Income Ratio




Source: OECD, BTMU Economic Research Office

There is a sense that German citizens, historically high savers, are struggling to make good returns in other asset classes. Not everyone will benefit from the upswing in house prices. Germany has the lowest home ownership rate in the EU with just 51.9% owner-occupiers in 2015. This is down from 53.4% in 2011 as Germans with sufficient savings may see the purchase of a second home as the best source of returns. However, housing has not traditionally been seen as an investment opportunity in Germany. Indeed, the ECB note that normal wealth effects on consumption following house price increases tend not to apply[5]. The aggregate effect on consumption may actually be negative as non-homeowners must save more for a deposit.

[5] European Central Bank "*The housing market, household portfolios and the German consumer*"

To our minds, the outlook for house prices largely depends on monetary policy. With the ECB likely to start tapering its asset purchases next year and, eventually, normalising interest rates mortgage rates should gradually pick up. Combined with the Fed's tightening cycle this means that returns from other asset classes are likely to increase too. This will improve returns outside of the housing market for saving-hungry Germans, and should lead to moderating house price growth. Homeowners can probably absorb higher mortgage rates, even if higher inflation eats into real disposable incomes. Compared to countries with overheating property markets (UK, Australia), household balance sheets are in good shape and the savings ratio remains high at close to 10%.

## 7. The election outcome has increased uncertainty

Lastly, it should be noted that the outcome of the 24 September election has weakened the outlook for the German economy at the margin, which may reduce overheating risks. Building a coalition will be difficult and could take several months during which time uncertainty over future policy may undermine sentiment of both businesses and households. The outlook for fiscal spending is especially unclear. Before the election, there seemed to be a consensus among most parties that the fiscal stance could be loosened to address longstanding infrastructure issues. The CDU/CSU bloc had also indicated defence spending would reach NATO's 2% of GDP target by 2024. However, the most likely coalition will see Merkel's party partner with the Greens and the FDP in the so-called 'Jamaica' arrangement. The pro-austerity FDP is the larger of the two and would likely choose the finance minister. Apart from some exceptions (investment in high-speed internet and education) the FDP will want a continuation of austerity and government debt reduction. This would be negative for growth over the medium-term.

We also note that there has perhaps been a bit of complacency in financial markets about the risk of anti-EU populism after the election results in France and the Netherlands. Jitters may return again given the AfD's vote share in Germany and rise of Five Star in Italy.

## 8. Conclusion

The German economy is currently operating slightly above potential, yet wages and consumer price inflation remain subdued. The Bundesbank sees a gradual pick up in core prices to just 1.9% in 2019. By this time the positive output gap is likely to be closing (we see growth edging down to 1.8% YoY in 2018) and core inflation should remain relatively sluggish.

However, there are some concerns over the housing market. Property prices have been rising sharply, especially in the largest cities. We note, though, that the average house price to income ratio for the country as a whole remains relatively low when compared to other countries in recent history. This suggests we are far from bubble territory.

## Box 1: Demographic headwinds could soon affect potential growth

Germany's ageing population is well-known and documented. Official projections from 2015 (using the higher immigration variant) point to 19.9% of the population aged over 67 by the end of 2020, up from 18.7% in 2013. This ratio is projected to rise further to almost 30% by 2060. These projections should be taken with a pinch of salt. Estimating population growth, and migration flows in particular, is difficult. Nonetheless, the German national statistics office reports that current high immigration "cannot reverse the trend towards increased population ageing"[1]. It seems highly likely that Germany's population will be older and the labour force will be compressed over the next few decades.

[1] Statistisches Bundesamt "*Currently high immigration cannot reverse population ageing*"

A Bundesbank report, "Demographic change, immigration and the potential output of the German economy", from April 2017 on the effect of this demographic change suggests that potential output may be affected relatively quickly. The native working-age population is set to be reduced by 2.5 million over the next nine years. This will play a crucial role in reducing potential output to well below 1% by the next decade at the earliest. As well as the decrease in labour force, the following factors are mentioned:

- Individual productivity tends to rise until the age of 55 and then remain stable. Later retirement could therefore see **weaker productivity growth**. This is reflected in wages which typically rise during an individual's first 20 years of employment and then remain steady. The result is two counteracting forces: an ageing workforce would command a higher salary on average, but there would also be a **dampening effect on wage growth** among older workers.

- On the supply-side, an ageing population is likely to provoke a shift from goods to services output (particularly healthcare and support). The service sector typically sees lower productivity growth. Meanwhile, external demand for goods – exports of which are worth 38% of GDP – may decline if trading partners experience similar demographic change.

- An ageing population is likely to result in fewer households and decreasing demand for new homes. However, there is likely to be increased investment in modifying existing housing to suit the needs of an older population. Over the medium-term this is likely to boost overall construction output, but further ahead construction is likely to drag on growth.

The conclusion is that potential growth will fall from 1.25% on average between 2011 and 2016 to just 0.75% between 2021 and 2026. Policymakers will be hoping that firms respond to the current capacity constraints with higher capital expenditure. The subsequent boost to productivity will matter more than usual over the coming years.

: