

1. UK Economic Outlook: Shortages and fiscal tightening threaten economic recovery from Covid-19

by Cyrille Lenoël, Rory Macqueen and Paul Mortimer-Lee¹

Economic background and overview of the forecast

Supply constraints replace deficient demand as prime source of economic concern

In our Summer Economic Outlook, the optimism of Spring's 'unlocking recovery' was giving way to concerns about the Delta variant and a loss of consumption momentum. The context for our Autumn Economic Outlook is a further slowing of growth, now resulting from a confluence of supply factors.

Covid-19 cases have remained at an elevated level since their rise in the summer, without so far threatening to break through past peaks, no doubt as a result of the high degree of antibodies among UK adults. Social consumption drove what growth there was in the summer.

A shortage of HGV drivers has a ripple effect well beyond the transport sector

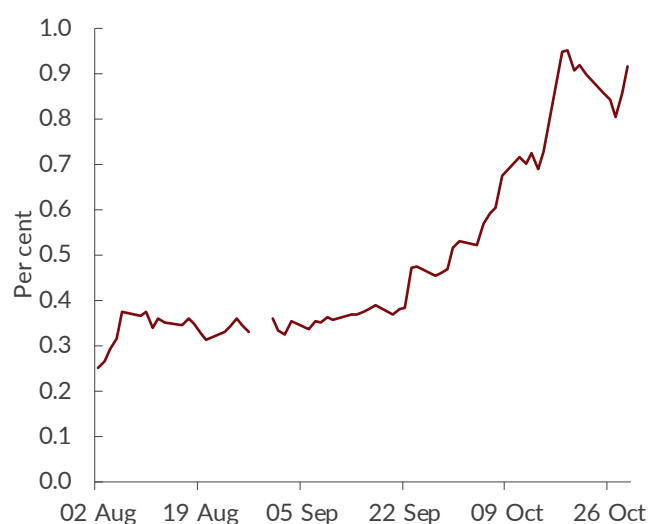
The 'pingdemic' has given way to more widespread reports of labour shortages, particularly in road transport, which in turn has led to shortages of consumption and investment goods. The rise in global gas prices has fed through to business costs and into consumer prices, damaging real incomes, confidence and economic optimism. GDP fell slightly in July before returning to growth in August, boosted by UK residents holidaying domestically.

Yields rise in anticipation of higher short-term rates

Bond yields, which surged in anticipation of rapid growth earlier in the year before easing, have resumed upward momentum, motivated more now by inflation concerns. 10-year gilts reached a two-year peak yield of 1.2 per cent on 21 October. We decompose the 10-year yield into an expectation of future short-term interest rates and a term premium and estimate that the interest rate component increased from 0.3-0.4 per cent in August and September to 0.9 per cent in the second half of October in anticipation of higher short-term interest rates (see Figure 1.1).

The term premium has been contracting since May and reached a nine-month low of 14 basis points on 29 October: this may be explained by reduced confidence in future growth prospects; term premia usually decline as policy rates rise. As discussed in the National Institute September Term Premium Tracker, the term premium also declined in the United States over this period.

Figure 1.1 Interest rate component of the 10-year gilt yield

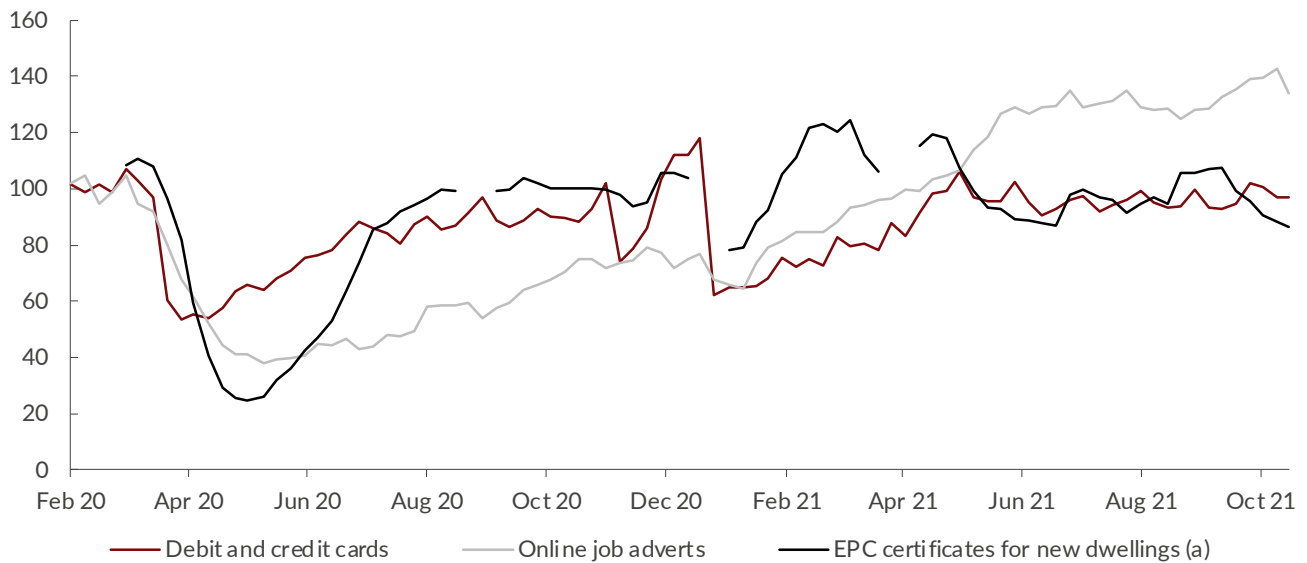


Source: NIESR Term Premium Tracker

High frequency data give a mixed picture

Indicators from the Office for National Statistics (ONS) and others continue to indicate a strong labour market, with record levels of job vacancies (see 'Households'). Spending on credit and debit cards has been largely flat since the start of the summer but, while work-related spending has continued to grow (with petrol buying contributing to a spike in late September), expenditure on delayables and staples has been flat or fallen slightly. Some of the slowing in growth represents the inevitable aftermath of an unsustainable rise when restrictions were lifted, but the return of above-target inflation together with falling economic confidence will now be joined by tighter fiscal policy.

¹ The authors are grateful to Janine Boshoff, Jagjit Chadha, Huw Dixon, Barry Naisbitt and Manuel Tong Koecklin for helpful comments and to Patricia Sanchez Juanino for preparing the charts and the database underlying the forecast. The forecast was completed on 25 October 2021; more recent data are incorporated in the text. Unless otherwise specified, the source of all data reported in tables and figures is the NiGEM database and NIESR forecast baseline. All questions and comments related to the forecast and its underlying assumptions should be addressed to Cyrille Lenoël (enquiries@niesr.ac.uk).

Figure 1.2 Office for National Statistics (ONS) spending and hiring indicators

(a) England and Wales.

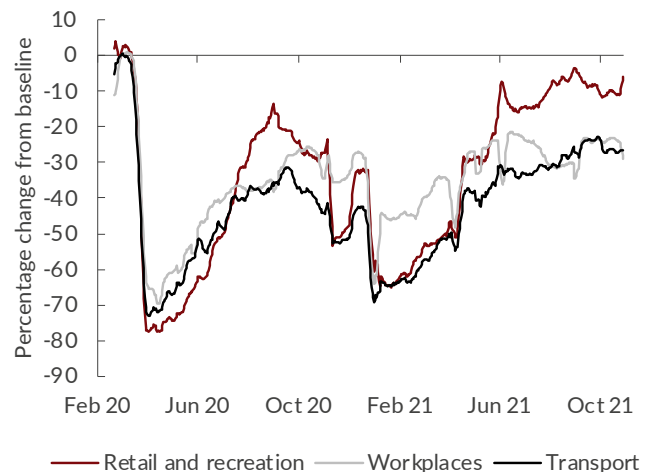
Debit and credit cards (CHAPS-based): 100 = February 2020, percentage change on a backward looking seven-day rolling average, non-seasonally adjusted, nominal prices. Job adverts: 100 = same week in 2019. EPC certificates: 100 = same week in 2019/2020, four-week rolling average, adjusted for timing of holidays.

Source: ONS, BoE, Adzuna, MHCLG, NIESR

We have also seen a slowdown in mobility which may – depending on progress in tackling the virus – be temporary. Springboard found that footfall in high streets fell by 3.6 per cent across the UK in the week beginning 17 October (the last before half term) and Figure 1.3 suggests a slight drop-off in retail and recreation activity over recent weeks.

Two out of three indicators are positive so far

In June this year NIESR's Director noted² three areas to watch in the second half of the year to monitor the recovery's progress. Firstly: the labour market does not show signs of struggling to accommodate those exiting furlough at the end of September, though it is too early to celebrate and the Office for Budget Responsibility (OBR) still forecast unemployment to peak at over 5 per cent. Secondly, we are yet to see any decline in business incorporations or rise in dissolution applications, which may support future employment and potentially productivity prospects. But thirdly, given that "this won't end for anyone until it ends for everyone", the lack of progress on vaccine waivers at the World Trade Organisation remains a major concern for the future of the UK economy.

Figure 1.3 Google Mobility

Source: Google Covid-19 Community Mobility Reports, NIESR calculations. Note: Baseline is median value for the day of the week Jan 3 - Feb 6 2020. Seven-day rolling average.

2 Chadha, J., 'How will the UK economy emerge from the shadow of Covid-19?', The Guardian <https://www.theguardian.com/business/2021/jun/30/how-will-the-uk-economy-emerge-from-the-shadow-of-covid-19>

Overview of the forecast

The longer-term context is one of continuing stagnation and inequality...

We are hopefully emerging from the cloud of Covid-19 and are facing a persistent supply shock alongside potentially significant pent-up demand. It is also clear that there are large shortages of capital – human, physical and otherwise – in many parts of Britain that need to be addressed through regional regeneration.

There is still room for ‘catch-up’ growth in some sectors, when compared with their pre-Covid levels, but we are also likely to live with a degree of Covid-19 infections for some time and there will undoubtedly be people who cannot or choose not to return to all their previous economic habits.

...but with the addition of a risk to incomes from higher inflation

The persistence and size of the supply shock which is reverberating through global supply chains means that there is an inflation risk, which will need to be addressed with tighter monetary policy, alongside a need to offset years of under-investment in public services with a sustained fiscal intervention. We do not think there is an emerging dislocation in the labour market but do expect less well-off households to face the continuation of an incomes squeeze that is now over a decade long.

While the savings rate is forecast to return to normal levels relatively quickly, the balance of household savings has been boosted. This overhang of savings and disruption to supply resemble the economic aftermath of major events such as wars. In the wake of the virus and Brexit, confidence and uncertainty means that investment is likely to continue to drag, and consumers may continue to be cautious, retaining higher levels of accumulated savings, if not saving a higher share of income.

The UK’s low levels of unemployment are likely to continue...

Our outlook for employment is nonetheless optimistic: we do not see a sustained jobless rise to the level of even a year ago. Undoubtedly the Coronavirus Job Retention Scheme (CJRS) has been more effective in protecting jobs than many feared and we do not expect an increase in joblessness to have followed its withdrawal at the end of September. But despite approaching full employment, real wages will continue to stagnate unless productivity improves: something which will depend on trade, foreign investment and the development of high value firms.

...but this is likely to continue to coincide with a squeeze on real incomes for those in work

Real annual household income growth of 2.3 per cent in 2022 is flattered by the end of the CJRS: for many, especially those in work and reliant on Universal Credit, the return of above-target inflation could not be more unwelcome. People who receive income which is not subject to National Insurance contributions are among

those who will be least affected by the squeeze on real incomes in coming months.

Slower growth, higher inflation...

As a result of the persistent supply shock, the risks are that growth will be too low and inflation too high. Our forecast for GDP growth in 2021 is little changed at 6.9 per cent, but we have revised down the outlook for 2022 to 4.7 per cent. Inflation is now expected to reach 5 per cent in the second quarter of next year before falling back as large base effects drop out and the Bank of England raises interest rates to 0.5 per cent by the middle of 2022. Between 2020 and 2025 cumulative growth in our main case forecast scenario of 17 per cent undershoots that of the Office for Budget Responsibility (19 per cent) while our forecast for inflation (15 per cent) overshoots theirs (14 per cent).

...and fiscal policy providing little support

In our main case scenario fiscal policy injects little additional demand into the economy across the forecast period, with the deficit falling to below 3 per cent of GDP, the current budget approaching balance and public investment consistently slightly below 3 per cent – less than optimal at a time when even with a lower growth path there is fiscal space. Monetary policy is in a position where some stimulus can be removed and policy still remain broadly supportive. If the Monetary Policy Committee were now to begin the process of not reinvesting maturing QE debt without actively selling any, the £740 billion of current (face value) holdings would fall to £490 billion by the end of the forecast period in five years’ time (see Figure 1.26 on page 28).

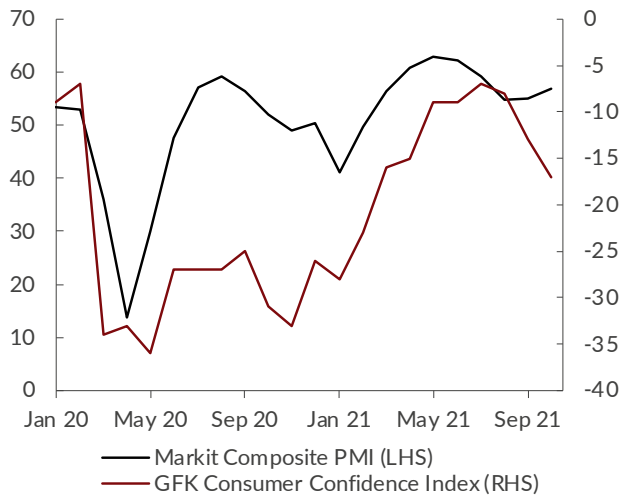
Economic activity

Growth revised up in the first half of 2021

Since the release of our Summer UK Economic Outlook, growth in the second quarter of the year was revised upwards to 5.5 per cent – something not reflected in the Office for Budget Responsibility’s forecasts published alongside last month’s Budget (see ‘Fiscal policy’, page 23). Though growth has continued well above average rates since then, it slowed notably in the third quarter, as the end of the ‘unlocking mini-boom’ coincided with the rise of the Delta variant and then was followed by increasing supply chain constraints.

But activity has weakened in the second half of the year

With winter approaching, the principal macroeconomic threats appear to be persistent supply chain disruptions and a rise in energy prices, both of which are global in origin. Added to this may be additional supply constraints arising from labour market disruption (see ‘Households’, page 13). The composite purchasing managers’ index declined from May until August (see Figure 1.4) while the GfK consumer confidence indicator fell in August, September and October; rising inflation is increasingly mentioned as a concern by business and consumer survey respondents.

Figure 1.4 Consumer and business surveys

Source: IHS Markit, GfK

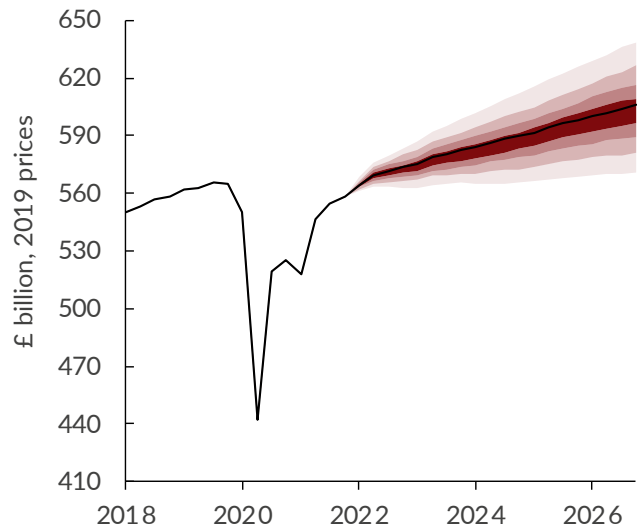
The UK remains below pre-Covid levels of monthly GDP despite a relatively strong August

Our monthly GDP Tracker has noted in recent months the remaining potential for 'catch-up' growth in consumer-facing sectors, where activity remains below pre-Covid peaks. Third quarter growth benefitted from stronger domestic tourism thanks to foreign travel bans. At the same time, industries with a high reliance on energy and road and sea transport are likely to see disruption continuing into 2022. With the caveat that there have been significant revisions to quarterly GDP data in recent months, we estimate growth of around 1.5 per cent per cent in the third quarter.

The weakening of the economy in the second half of 2021 combined with the stronger than previously thought second quarter means that our estimate for growth in 2021 is essentially unchanged at 6.9 per cent. We then forecast growth of 4.7 per cent in 2022 followed by 1.7 per cent in 2023 (see Figure 1.5). This means that UK GDP will exceed its pre-pandemic level, one quarter later than we forecast in August, in the second quarter of 2022.

Supply constraints and Covid-19 dominate upside and downside risks...

Upside risks to this central case forecast include the possibility of a more rapid easing of supply constraints, a global vaccine roll-out which enables international travel to normalise more quickly, and a more accommodative monetary policy stance than in our central forecast scenario (see 'Inflation and monetary policy', page 25). It is also possible that changes to our economic behaviour arising from Covid-19 will have an unanticipated upward influence on productivity, whether via greater adoption of new technologies or the replacement of inefficient business models with more streamlined ones.

Figure 1.5 Quarterly GDP fan chart

Source: NIGEM database, NIGEM forecast, NIGEM stochastic simulation.

Notes: The fan chart is intended to represent the uncertainty around the main-case forecast scenario shown by the black line. There is a 10 per cent chance that GDP in any particular year will lie within any given shaded area in the chart. There is a 20 per cent chance that GDP will lie outside the shaded area of the fan chart.

...most of which are global in nature rather than UK-specific

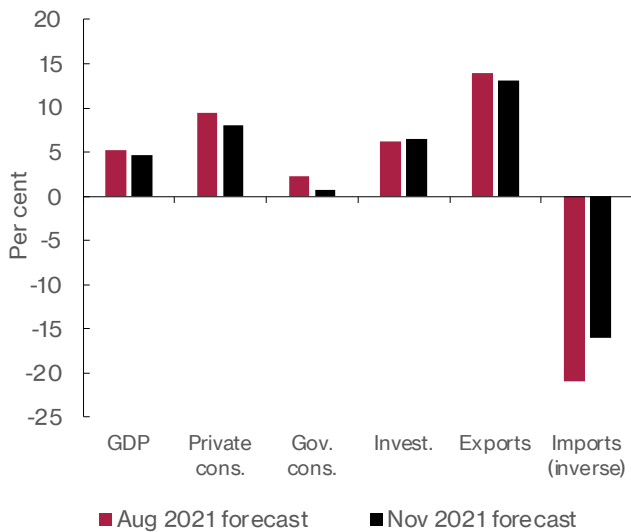
Downside risks include contagion from disruption to transport networks to the economy as a whole: a shortage of seasonal food is one potential problem. Disruptions to supplies of essential components or gas in winter would be more concerning. Some symptoms, including shortages of petrol caused by panic-buying, seem to have eased, but business leaders have warned of supply chain disruptions continuing until 2023. The largest downside risks are global in origin and include a further mutation of the coronavirus leading to renewed significant economic disruption, whether government-mandated or voluntary.

There are also domestic risks in the form of the continuing virus: if Covid-19 were to get to the point where households and businesses were choosing or having to limit their consumption, the consequences for consumer-facing services sectors would again be stark.

Household and government consumption weaken 2022 forecast

Compared with our Summer UK Economic Outlook forecast, we expect the recovery to be somewhat weaker, less supported by fiscal policy, and slightly more balanced towards investment and away from household consumption (see Figure 1.6).

Figure 1.6 Forecast growth in 2022

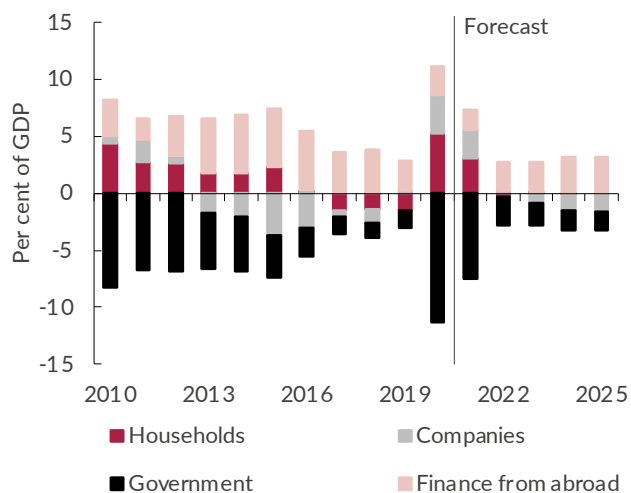


Source: NiGEM forecast

The ‘kindness of strangers’ returns, as business starts to invest again

Households’ net saving during the pandemic is forecast to come to an end, with the household sector returning to a small net investment position next year. Meanwhile we forecast businesses returning to net deficit with the foreign sector continuing to finance their borrowing and that of the Government (see Figure 1.7 and Table A9).

Figure 1.7 Sectoral balances (saving minus investment)



Source: NiGEM database and NIESR forecast

Headlines about a return to the 1970s are overstated...

In relative terms, the return of stagflation as a topic of debate seems well merited. Our long-term forecasts for the UK economy’s growth rate remain below historical trends below 1.5 per cent, while inflation looks to be more persistently above target than at any time since central bank independence a generation ago. However, the scale of the problem should not be exaggerated or inappropriately compared with the 1970s, when an energy crisis and a breakdown of the Bretton Woods international monetary system precipitated price rises across the oil-consuming economies. A wage-price spiral is significantly less likely following the reduction in trade unions’ ability to insulate real earnings from negative supply-side shocks.

...but Covid-19 and Brexit constitute a shock to the UK economy which will leave a lasting impact

The long-term consequences of Brexit and Covid-19 on the economy will not become clear for some time, but our medium-term forecast for GDP is on average around 4-5 per cent lower than that made in November 2019. It should be noted that there have been other changes to forecasts since, including from the increase in public sector investment announced at the Budget in March 2020, as well as historical data revisions. As discussed in previous Outlooks, Brexit and Covid-19 represent complementary shocks, threatening different sectors of the economy, with the potential to reinforce each others’ impacts.

All eyes are on COP26 to combat climate change

The greatest threat to global economic and financial stability at all but the shortest horizons remains catastrophic climate change. The Government last month announced additional spending towards meeting its target for net zero emissions, though this has been described as a “lack of serious new investment”³. With carbon taxation on the political agenda, Box A looks at the European Union’s proposed Carbon Border Adjustment Mechanism. In other NIESR research, Holland & Whyte (2021) show that the effects of a sudden and sharp rise in carbon price yields lower GDP and higher inflation, with countries that have a higher energy intensity of output and consume relatively more carbon intensive fuels being more vulnerable compared with countries that predominantly use gas or renewables. Holland et al (2021) find that a carbon price policy that channels carbon revenue into investment has the potential to offset the bulk of the transition costs at the global level.

NIESR research has also highlighted the role which central banks can play in mitigating the economic impact of extreme weather events; for example, through stress testing and collateral frameworks (Hurst et al, 2020), but the primary responsibility lies with finance ministries across the world and their powers to tax, price and spend.

Box A: The European Union’s Carbon Border Adjustment Mechanism: levelling the EU carbon playing field

by Alexandra Dumitru¹

On July 14, the European Commission presented 13 policy measures designed to put the EU on track to meet its ambitious greenhouse gas (GHG) emission reduction targets of 55 per cent in 2030 compared with 1990 levels. The most contentious proposal from an international standpoint is the Carbon Border Adjustment Mechanism (CBAM), which aims to create a level playing field between European Union (EU) producers subject to EU carbon pricing and their non-EU counterparts.

The EU proposal

The CBAM is not a stand-alone measure but an integral part of the revamped EU Emission Trading Scheme (EU ETS). Its primary purpose is to prevent carbon leakage – when EU firms relocate production to jurisdictions with lower emissions standards – and thereby create a level playing field between EU and non-EU producers. The proposed CBAM achieves this by imposing a levy on imports of products included in the EU ETS, starting with electricity, cement, aluminium fertiliser, and iron and steel products. The level of the import duty will reflect the EU ETS carbon prices, and will correct for any carbon price paid in the originating country, as well as emissions allowances given to EU producers for free. European Free Trade Agreement countries are excluded due to their participation or link to the EU ETS.

Interpretation

The CBAM is a welcome step towards creating the conditions for an effective carbon market and for a carbon level playing field in the EU. As an integral part of the EU ETS, the main purpose of the CBAM is to prevent carbon leakage and thereby replace current arrangements: mainly the free EU emission allowances. On the downside, its complexity will likely lead to high administrative costs while the set up could have adverse effects: the procedure around reporting on the actual emission content of imports is very complex and is likely to increase administrative burden at least as much as rules of origin do – which could increase the cost of trade by, on average, 4 to 15 per cent. These high costs could disincentivise declarants from choosing this approach given that, as an alternative, declarants can use default values provided by the EU, which are likely to underestimate emissions in some cases. Overall, the system could have the adverse effects of leaving some emissions out of the equation.

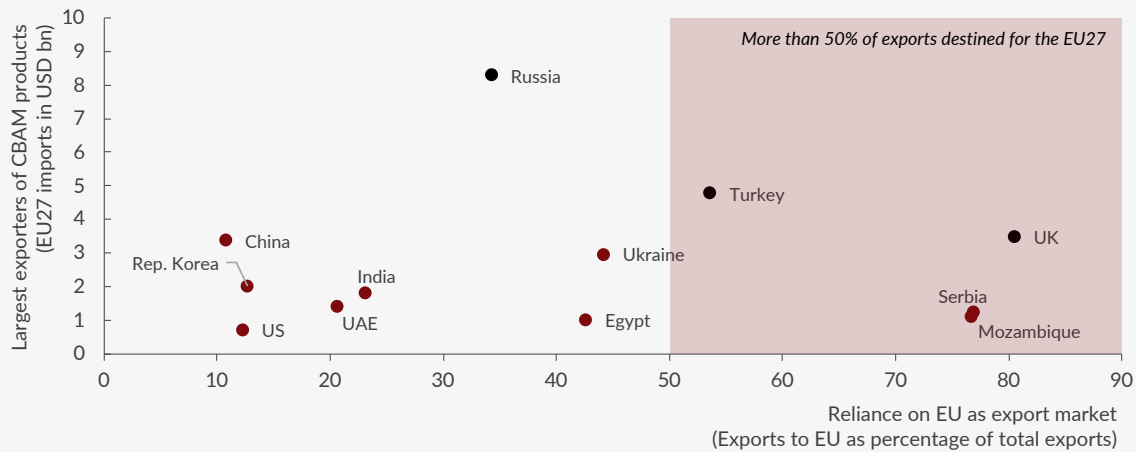
Economic impacts

Russia and Turkey seem to be the countries most affected by the CBAM proportionally, according to an analysis of trade flows and the existence of carbon pricing amongst exports of non-EU CBAM products. On the EU imports side the impact is modest on the back of an overall low share of CBAM products in GDP, with Bulgaria most exposed. Based on trade flows we would assess Russia, UK and Turkey as having the greatest potential to be impacted by the CBAM (Figure A1). Russia is the largest exporter of CBAM products to the EU; Turkey and the UK are both in the top five most significant exporters of CBAM-products to the EU and on top of that are highly reliant on the EU as an export market (their EU share in total exports of CBAM-products is higher than 50 per cent). The impact could be contained by carbon pricing in the exporting countries, as these can be discounted from the CBAM levy. In the absence of domestic carbon pricing Russia and Turkey cannot expect a reduction in the impact of the EU CBAM. The impact on the UK, however, is likely to be offset by the existence of an equivalent emissions trading scheme at home; indeed, the UK is likely to be exempted from the CBAM altogether.

EU Member States could also be affected by the introduction of the CBAM as they potentially face higher input costs. Our analysis of imports of CBAM products (Figure A2) reveals that Bulgaria is most vulnerable to the introduction of the CBAM given its significant reliance on imports from non-EU countries. The impact on these economies should nonetheless be modest, as these imports are a small share of GDP, which does not rule out the fact that the actual impact for individual companies could be significant. The economic impact analysis above is based on aggregated trade flows only. The actual effect will also be influenced by other factors, such as the emission intensity of imported products or importers’ ability to pass the costs either upstream or downstream in the supply chain. Also, it is important to note that the CBAM is a double-edged sword: as it facilitates the abolition of free allowances in the EU ETS it is expected to increase the costs of all CBAM products in the EU, irrespective of the place of production. *A more extensive analysis of CBAM is available at economics.rabobank.com*

1 Senior Economist Climate Change, RaboResearch

Figure A1 Largest exporters of CBAM products and their reliance on the EU27 market



Source: World Bank, Rabobank, RaboResearch

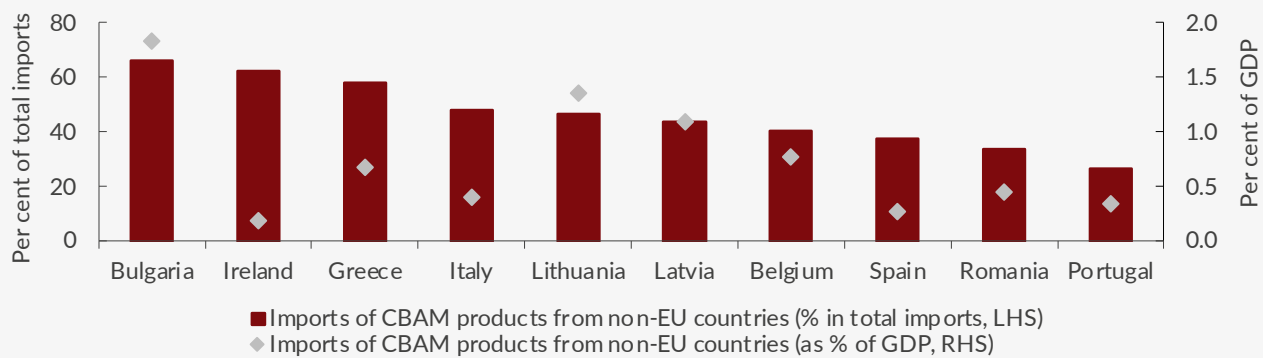
Table A1 Carbon pricing amongst large CBAM product exporters

	Carbon price/tax			OECD Effective Carbon Rate Score 2018 ²	
	Implemented	Planned	Considered	Electricity	Industry
China	YES			0.65	1.89
Egypt				n/a	n/a
India				5.10	4.68
Rep. Korea	YES			48.99	33.21
Mozambique				n/a	n/a
Russia				0.28	2.35
Serbia				n/a	n/a
Turkey		YES		0.00	2.22
UAE				n/a	n/a
UK ^(a)	YES			44.23	22.55
Ukraine		YES		n/a	n/a
US	Partially			0.78	0.47

Source: Source: OECD, World Bank Carbon Pricing Dashboard, RaboResearch.

Note: (a) The UK was still part of the EU ETS in 2018 so the Carbon Rate Score does not reflect the current situation. A higher ECRS represents a higher 'price' being put on carbon emissions.

Figure A2 Largest EU importers of non-EU CBAM products.



Source: World Bank, Rabobank, RaboResearch

2 See OECD, 'Effective Carbon Rates 2018: Pricing Carbon Emissions Through Taxes and Emissions Trading', <https://www.oecd.org/ctp/effective-carbon-rates-2018-9789264305304-en.htm>

Households

Government support helped to cushion the economic blow from Covid-19

Household incomes in aggregate fell by far less than economic activity in 2020, principally thanks to government intervention: directly, through an increase in Universal Credit and support for self-employment, and indirectly through business loans and the CJRS. Real incomes were supported by low inflation, with real personal disposable income falling by only around 1 per cent in aggregate. This conceals radically different outcomes for different groups of households: it is well established now that those who could save money working from home on full salaries – predominantly white-collar workers – were likely to emerge from Covid-19 with strengthened savings positions, in contrast to those who lost jobs or 20 per cent of their earnings on furlough. Box B on page 14 looks at incidence of financial hardship linked to the furlough scheme and whether, and how, it could be improved in future.

Higher unemployment levels threatened by an early end to the CJRS did not materialise

Since unemployment peaked in the final quarter of 2020, household incomes have been supported by moves into employment but also by millions of employed workers returning from furlough, where they had been receiving less than 100 per cent of their usual income.

Short-time working supported incomes for those in work

Average hours per employee remained well below their pre-Covid levels in the second quarter of 2021, reflecting the number of workers still on the CJRS. Short-time working may remain a reality for some workers in industries facing subdued demand. As illustrated by Figure 1.10 on page 16, an average hourly wage inflated by the CJRS was the corollary of a significant fall in hours worked per employee during 2020.

Annual pay growth reached over 8 per cent and has fallen back slightly since...

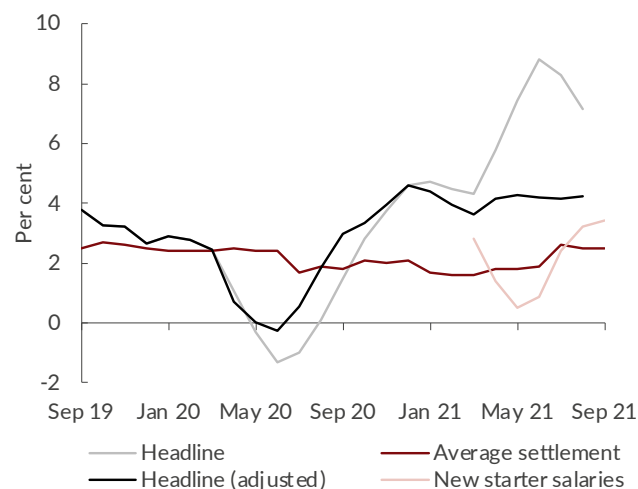
Headline growth in average earnings was 7.2 per cent in the three months to August, with regular pay rising by 6 per cent. Adjusted for base effects, which flatter these figures by comparison with a period when more people were furloughed on reduced wages, we estimate underlying total wage growth of 4.2 per cent compared with a year earlier.

...but even this is far above the average for pay settlements, suggesting greater pay drift than usual

However, over the past year, average pay settlements have continued to average around 2.0-2.5 per cent (see Figure 1.8): stubbornly consistent at a level below the headline earnings changes. Prior to the pandemic, settlements typically averaged 0.5-1.5 per cent below headline earnings growth, with the difference accounted for by elements of earnings drift, including compositional changes. Currently the gap is somewhat larger than usual which, according to Incomes Data Research (Hatchett,

2021), reflects both an increase in hours and measures taken by employers to deal with recruitment and retention, such as extra pay or bonuses.

Figure 1.8 Annual growth in earnings



Source: Incomes Data Research, Indeed, ONS, NIESR calculations. Headline series adjusted from February 2020.

Vacancies have reached record levels, especially for some low-paid occupations...

The number of vacancies has risen to record highs in recent months and the Institute for Fiscal Studies (see Costa Dias et al, 2021) reported that, in June, vacancies for the lowest-paying third of occupations were 19 per cent higher than in June 2019, while vacancies for other occupations had only just returned to pre-pandemic levels: something which does not suggest that a large upward compositional shift is responsible for the increase in starting salaries. It may be that settlements lag changes in starting salaries: organisations collating information on settlements report a slight rise over the coming months, though with projections still at similar levels to the period before the pandemic.

...and the picture on labour shortages and wage increases is far from uniform

September's KPMG/REC survey showed a record balance of employers reporting higher starting salaries than a month earlier, but data from online job postings suggest that there is still significant variance in growth across industries and jobs. Box C on page 17 examines in more details the job market for certain in-demand industries, concluding that mismatches in demand for drivers and other specific roles are not so far driving rapid wage growth across the rest of the economy.

In aggregate, while vacancies have surged, the number of people starting new jobs has also risen above pre-Covid levels, suggesting that some degree of increased vacancies reflects a temporary backlog resulting from job matches previously put on hold by employers and employees during the pandemic. The ratio of vacancies to inflows – a potential indicator for unfilled vacancies – rose

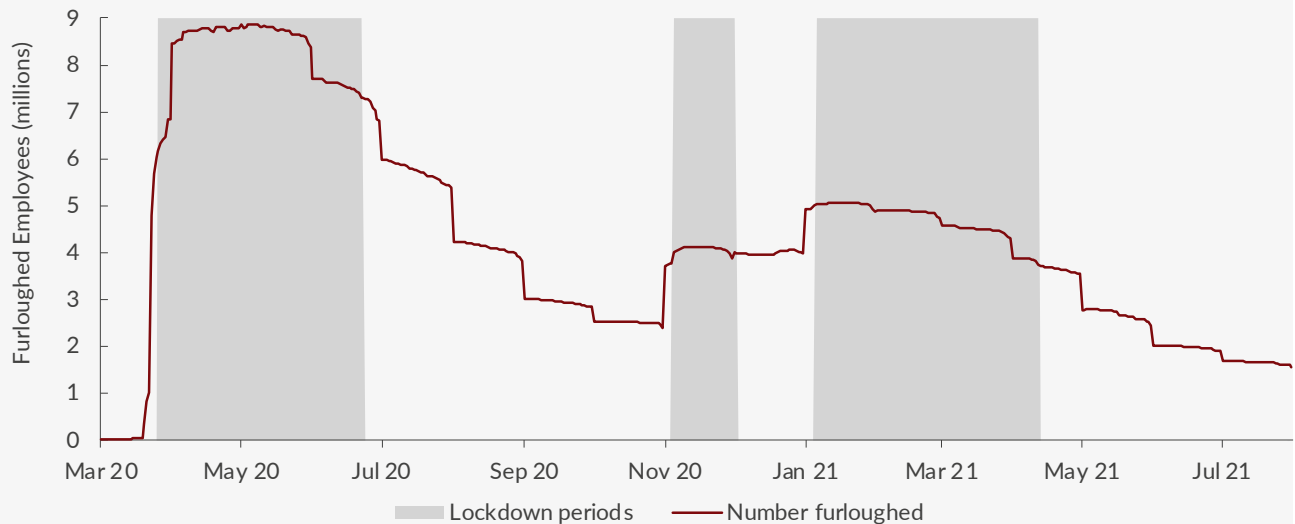
Box B: Furlough and household financial distress during the Covid-19 pandemic – insights for future lockdowns

by Christoph Görtz¹, Danny McGowan² and Mallory Yeromonahos³

The Coronavirus Job Retention Scheme (CJRS) was a key element of the government's economic response to the Covid-19 pandemic. Introduced in March 2020, the CJRS aimed to safeguard jobs and income by allowing employers to place workers on temporary leave rather than making them redundant. A benefit of the scheme to employers was that they could reduce their wage bill while they closed during national lockdowns or in the face of low demand, as the government paid 80 per cent of furloughed workers' wages, up to a maximum of £2,500 per month. When business conditions returned to normal, employers could draw upon their furloughed workforce to reactivate their businesses without incurring hiring costs and delays. Additionally, by maintaining links between employers and employees, the scheme avoided the loss of firm-specific skills.

Figure B1 shows that firms furloughed staff primarily at the beginning of national lockdowns, as these were times of acute uncertainty surrounding future business conditions and when the government required many businesses to shutter. During the pandemic, 25 per cent of UK employees are likely to have been on furlough for at least one month, with the scheme supporting 11.6 million jobs.

Figure B1 Number of furloughed employments



Source: HMRC coronavirus (Covid-19) statistics. Note: Grey shaded bars show the times of national lockdowns

For workers, the CJRS provided an income safety net by preventing a large fall in income that would have arisen in case of redundancy. However, most employers chose not to contribute to furloughed workers' wages, so that the average person on the CJRS experienced a 17 per cent contraction in monthly income.

A key question is whether CJRS-induced income reductions provoked financial distress among furloughed workers. Görtz et al. (2021) provide evidence on this question using data from the Understanding Society database that tracks a household's finances at eight points in time between April 2020 and April 2021. This household survey is representative of the UK population and covers almost the entire time during which employees could be newly registered on the CJRS. From 11 June 2021, it became impossible to furlough new workers and the CJRS was gradually scaled down before it was discontinued at the end of September 2021. The CJRS was vital during lockdowns and facilitated their implementation by preventing widespread household default, thereby increasing their acceptability amongst the public. It is likely that a kind of furlough scheme would need to be reinstated should national lockdowns be necessary in future. For this reason, it is now a good time to take stock of the effects of the CJRS on household finances.

¹ Associate Professor of Macroeconomics, University of Birmingham

² Professor of Finance, University of Birmingham

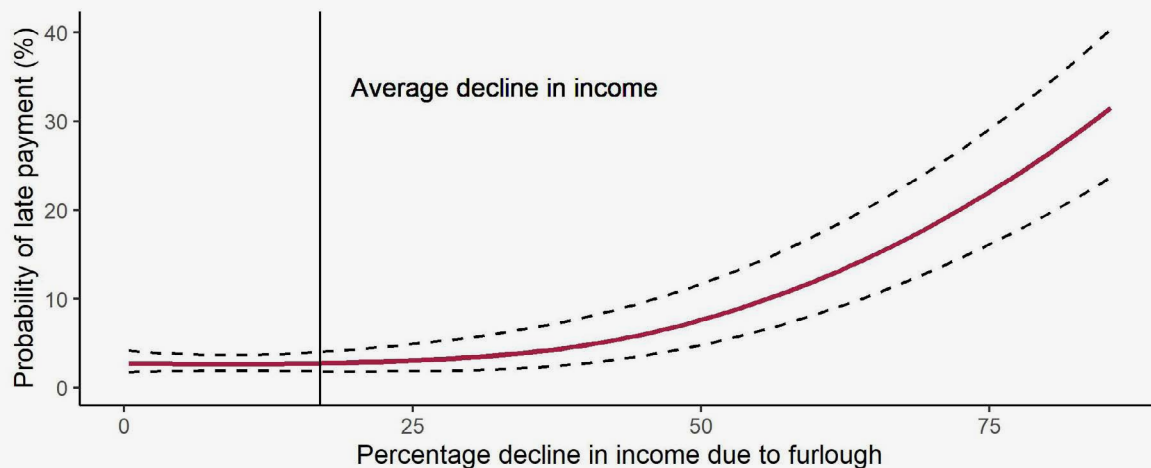
³ Lecturer in Economics, University of Westminster

Evidence shows that a furloughed worker was approximately 30 per cent more likely to be late on housing payments, and 9 per cent more likely to be late on bill payments, relative to a non-furloughed worker. Despite these seemingly large effects, the overall rise in the incidence of financial distress in the UK during the pandemic due to the CJRS was modest, equivalent to a 2 percentage point increase. A key question in light of the potential future need to reinstate a furlough scheme is whether increasing the generosity of government contributions to furloughed workers' wages would have alleviated financial distress. Figure B2 shows a similar probability of being late on either housing or bill payments between workers who experienced a furlough-induced income fall, for falls of up to 20 per cent. The rise in probability of financial distress was however increasing in the extent of income fall above 20 per cent, which only occurred for workers whose earnings fell foul of the CJRS' £2,500 monthly cap i.e. those towards the top of the earnings distribution.

Raising the government contribution above 80 per cent would therefore have a limited effect on mitigating financial distress. Raising the cap may have a larger effect, though a future government would need to consider the distributional consequences and policy desirability of such a move. In contrast, cutting the government contribution below 80 per cent would likely produce large increases in financial distress. Figure B2 shows that a 40 per cent furlough-induced income contraction increased the probability of financial distress by approximately 10 percentage points (30 per cent) whereas a 60 per cent cut to monthly income raised the likelihood by almost 70 per cent compared to non-furloughed workers. While lowering the government's contribution to wages would reduce pressure on public finances, this would likely contribute to a much higher incidence of financial hardship during the pandemic.

Internationally, there are vast differences in the design of furlough schemes, which partly result from the variety of different complementary social security mechanisms in place. Abstracting from details, in France the government wage contribution only accounted for 70 per cent of a worker's gross income; in Germany it was 60 per cent for workers with children and 67 per cent for those without. Evidence in Görtz et al. (2021) shows that the 80 per cent government contribution to furloughed workers' wages under the UK CJRS minimised the incidence of household financial distress at the lowest cost to the taxpayer.

Figure B2 Effects of decline in income due to furlough on probability of financial distress.



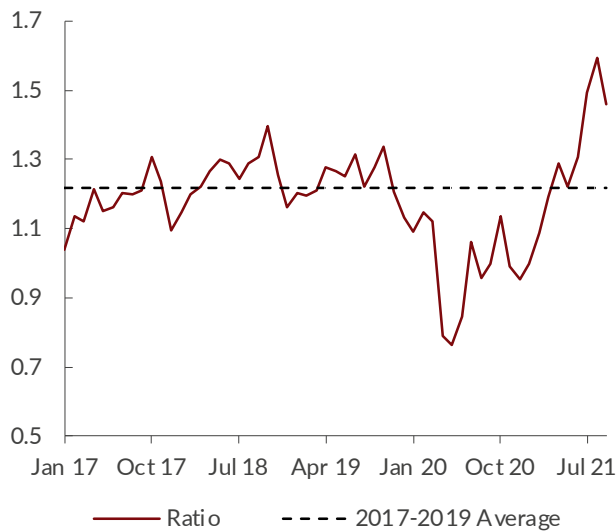
Source: Görtz et al. (2021) based on Understanding Society Data. The solid line denotes estimated probabilities. Dashed lines indicate 95 per cent confidence intervals.

References

Görtz, C., McGowan, D. and Yeromonahos, M. (2021) 'Furlough and Household Financial Distress during the Covid-19 Pandemic' (August 31, 2021). Available at SSRN: <https://ssrn.com/abstract=3914975> or <https://dx.doi.org/10.2139/ssrn.3914975>

to a five-year peak in August but declined in September (see Figure 1.9).

Figure 1.9 Ratio of vacancies to job inflows

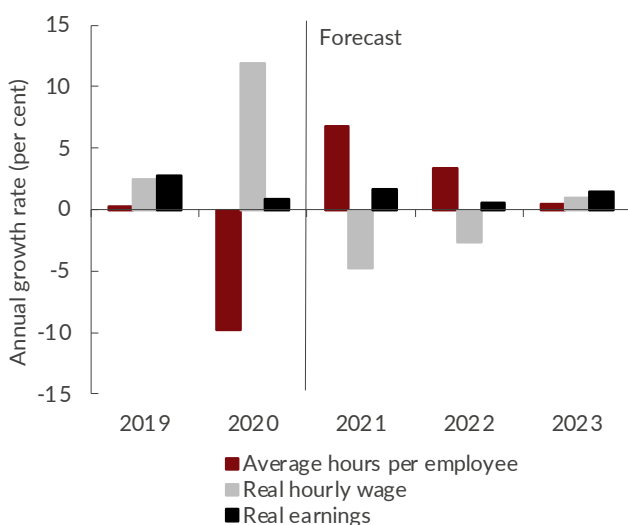


Source: ONS, NIESR calculations

Crunch time for household incomes over coming months...

Despite record headline wage growth rates, the outlook for household incomes is a major area for concern over the coming year (Table A5). In our central case forecast scenario average earnings rise by 4.5 per cent in 2022: the first full year without a furlough scheme. For some – notably in those sectors facing severe labour shortages – the near-term outlook is for nominal increases faster than for some time. The key questions for both incomes and macroeconomic stability are how sustained this relative recovery in wage growth is, how widespread it becomes, and how much of this growth is eroded by inflation.

Figure 1.10 Average earnings adjusted for inflation



Source: NiGEM database, NIESR forecast

...with earnings gains below inflation in 2022

Due to the CJRS continuing to depress average hours into 2021, we expect hours per worker to continue to grow relatively rapidly on an annual basis in 2022 (see Figure 1.10). However, despite strong headline growth in wages, with inflation forecast to be substantially above target, real earnings grow by only 0.6 per cent in 2022.

Lower-income households will also suffer from cut to social security...

The return to falling real wages is being compounded for many at the lower end of the income distribution – in and out of work – by the end of the Covid-related increase in Universal Credit. Its reduction at the end of September was the most significant overnight cut to the basic social security rate since World War II, according to the Joseph Rowntree Foundation (Costa Dias et al, 2021).

...while higher income taxation will affect all but the lowest paid and those reliant on non-labour income

Less painful for those affected, but broader in its base and therefore macroeconomic impact, is the increase in National Insurance contributions announced in September (see 'Fiscal policy' on page 23). As discussed in Box D, this will result in lower post-tax earnings when it comes into force from April 2022, but also thereafter, as it increases companies' overheads and may result in lower wages being offered. Higher corporate taxes in future, resulting from the March Budget, may also increase employer resistance to granting higher pay increases.

But the continuing recovery in employment – and income from property and investments – will support incomes for others

Helping to offset the bad news for some households, aggregate incomes will be supported by the continued movement of unemployed or inactive workers into jobs (Table A7), with unemployment forecast to average 4.4 per cent in 2022. Much of next year's projected real income growth of 2 per cent (Figure 1.11) is contributed by this return to pre-Covid unemployment levels and a forecast recovery in 'Other income', including rental and dividend income.

The employment recovery will be uneven, led by healthcare but lagging in hospitality and retail

Figure 1.12 shows the contribution of employment growth over the next five years for the eight sectors of NIESR's UK sectoral model, NiSEM (see Lenoël and Young, 2021, for a description of the model). The public sector – public administration and defence, education and healthcare (see Table 1.11) – acted as a shock absorber during the pandemic by increasing employment when nearly all other sectors were reducing headcounts, even with the CJRS in place. Employment increased by 110,000 in 2020 and we expect it to increase by 500,000 in 2021, driven by a surge in healthcare spending.

Box C: Wage pressures: a perspective from online job advertisements

by Jack Kennedy¹

Advertised pay in job postings on job listings website Indeed is rising fast in sectors where surging demand for new workers has outpaced supply. In rebounding sectors like food, distribution, construction and manufacturing, employers have been hiring at pace for months. However, the supply of jobseekers in those sectors has not kept up, leading to reports of labour shortages.

The result has been hefty increases in advertised pay for certain categories, adjusting for shifts in the mix of job titles within each occupation and the location of jobs over time. But across the economy more broadly, advertised pay has been rising at a much more modest pace.

Driving (+8.8 per cent) is the occupation with highest pay growth since the start of 2021. Interestingly, jobseeker interest in driving roles has been recovering (as measured by clicks per posting relative to the average job on Indeed). That may be related to some combination of intense recent media attention on driving shortages and jobseeker awareness of higher wages and generous signing bonuses for many of these roles. Consequently, clicks per posting for driving roles are now only 7 per cent down on their January level.

Table C1 Growth in posted wages, six occupations with highest growth

Occupation	Growth in posted wages, Jan-Oct 2021	Change in relative clicks per posting, Jan-Oct 2021
Driving	8.8%	-7.0%
Construction	8.0%	-11%
Production & Manufacturing	6.0%	-18%
Nursing	5.6%	45%
Loading & Stocking	5.6%	-46%
Food Preparation & Service	4.6%	-49%
All jobs	1.9%	-

Source: Indeed

Data from 1 Jan to 22 Oct 2021. Growth in posted wages is adjusted for shifts in mix of job titles and locations within occupations over time. Change in clicks per posting is relative to all jobs

As seen in Table C1, the other categories that have seen fast pay growth this year have generally experienced falling jobseeker interest, meaning employers hiring for these jobs are likely to face greater difficulties attracting candidates.

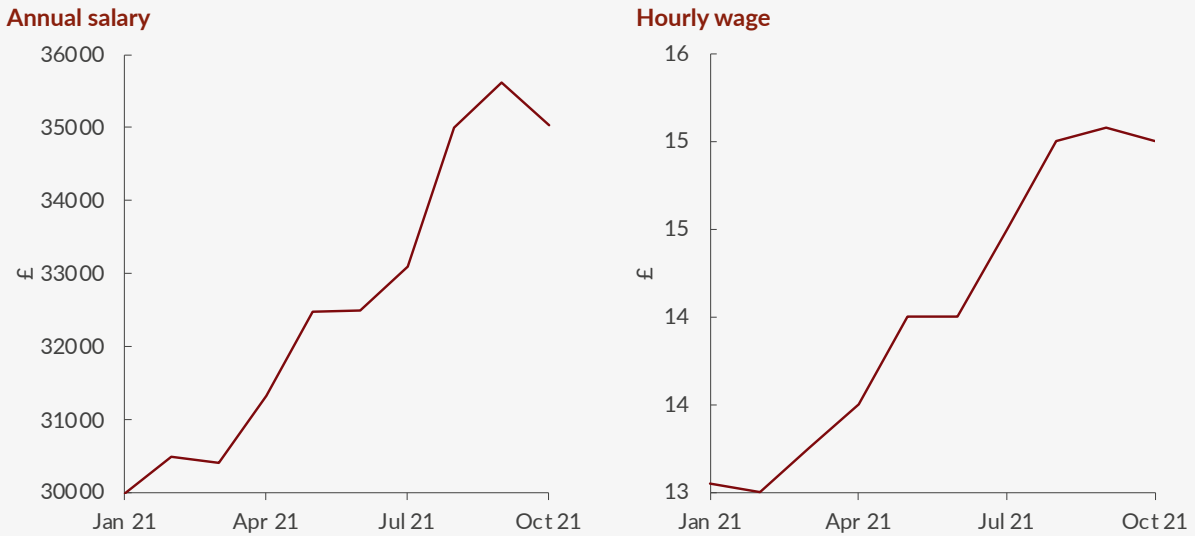
Construction has seen the second-highest rise in wages (+8.0 per cent), alongside an 11 per cent decline in relative clicks per posting. Manufacturing (+6.0 per cent), loading & stocking (+5.6 per cent) and food preparation & service (+4.6 per cent) have also seen advertised wages rise amid falling jobseeker interest.

One category where that is not the case is nursing, where wages have increased 5.6 per cent despite a 45 per cent increase in relative clicks per posting. This could reflect, in part, recently approved pay increases in the NHS. But nursing has long been one of the toughest roles for employers to fill, so any recent increase in jobseeker interest is unlikely to have materially changed the ease of hiring amid acute shortages of qualified nurses.

Within the driving category, advertised pay rates have risen most for HGV drivers. HGV driver job postings containing annual salaries are up 17 per cent since January, while those mentioning hourly wage rates are up 15 per cent. That said, the most recent data suggests pay pressures for HGV drivers may have peaked in September, with October showing a slight easing (Figure C1).

¹ UK economist, Indeed

Figure C1 Median annual salary and hourly wage in HGV driver job postings on Indeed UK

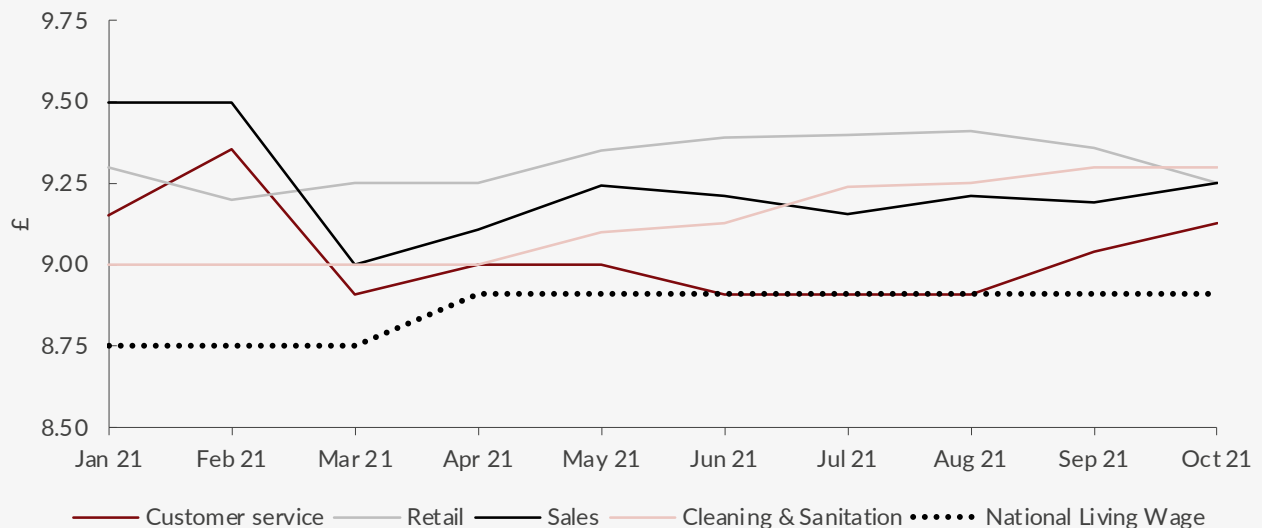


Source: Indeed
Data from 1 Jan to 22 Oct 2021. Some postings list hourly wages while others list annual salaries.

HGV drivers are a special case, reflecting an ageing workforce and qualification requirements (in addition to the fast economic recovery and a Brexit-related drop in foreign candidates).

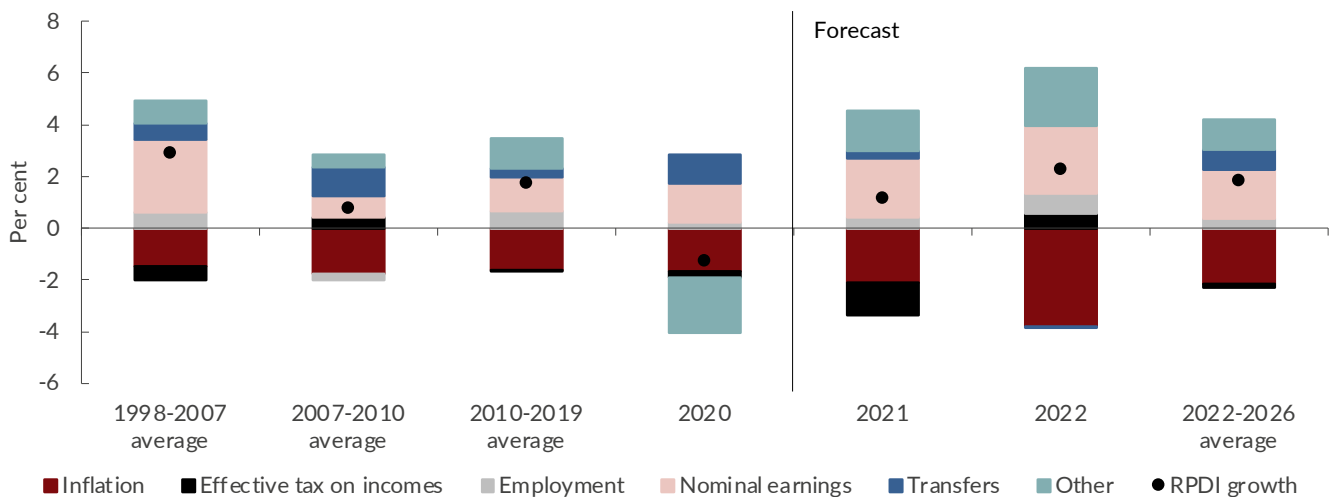
In contrast, pay for the average job title is up by an unremarkable 1.9 per cent since January (2.3 per cent annualised), adjusted for compositional changes. In the lowest-paid occupations, such as cleaning, customer service, retail and sales, advertised hourly pay rates are merely tracking the National Living Wage (though the 6.6 per cent increase announced for next year is good news for these workers).

Figure C2 Median advertised hourly wage in the four occupations with the lowest hourly rates 1 January to 22 October 2021



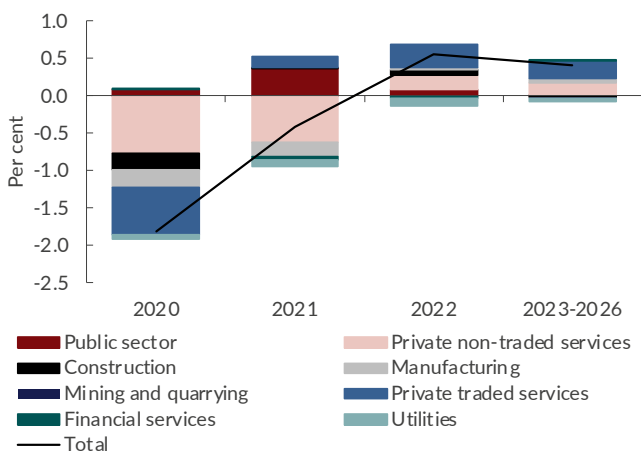
Source: Indeed
Job postings advertising an hourly wage only.

The data on advertised wages suggest some employers are raising advertised pay to attract candidates. However, upward pressure on wages advertised in job postings appears limited to a few sectors where hiring bottlenecks are most severe. The labour market is still some way from a full recovery and this may be dampening wage growth in many sectors of the economy.

Figure 1.11 Contribution to annual growth in real personal disposable incomes

Source: ONS, NiGEM database, NIESR forecast and calculations.

The two other large sectors of the economy by employment are the internationally traded and non-traded services sectors, each accounting for about 9 million jobs. In 2020, employment fell in both, consistent with a generalized fall in economic activity: by 220,000 in traded services (transport, communications, professional activities and business support) and by 270,000 in non-traded services (hospitality, retail, arts and real estate).

Figure 1.12 Contribution of employment growth by sector over the next five years

Source: ONS, NiSEM forecast

However, in 2021, employment is expected to rebound only in traded services, increasing by 50,000 thanks to rising headcounts in professional scientific and technical activities and transport. In particular, the transport sector is trying to recruit at pace but is having difficulties attracting enough labour despite rising wages (see

Box C). In contrast, we forecast employment in non-traded services to decline by a further 215,000 this year, because of substantial scarring to industries like arts and entertainment, hospitality and retail. Next year, employment growth is set to be more even across sectors, with non-traded services finally contributing positively to employment growth.

Good news for drivers, landlords and those looking for work; bad news for workers and Universal Credit recipients

Clearly the outlook for income growth in 2022 will vary between households: better news for those finding work, those with skills that are currently in high demand, or those whose income is not subject to the new Health and Social Care Levy. The picture is worse for those in receipt of Universal Credit and those whose income derives from labour and who are receiving wage increases below the rate of inflation.

Little sign so far of the changes needed for a permanent transition to a high wage economy

In the short term, the Government can help to ease some supply shortages with temporary visas for workers in the affected sectors. In the long term, sustainable growth in earnings and the transition to a high-wage economy will require investment in skills and other productivity-enhancing areas. In the meantime, there may be relative gains for some sectors, trades and professions, but if inflation remains above target, real gains will continue to be limited.

We expect real incomes during the rest of the forecast period to grow at a similarly historically disappointing rate as during the 2010-2019 period: a failure to control inflation represents one major downside risk while faster productivity growth constitutes a major upside risk.

Household savings set to return to lower levels

Our forecast is for the household savings rate to fall relatively quickly from 11 per cent in 2021 to 6-7 per cent in 2022 and 2023. Household balance sheets will be supported by further growth in house prices, though this is forecast to slow from the recent rapid rate over the forecast period.

Taken together, these factors lead us to forecast growth in consumption of 8 per cent in 2022. There are clear downside risks to this, most notably that declining consumer confidence may lead to a higher savings rate, and potentially early warning signs in mobility data, (as seen in Figure 1.3 on page 7).

Firms

Production bottlenecks are slowing down the economic recovery

In response to a negative shock from supply chain issues an economy can increase capacity or reduce demand to close the gap between demand and supply. In practice, both are likely to happen. Faced with higher input costs, delivery delays and a lack of skilled labour in some sector, firms are not able to keep up with the recovery in demand and some plants must even run below capacity. This is likely to lead to a temporary reduction in labour productivity that will last for as long as the supply chain problems.

Production bottlenecks are limiting the ability of businesses to increase their production capacity to respond to higher demand

Thanks to the lifting of most Covid-19 restrictions in the summer, most businesses are now able to operate without government-imposed restrictions. But some businesses that had reduced their headcount and operations are now finding it difficult to scale up quickly to respond to the increase in final consumption. On the labour side, employers are reporting difficulties in increasing their headcounts (see 'Households', page 13). Supply-chain disruptions, meanwhile, make it a challenge to obtain the necessary intermediate products because of delivery delays, lack of availability of key input products and rising prices, which are global problems.

Shortages of intermediate goods force manufacturers to slow down production with ripple effects across the economy

For example, the current global microchip shortage has forced the automotive industry to reduce its production. The number of cars produced in the UK in August was 27 per cent lower than a year earlier (37,000 down from 51,000) according to Society of Motor Manufacturers and Traders. In turn, this means reduced business for the companies (domestic and overseas) that form part of the car production supply chain, as well as car dealers.

Supply chain issues are likely to last well into 2022

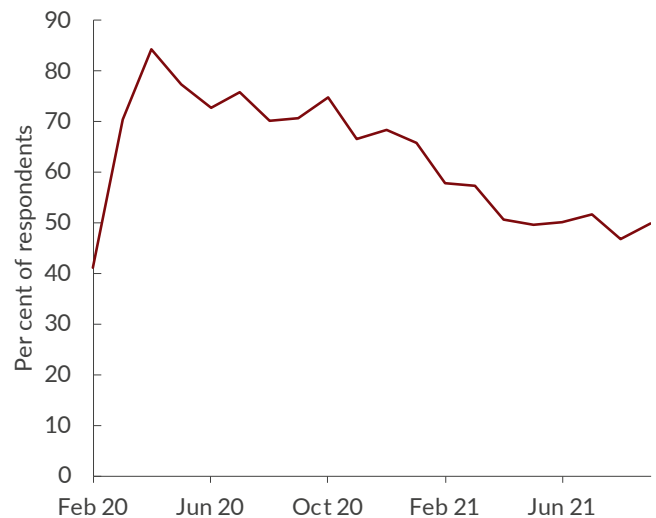
In the automotive industry, microchip shortages are

expected to last until the second half of 2022. The shortage of HGV drivers is particularly impacting the food and drink industry, creating wide-spread shortages that could last into 2023 and 2024. In our main-case scenario, we assume that trade (both imports and exports) is negatively impacted by supply-chain disruption until the middle of next year.

Elevated uncertainty weighs on investment intentions

According to the Bank of England's September Decision Maker Panel, 50 per cent of respondents estimate that uncertainty about future sales is currently high or very high. This is down from a peak of 84 per cent in April 2020, but still higher than the pre-pandemic level of 40 per cent in February 2020 (see Figure 1.13). While uncertainty related to Covid-19 seems to be decreasing, Brexit is still a significant source of uncertainty. The possibility of the Northern Ireland protocol being renegotiated (or scrapped) could have a significant impact on the EU-UK Trade and Cooperation Agreements as the European Union may ask for something in return. The Bank of England survey noted lower investment intentions in September compared to August, suggesting that investment will not return to its pre-pandemic level until 2022.

Figure 1.13 Business uncertainty index



Source: Bank of England Decision Maker Panel

Housing investment and government investment have both had a strong 2021

Private housing investment has recovered from the pandemic-induced lockdowns and in the second quarter of 2021 was already higher than in the fourth quarter of 2020. We forecast growth in private housing investment to moderate from 13 per cent in 2021 to less than 1 per cent in 2022 as the combined effects of higher house prices and higher interest rates make housing less affordable.

Overall, we forecast total gross fixed investment to rise by 5.4 per cent this year, supported by a 10.7 per cent rise in government investment.

We forecast business investment growth to be flat in 2021 after having dropped by 11 per cent in 2020

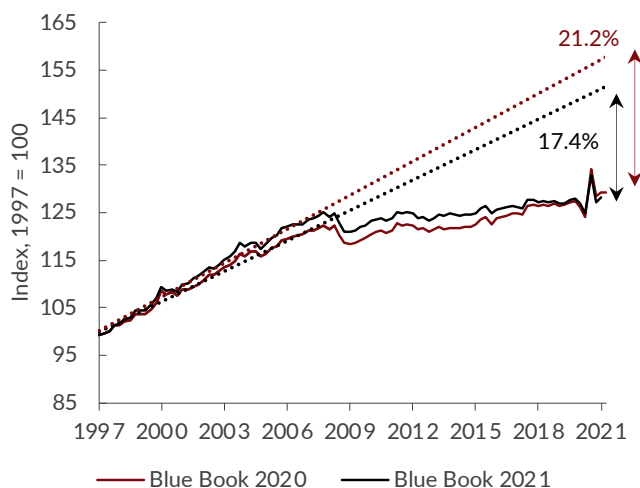
Our forecast for business investment growth in 2022 (Table A6) has been revised upwards from 9 to 11 per cent, driven by a reduction in uncertainty, improved business confidence on the back of an assumed easing of supply-chain issues globally, and positive spillovers from higher public investment.

After a year of no growth in 2020, the private capital stock is forecast to rise by 1.4 per cent on average annually between 2022 and 2025.

Lending to smaller corporations has declined while lending to larger corporations increased

Despite favourable financing conditions, demand for lending declined in the third quarter of this year for both small and medium sized businesses according to the latest Bank of England Credit Conditions Survey. It was the fourth quarter in a row that demand for lending by small businesses had declined. This is in stark contrast with large businesses, which increased their demand for lending every quarter over the same period. One explanation for this divergence is that large businesses tend to trade more internationally and therefore have benefitted from stronger demand abroad. Larger businesses may also be more diversified, making them intrinsically more resilient to idiosyncratic shocks like Covid-19.

Figure 1.14 Labour productivity per hour



Source: ONS, NIESR calculations

Productivity

The post-2008 productivity gap looks smaller as a result of data revisions

Following the introduction of double deflation in the ONS Blue Book 2021, the gap between the actual level of labour productivity in 2019 and the level implied by a continuation of the pre-2008 trend has been reduced from 21 per cent to 17 per cent (see Figure 1.14). This obviously does not explain fully the puzzle of why productivity growth slowed after 2008, but it shows that the difficulty in measuring prices in a changing economy can explain part of it. Other explanations generally given for the productivity puzzle are slow demand growth after the Global Financial Crisis (GFC), austerity policies and labour market factors (see a survey of economists' opinion in Ilzetzki, 2020).

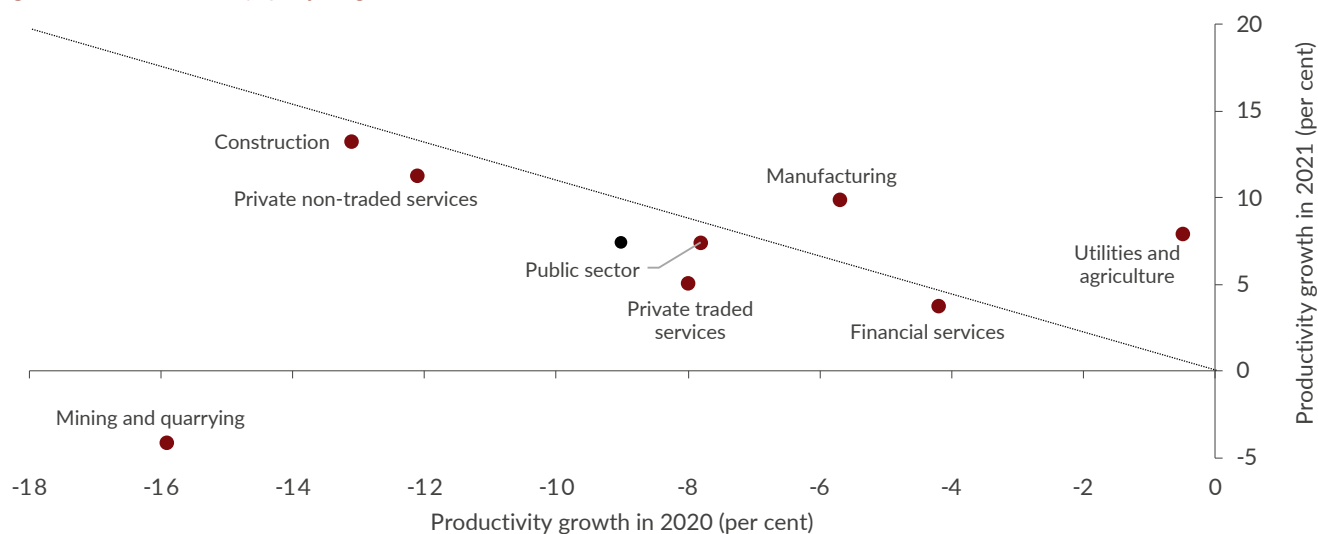
Productivity has improved in manufacturing

Labour productivity declined in 2020 in every sector of the economy, with the largest fall being a 16 per cent drop in output per worker in mining and quarrying, and the smallest drop being a half a per cent drop in utilities and agriculture. In 2021, we expect productivity to increase in nearly every sector; the sectors that should see the biggest productivity pick-up are those where productivity declined most last year (see Figure 1.15). One sector expected to make productivity gains is manufacturing. In the second quarter, employment in manufacturing was lower by 150,000 (or 5.7 per cent) compared with the average of 2019, whereas output was only down by 2.1 per cent over the same period.

Future trends in productivity growth will depend on whether favourable productivity gains (or smaller losses) in industries with above-average digital intensity outweigh negative effects from the pandemic, in particular scarring effects on labour markets and business dynamics (see de Vries et al, 2021).

Our main-case scenario envisages 0.5-1.0 per cent annual growth in labour productivity in the medium term

Labour productivity increased by only 0.1 per cent in the second quarter of 2021, as hours worked recovered at about the same rate as GDP after the winter lockdown. Our main-case scenario is for labour productivity to grow by 0.6 per cent in 2021 (Table A7), slowing to decline by 0.1 per cent per cent in 2022 as production bottlenecks temporarily reduce productivity, but hours worked per employee return to pre-pandemic levels. Productivity growth is then projected to increase at the end of the forecast horizon from 0.5 per cent a year to close to 1 per cent, driven by gains from digitalisation. This rate of productivity growth represents an acceleration compared to the post-GFC average of 0.5 per cent annually, but is still slower than the 1.9 per cent pre-GFC. There are significant downside risks; for example, productivity gains may be concentrated in already high performing businesses with limited spillover effects to the rest of the economy, and investment in R&D and new technologies may be weaker due to a deterioration in companies' balance sheets or persistent demand deficiencies.

Figure 1.15 Productivity (per job) growth rate

Source: ONS, NiSEM forecast

Given the uncertain productivity effect of Covid-19 and potential reorientation of trade post-Brexit), the launch of the Productivity Institute is a welcome initiative to resolve a decades-old political problem which has recently become even more stark⁴. The first evidence session, ‘Sizing the Productivity Problem’, will take place on 23 November.⁵

Trade

The pandemic has caused a shift towards increased spending on goods rather than services

Restrictions on mobility have caused a change in consumption patterns – specifically, consumers now spend relatively more on goods than they can order online than on services. This has large consequences for trade figures. Imports of services, including tourism, declined by over 30 per cent in the second quarter of 2021 compared to the average of 2019, while imports of goods declined by only around 10 per cent over the same period. The relative increase in goods versus services purchases has created supply-chain issues that are likely to last until 2022 because some shifts in consumption pattern are likely to be permanent, with Covid-19 virus and its mutations unlikely to disappear any time soon according to scientists.

Global supply-chain problems have led to delays and higher shipping costs

The sooner-than-expected strong recovery in world trade has exhausted global shipping capacity as there are insufficient container ships to respond to higher demand

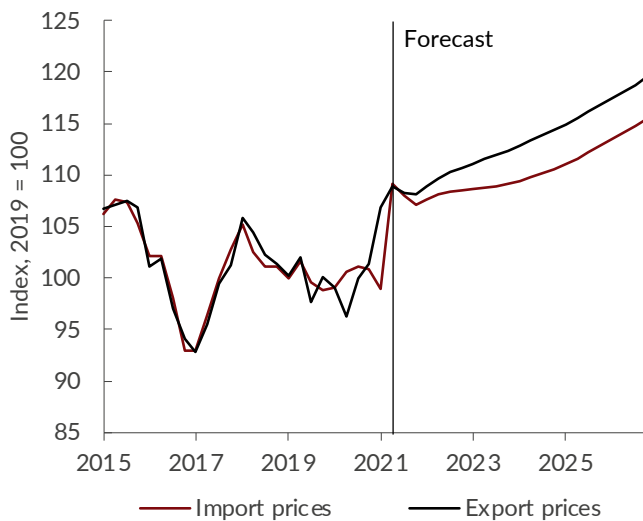
for international goods trade and Covid-19 restrictions have extended port stay times. As a result, transportation costs have increased dramatically: the cost of shipping from Asia to North Europe, for example, has increased by more than 600 per cent in a year according to the Freightos Baltic Index. Disruptions related to Covid-19 are also creating congestion and delays. In August, the world’s third largest container shipping port – Ningbo in mainland China – suspended operations for two weeks after a worker tested positive for Covid-19. The average transit time for China-US sea freight has increased by 70 per cent during the pandemic, from 43 days in December 2019 to 73 days in September 2021 according to Freightos.

Import and export prices are increasing as a result of the higher shipping costs

Shipping costs are a component in import and export prices, and such additional costs are reflected in higher prices for intermediate and final goods. Figure 1.16 shows the increase in average prices for goods and services imports and exports in US dollars since the beginning of the pandemic. Because supply-chain issues increase both import and export prices by a similar amount, there is no net impact on the terms of trade, but the increase in the sterling effective exchange rate since last year has led to an increase in the terms of trade of 2 per cent in 2021 (see Table A4). We would expect shipping capacity to catch up to demand, but this will be a gradual process because building new cargo ships or increasing loading capacity in ports takes time.

4 See Chadha, J., ‘Why has UK productivity fallen short?’, Prospect, September 2021 <https://www.prospectmagazine.co.uk/economics-and-finance/why-has-uk-productivity-fallen-short>

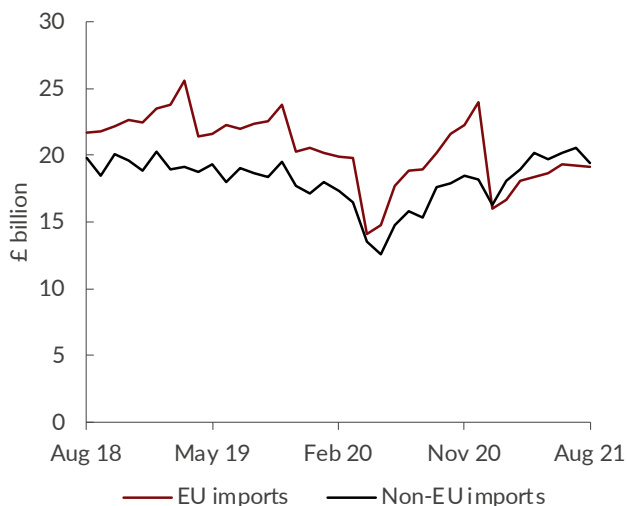
5 See <https://www.niesr.ac.uk/events/sizing-productivity-problem-evidence-session-productivity-commission>

Figure 1.16 UK import and export prices (in US dollars)

Source: NiGEM database, NIESR forecast

Brexit has caused a diversion of trade away from the European Union

Before Brexit, the UK imported most of its goods from the EU market but, since the end of the Brexit transition period, has imported more goods from the rest of the world than from the EU (see Figure 1.17).

Figure 1.17 UK goods imports

Source: ONS

This is to a large extent because the new border controls created by the EU-UK Trade and Cooperation Agreement (TCA) will increase the relative cost of importing goods from the EU compared with the rest of the world, and importers have anticipated the enforcement of those rules planned for January 2022. The impact of Brexit on exports is more ambiguous: there was a sharp drop in

exports to the EU in January when the transition period ended, but exports to the EU have since recovered, and are now on a par with non-EU exports.

We forecast UK trade to grow more slowly than GDP in 2021 because of supply chain issues, but to accelerate next year as production bottlenecks ease

In our main-case scenario, exports grow by 0.5 per cent and 13 per cent in 2021 and 2022 respectively, after having dropped by 15 per cent in 2020. Following a broadly similar pattern, we project imports growing by 3 per cent and 16 per cent in 2021 and 2022 respectively, after having dropped by 17 per cent in 2020. There is a clear downside risk that supply-chain issues could last longer than our forecast, negatively affecting trade and also consumption as production difficulties reduce the availability of goods.

The current account deficit settles at around 3 per cent of GDP

We expect the current account deficit to shrink this year to about 1.7 per cent of GDP (see Table A4), but quickly return to around 3 per cent from 2022. This is slightly lower than the 3.8 per cent average between 2009 and 2019 driven by two assumptions: firstly, that households' additional spending on housing has a lower import content than other type of expenditure and, secondly, that we expect lower capital inflows from the EU following the Brexit transition period, leading to a softer than otherwise exchange rate.

Fiscal policy

Supportive fiscal policy gives way to tightening

Unprecedented fiscal support for business and household incomes since the beginning of the Covid-19 pandemic will soon be replaced by a return to somewhat more orthodox and restrictive policy. Despite the headlines about fiscal loosening, and the Chancellor choosing to spend some of the gains from faster growth, the overall stance of fiscal policy in the next three years was characterised by the Office for Budget Responsibility (OBR) as a "sharp tightening" while the Resolution Foundation estimate that the additional spending will mean only a third of the cuts to unprotected departments' spending power since 2009-10 being reversed.

Borrowing close to 7 per cent of GDP this year is likely

Government borrowing surprised on the downside for the first few months of the fiscal year, with both spending lower and receipts higher than in the OBR's February forecast. As a result the fiscal arithmetic at the Budget was easier than anticipated at the start of the year, with a fiscal 'windfall' of around £38 billion reported by the OBR.

Higher interest rates offset some of the good news for the Chancellor

In the fiscal year to date, borrowing has undershot projections, largely thanks to lower than expected costs for welfare payments and Covid-19 related spending

including the CJRS. Working to offset this has been higher than expected interest payments due to the rise in inflation and, therefore, interest on RPI-linked gilts. As we highlighted in our Spring UK Economic Outlook (Macqueen, 2021) higher interest rates resulting from stronger demand constitute a risk to the public finances only insofar as they reduce some of the fiscal windfall from higher GDP. In keeping with this analysis the OBR revised up estimated annual interest payments by £10 billion on average (including the effect of additional spending) across the forecast period: far less than the average £48 billion upward revision to forecast receipts resulting from the same changes to the underlying forecast.

However, as we also highlighted at the time, interest rate rises not driven by higher growth expectations – potentially including those that have occurred since the summer – may be more problematic and, given the expansion of the Bank of England's quantitative easing programme, merit a clear strategy for tightening unconventional monetary policy in such a way that neither exposes the government to unacceptable interest rate risk nor creates perverse policy incentives. NIESR has recently put forward suggestions for reducing the risk of fiscal encroachment by exchanging bank reserves for newly-issued short-dated government debt (see Allen et al, 2021).

Using out-of-date data has been of net benefit to the Chancellor in his negotiations with colleagues

The Government's decision to close the forecast early for the OBR's October projections reduced the upward effects of recent further increases in inflation and market interest rates on government interest payments. This would, however, have only partially offset a further improvement in the public finances from stronger underlying economic data released in late September: something which defers the additional fiscal windfall to a fiscal event not aligned with a Spending Review.

October's Budget loosened policy slightly compared with March

At the Budget on 27 October the Chancellor of the Exchequer announced policy decisions estimated to add some £13 billion on average to public borrowing over the next five years, incorporating but unaffected by the fiscally neutral tax-and-spending package for health and social care announced in September and included in our forecast baseline. This constitutes a relatively small change to our forecast path for fiscal policy. The Chancellor included in the Budget a welcome cut to the taper rate of Universal Credit, which will go some of the way to offsetting the effect of the earlier reduction in UC generosity, which we advised against in our Summer UK Economic Outlook (see Bhattacharjee et al, 2021). The rise in National Insurance contributions discussed in Box D is fiscally neutral but does help to raise our forecast for government receipts to around 38 per cent of GDP over the forecast period (Table A8).

Our forecast was finalised before the Budget and

Spending Review were published but did not incorporate the Quarterly National Accounts published in September which revised GDP estimates upwards. Simulating the measures announced at the Budget using NIESR's macroeconomic model, NiGEM, we estimate that the small fiscal expansion announced would raise GDP by 0.5 per cent next year, with supply constraints meaning that part of its effect is to raise inflation and reduce net trade.

The timing of the Chancellor's fiscal consolidation is risky...

The result of the decisions announced in late October is an effective fiscal tightening; this will happen which is now likely to coincide with a monetary tightening at around the same time as the economy regains its pre-Covid level, but remaining well below previous trend. While Covid-specific measures such as the CJRS have hopefully run their course, there is little macroeconomic justification for the continuation of tight public spending settlements.

...and cannot be coherently justified on the basis of a far from optimal approach to fiscal targets

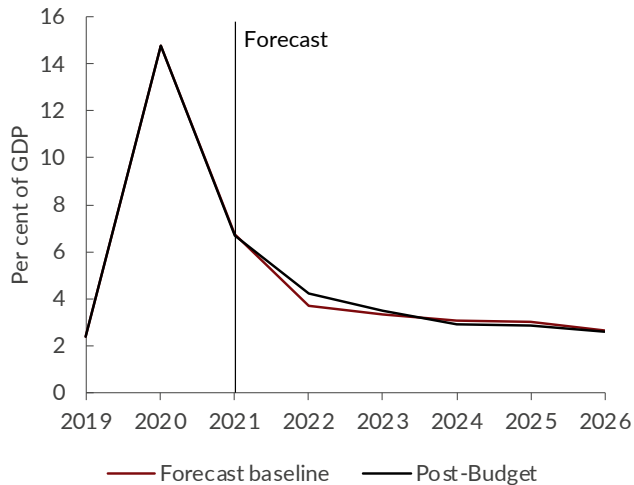
The latest set of fiscal rules provides a post factum justification for the fiscal stance announced at Budget but suffers from many of the same problems as previous fiscal rules, mistakenly placing the focus of fiscal policy on the tools rather than targets of economic policy. We welcome progress towards a whole balance sheet approach at HM Treasury but believe a new approach to fiscal events ought to incorporate a stricter timetable, greater parliamentary scrutiny, a clearer focus on the state of the economy and a more granular analysis of the socio-economic implications of policy choices (see Chadha et al, 2021, in particular Chapter 1).

Especially with the early close to the forecast, the suspicion remains that the Chancellor has reverse engineered fiscal rules which will justify loosening fiscal policy in 2023 or 2024: something which may be popular and indeed better policy, but the timing of which undermines the supposed purpose of having such rules.

Deficit expected to fall rapidly back to pre-Covid levels

In our central case forecast scenario, finalised before the Budget, the deficit falls to 3.7 per cent of GDP next year and below 3 per cent by the end of the forecast period. Incorporating the measures announced at the Budget into our underlying forecast we estimate the public sector deficit would be 4.2 per cent of GDP next year (see Figure 1.18), 3.5 per cent in 2023-24, and almost unchanged in subsequent years.

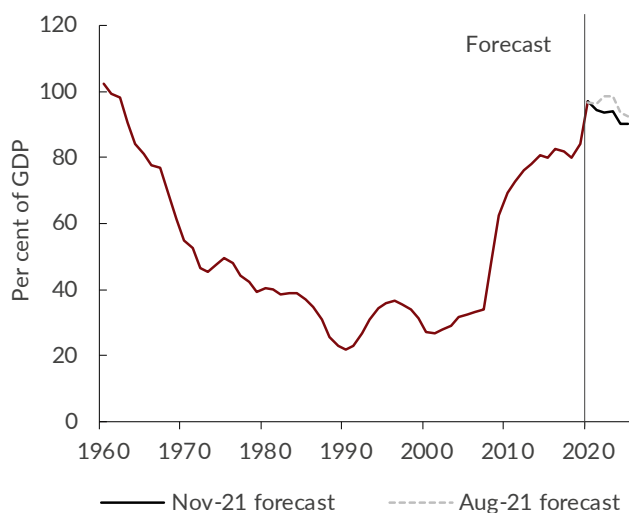
In our baseline forecast scenario the Government does not meet its new fiscal target of balancing current expenditure and taxes by 2024-25: we forecast the surplus on current spending not arriving until 2026-27, though at a five-year horizon forecast errors are likely to dwarf any forecast surplus or deficit.

Figure 1.18 Government deficit: baseline and incorporating Budget measures

Source: NIGEM database, NIESR forecast and calculations, HM Treasury

Government debt is no longer expected to approach 100 per cent of GDP

The debt ratio, which rose significantly in response to the pandemic, is forecast to fall from 94.2 per cent this year to 93.6 per cent next year (Figure 1.19), returning below 90 per cent of GDP at the end of the forecast period. The small fiscal expansion announced at the Budget will have a marginal effect on the level of public debt as a share of GDP over the forecast period.

Figure 1.19 Public sector net debt

Source: ONS, NIESR forecast. Note: Forecast completed before Budget and Spending Review

The modern trend for pre-Budget leaks undermines the setting of fiscal policy

We share the disappointment of the Speaker of the House of Commons that elements of Budgets are repeatedly placed into the public domain in advance of their announcement to the House. HM Treasury's attention to controlling the news flow undermines their credibility in managing structural reform in the economy and the Budget as economic plan, does not as a result get the scrutiny it ought to. We call on the Government to end this practice and on Opposition parties to commit to do so should they form a future Government.

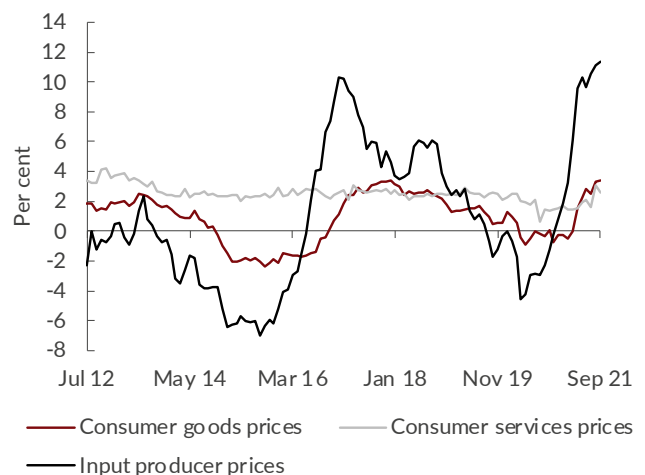
There is adequate fiscal space for the investment needed to meet our climate goals

As COP26 takes place there is no justification for the Treasury not to borrow for the investment required for a green future. The argument that to make future generations pay by taking on debt now is a specious one.⁶ Future generations will start life with higher incomes, partly as a result of carbon emissions, and will be those with most to gain from a sustainable planet. The UK's ability to issue debt offers a degree of freedom in the trade-offs between efficiency and equity in raising revenues.

Inflation and monetary policy

Consumer price index inflation to peak early next year

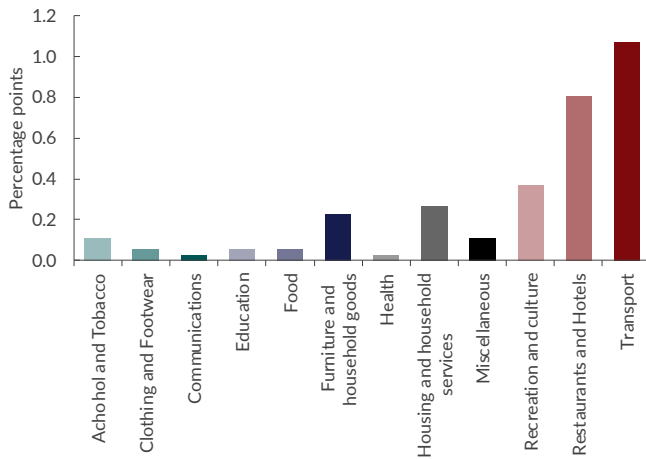
Year-on-year consumer price index inflation has continued to rise, with the peak not likely until the second quarter of next year. From 0.7 per cent in March, CPI inflation rose to 2.5 per cent in June and to 3.1 per cent in September (Figure 1.20).

Figure 1.20 UK annual inflation

Source: ONS

⁶ See Chadha, J. 'Think of investment in net zero as the planet's running costs', Letter to Financial Times, 22nd October 2021

Figure 1.21 Contributions to September CPI inflation



Source: ONS, NIESR calculations

Much of the acceleration during the third quarter was due to base effects; for example, café and restaurant prices fell last year due to the Eat Out to Help Out scheme, which did not repeat in 2021. There were also substantial contributions to September’s inflation from transport, recreation and culture (Figure 1.21). While some prominent outliers in inflation distort the average upwards, about a quarter of the 720 categories have rates above 4.8 per cent year-on-year (Figure 1.22).

More adverse price shocks are on the way

Significant contributions to inflation will come in November due to higher energy prices (limited to 12 per cent by Ofgem’s price cap). There will be another, probably more significant, addition to prices next April when the energy price cap will again be due for review. In October 2021 and February next year, the cut in VAT on restaurants and hotels will reverse: this and assumed energy cap rises are modelled in Figure 1.23 which shows the evolution of annual inflation under four illustrative scenarios (not forecasts) for inflation, ranging between a future month-on-month rate consistent with 1 per cent annual inflation and one consistent with 6 per cent.⁷

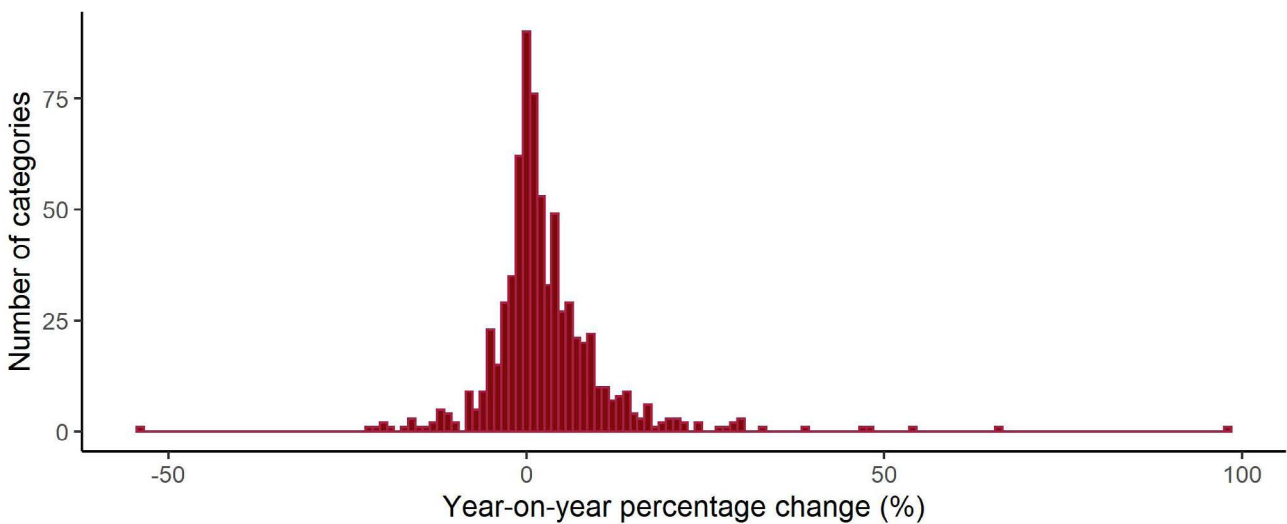
Inflation is forecast to peak around 5 per cent

Together with an above-target rate of underlying price increase of, we estimate, a little under 0.3 per cent per month, we expect inflation to be over 4 per cent at the end of this year, rising to average 4.9 per cent in the second quarter of next year, and likely rising above 5 per cent in the process (Table A2).

Input costs are picking up

Widespread supply shortages and high transport costs are pushing up input prices. Allowing for a modest increase in productivity growth, underlying increases in unit labour costs in 2022 would contribute over 2 percentage points to inflation.

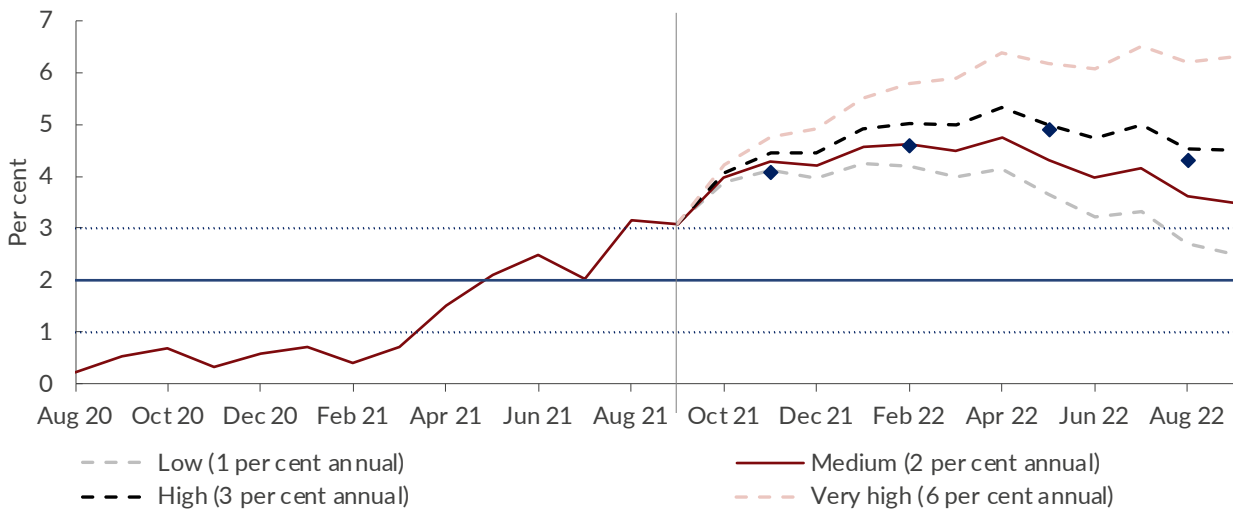
Figure 1.22 Distribution of year-on-year changes across CPI basket categories (September 2021)



Source: ONS

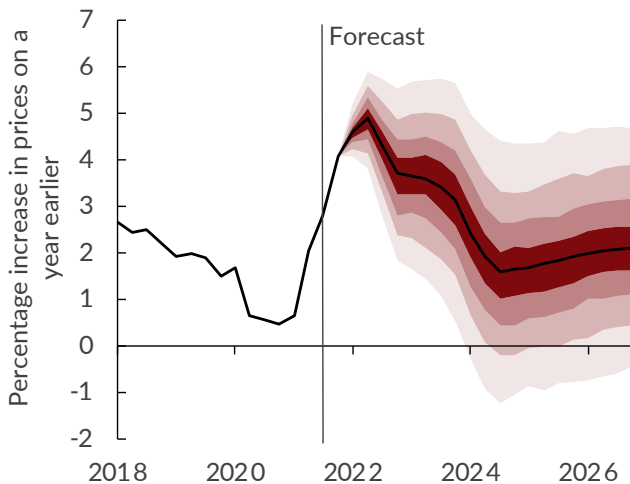
7 For more details, see Dixon, H. ‘CPI Inflation, September 2021’, NIESR Blog, 20 October

Figure 1.23 Illustrative paths for inflation



Source: NIESR calculations and forecast

Figure 1.24 Inflation fan chart



Source: NIGEM database, NIGEM forecast, NIGEM stochastic simulation

Notes: The fan chart is intended to represent the uncertainty around the main-case forecast scenario shown by the black line. There is a 10 per cent chance that CPI inflation in any particular year will lie within any given shaded area in the chart. There is a 20 per cent chance that CPI inflation will lie outside the shaded area of the fan. The Bank of England’s CPI inflation target is 2 per cent per annum.

Inflation expectations risk de-anchoring

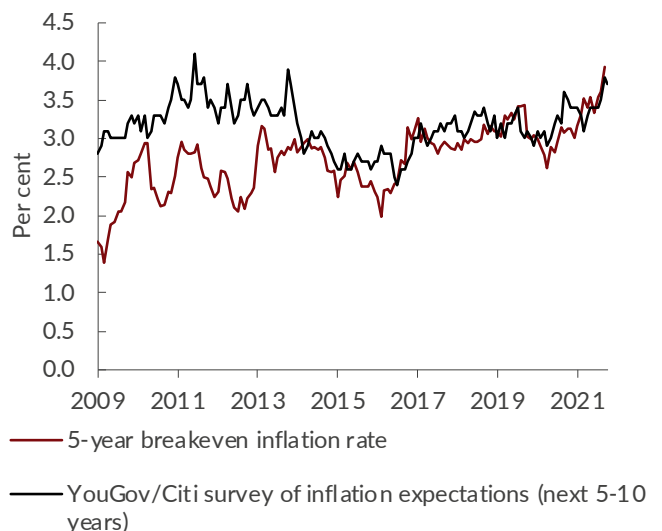
There is a danger that sustained, substantial price increases and reports of high pay settlements raise inflation expectations and fuel further increases via nominal wage growth and input costs. The break-even rate of inflation on government bonds has risen by about ¼ percentage points since the pandemic started, to 3.7 per cent. The Citi/YouGov poll of household one-year inflation expectations jumped to 4.1 per cent in September and 4.4 per cent in October, from

3.1 per cent in August, while five-to-ten year expectations rose to 3.8 per cent in September (see Figure 1.25).

The Bank of England now risks facing an uncomfortable trap of its own making

If it does not act soon to dampen inflation expectations, the Bank of England will face a policy dilemma of having to react to a persistent inflation overshoot at a time when economic growth is slowing.

Figure 1.25 Expectations of annual inflation



Source: Bank of England, YouGov/Citi, NIESR calculations. financial market expectations are based on 5-year break even inflation rates.

We expect that the Monetary Policy Committee (MPC) will act soon to minimise this risk, by raising interest

rates in the current quarter, by 15 basis points to 0.25 per cent, and delivering another quarter-point rate hike in the second quarter of 2022. Given slowing growth and an inflation decline after the peak in April next year, we expect the MPC to then pause the rate hike cycle, relying instead on reducing the Bank's balance sheet to signal its inflation-fighting credentials and influence expectations at a low cost to growth.

Inflation is expected to decline next year

After next spring, inflation should fall, due to this year's post-lockdown re-opening price increases dropping out of the twelve-month comparison, and, from mid-year, we expect supply shortages to begin to ease. One lesson of the inflation overshoot in 2011 is that getting back to 2 per cent after a spike can take a long time and it may be more difficult now than a decade ago, given that there is less unemployment, more excess liquidity, growth in foreign markets is better (in particular the Eurozone), the banking system is not damaged, and fiscal and monetary policy have thus far been more accommodative. Additionally, globalisation forces have waned, and Brexit means a more limited labour supply.

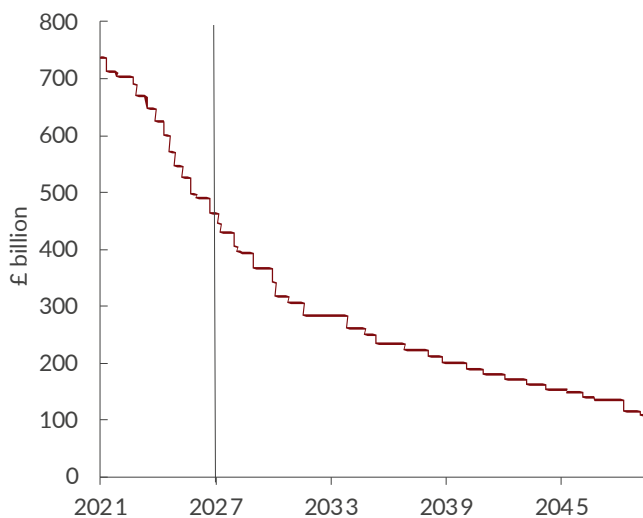
Reducing the Bank of England balance sheet will be done passively to begin with

In late October, the Asset Purchase Facility had assets of some £870 billion against an ultimate target of £895 billion, implying purchases continuing for a few months more. The MPC announced in August that it would begin to not reinvest maturing bond proceeds after rates reach 0.5 per cent. Reducing the balance sheet in this way is a much milder form of tightening monetary conditions than raising rates; it may be an effective signalling mechanism but the quantitative effects are uncertain and it will be a long and possibly not straightforward process (see Lenoël, 2021). Figure 1.26 shows that, if holdings were allowed to reduce only through maturing rather than selling (and QE was not expanded) face value gilt holdings would fall from £740 billion today to £490 billion in 2026-2027.

Further interest rate increases forecast for 2023

Rate rises are then expected to resume in 2023, reaching 1.6 per cent by the last quarter of 2024 (Table A1). Inflation will remain above target until 2024 because we expect that the MPC will judge the output cost of faster disinflation to be excessive. Our assessment is that there are balanced risks around our rate profile.

Figure 1.26 Size of Asset Purchase Facility holding of gilts if no further active acquisitions or sales



Source: Bank of England, NIESR calculations

Even with an early tightening of policy by the Bank of England inflation only returns to 2 per cent in 2024

Upside risks to our forecast include more supply-driven increases in prices, wages rising more quickly for longer, and firms seeking to pass on in prices the increases in corporate taxes legislated this Spring. Downside risks emanate from shortages easing sooner, lower energy prices, slower wage growth, and weaker demand, possibly due to a more aggressive series of rate hikes. We judge these risks to be broadly balanced.

Box D: The new employment tax¹

by Paul Mortimer-Lee

Background

In September, the government announced a new Health and Social Care Levy: initially a surcharge on existing National Insurance contributions, but with an extension to dividends. The levy will be 1.25 per cent on employee NICs and 1.25 per cent on employers, in total it is expected to raise some £14 billion per year, though there will be a refund of around £2 billion to public sector employers to compensate them for their higher costs. The net increase in revenues, £12 billion, is equivalent to about 0.6 per cent of Gross Domestic Product (GDP).

Analysis

Historically, public resistance to paying higher National Insurance contributions is lower than to paying higher income taxes. The public may also be more willing to pay hypothecated taxes (see Doetinchem, 2010), suggesting that taxpayers seeing what they (think they) get for their money makes them more willing to contemplate higher spending. However, others favouring hypothecation have argued that voters better understanding the tax implications of spending will oppose increased outlays (Teja and Bracewell-Milnes, 1991; Wilkinson, 1994).

The levy will apply to dividends as well as employment incomes, but not to pensions or other forms of non-work income. It increases the tax burden on workers relative to the retired, with the latter group also set to benefit most from increased health and social care spending. Since taxes on self-employment incomes will rise by 1.25 percentage points, instead of 2.5 percentage points in total on employment incomes, the incentive to be self-employed increases.

Who will bear the tax burden? Economic theory says that it does not matter to which side of the labour market a tax applies - the ultimate incidence of the tax depends not on who first pays the tax but on the demand and supply conditions in the labour market. Thus, splitting a tax rise between employers and employees, as with the levy, is economically unnecessary and merely obscures the size of the tax increase. The standard economic wisdom is that since the demand for labour is far more elastic than the supply, employees bear all of the burden of payroll taxes, whoever pays the initial tax (see, for example, Brittain, 1971). However, this may not apply fully in the short run (see Alvaredo et al., 2017; Beach and Balfour, 1983).

Table D1 Labour shares by sector (per cent)

Compensation of employees as a share of...	Value Added	Gross Output
Agriculture	37.7	14.0
Production	53.6	19.1
Construction	44.0	17.2
Distribution, transport, hotels and restaurants	68.0	35.9
Information and Communication	60.5	34.3
Financial and insurance	55.0	25.1
Real estate ²	6.3	5.1
Professional and support	62.4	35.8
Government health and education	76.4	47.5
Other services	54.6	36.0

Source: ONS

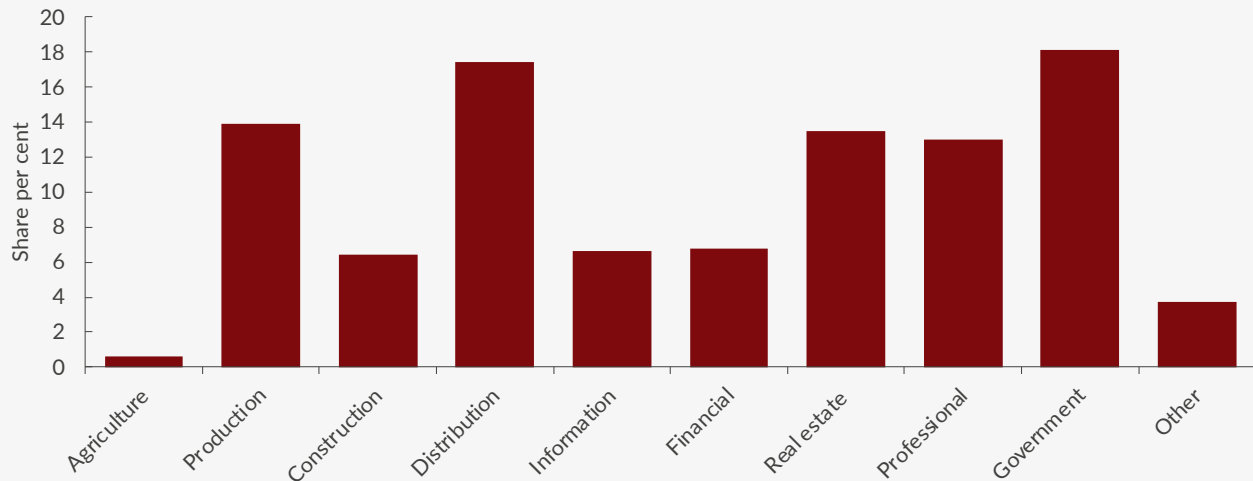
One of the chief criticisms of the levy is that the same tax revenue could have been raised more efficiently and equitably, for example, by raising income tax, which is levied on a wider range of income than National Insurance, which is payable only on labour income (extended here to include dividend income)..

1 The author would like to thank Jagjit Chadha, Rory Macqueen, Neil Lakeland and Barry Naisbitt for helpful comments, Cyrille Lenoël for NiGEM simulations and Patricia Sanchez Juanino for research assistance. The views expressed are his own, as is the responsibility for any errors.

2 Mostly imputed rent of owner-occupiers.

Just under 1 million businesses not eligible for the Employment Allowance will suffer from the tax. Firms with the most significant hit will be larger employers in industries with labour costs making up a large fraction of total costs. Table D1 shows that the sector with the highest share of labour costs is distribution, transport, hotels, and restaurants. This includes many businesses that were among the worst affected by Covid-19.

Figure D1 UK sector shares



Source: ONS, NIESR

Macro effects

Using NIESR's macroeconomic model, NiGEM, to simulate the increase in NICs, we find that the increase in the household tax burden will reduce real personal disposable incomes. A reduction in the savings rate means that consumption falls by less. Lower consumption and lower corporate profits will be a slight dampener on investment. Exports will be marginally weaker due to poorer competitiveness, but lower domestic demand means softer imports also. In total, we estimate that the tax increase would reduce consumption by about ¼ per cent after a year but by about ¾ per cent in the long-run.

However, the levy is fully allocated to finance increased public spending. Public spending has a lower import content than consumption, so switching resources from households to government increases the share of total spending going on UK-produced goods and services. If increased spending coincides with increased taxes, simulations suggest that GDP initially could be higher by about ¼ per cent.

The longer-run effect of increasing taxes and spending would be less favourable for GDP, with NiGEM suggesting a slight decline relative to the base. The clawback of the initial gain arises because part of the resources relinquished by the private sector would have gone on investment. Lowering investment will lower the future growth rate slightly. The main effects are to redistribute resources between sectors - making more resources available for public consumption by reducing the resources available for the private sector, mainly household consumption.

For a more in-depth discussion of this topic, see NIESR Policy Paper 030, 'The New Employment Tax', P. Mortimer-Lee, October 2021.

References

- Alvaredo, F., Breda, T., Roantree, B., & Saez, E. (2017) 'Contribution ceilings and the incidence of payroll taxes' *De Economist*, 165(2), 129
- Beach, C. M., & Balfour, F. S. (1983) 'Estimated payroll tax incidence and aggregate demand for labour in the United Kingdom' *Economica*, 50(197), 35–48
- Brittain, J. A. (1971) 'The Incidence of Social Security Payroll Taxes' *The American Economic Review*, 61(1), 110–125
- Doetinchem, O. (2010) 'Hypothecation of tax revenue for health' Geneva: *World Health Organization*
- Fullerton, D., & Metcalf, G. E. (2002) 'Tax incidence', *Handbook of Public Economics*, 4, 1787–1872
- Gruber, J. (1997) 'The incidence of payroll taxation: Evidence from Chile' *Journal of Labor Economics*, 15(S3), S72–S101

- Hamermesh, D. S. (1979). 'New estimates of the incidence of the payroll tax' *Southern Economic Journal*, 1208–1219
- Hamermesh, D. S. (1980) 'Factor market dynamics and the incidence of taxes and subsidies' *The Quarterly Journal of Economics*, 95(4), 751–764
- Roy-Cesar, E., & Vaillancourt, F. (2010) 'The incidence of payroll taxes in Ontario and Quebec; evidence from collective agreements for 1985-2007' *CIRANO-Scientific Publications 2010s-36*
- Seely, A. (2011). *Hypothecated taxation*
- Teja, R. S., & Bracewell-Milnes, B. (1991). *The case for earmarked taxes: Government spending and public choice*
- Wilkinson, M. (1994) 'Paying for public spending: Is there a role for earmarked taxes?' *Fiscal Studies*, 15(4), 119–135

References

- Allen, W., Chadha, J. and Turner, P. (2021) 'Quantitative Tightening: Protecting Monetary Policy from Fiscal Encroachment', National Institute Economic Review 257, Summer
- Anderson, H. and Masters, C. (2021) 'UK heading for the biggest overnight cut to the basic rate of social security since World War II', Joseph Rowntree Foundation, 23 July
- Bhattacharjee, A., Lisauskaite, E., Pabst, P. and Szendrei, T. (2021) 'UK Regional Outlook: Summer 2021', NIESR UK Economic Outlook Summer 2021, August
- Chadha, J., Küçük, H. and Pabst, A., (Eds.) (2021) 'Designing a New Fiscal Framework: Understanding and Confronting Uncertainty', NIESR Occasional Paper LXI, April 2021
- Costa Dias, M., Johnson-Watts, E., Joyce, R., Postel-Vinay, F., Spittal, P. and Xu, W. (2021) 'Worker mobility and labour market opportunities', Institute for Fiscal Studies Working Paper 21/29, 21 September
- de Vries, K., Erumban, A., & van Ark, B. (2021). Productivity and the pandemic: short-term disruptions and long-term implications: The impact of the Covid-19 pandemic on productivity dynamics by industry. *International Economics and Economic Policy*, 1–30. Advance online publication. <https://doi.org/10.1007/s10368-021-00515-4>
- Hatchett, A. (2021) 'Earnings growth at 7.2% reflects opening up of the economy', Incomes Data Research blog, 12 October
- Holland, D., Hurst, I., Kara, A. & Liadze, I. (2021) 'An investigation of carbon taxes and terms-of trade in a large macroeconomic model', presented at 17th EUROFRAME Conference on Economic Policy Issues in the European Union
- Holland, D. & Whyte, K. (2021) 'Modelling a global carbon tax shock in NiGEM', NIESR Global Economic Outlook, Autumn 2021
- Hurst, I., Liadze, I and Kara, A. (2020) 'The stochastic impact of extreme weather events', NIESR blog, 14 December 2020
- Ilzetzki, E. (2020) 'Explaining the UK's productivity slowdown: Views of leading economists', VoxEU blog, 11 March 2020, <https://voxeu.org/article/uk-productivity-puzzle-cfm-survey>
- Lenoël, C. (2021) 'The long and uncertain road to exiting Quantitative Easing', NIESR UK Economic Outlook Summer 2021, August
- Lenoël, C. and Young, G. (2021) 'Modelling the impact of Covid-19 on the UK economy: an application of a disaggregated New-Keynesian model', NIESR Discussion Paper 531, August 2021
- Macqueen, R. (2021) 'Interest rate rises and Covid-19 government debts', NIESR UK Economic Outlook Spring 2021, May