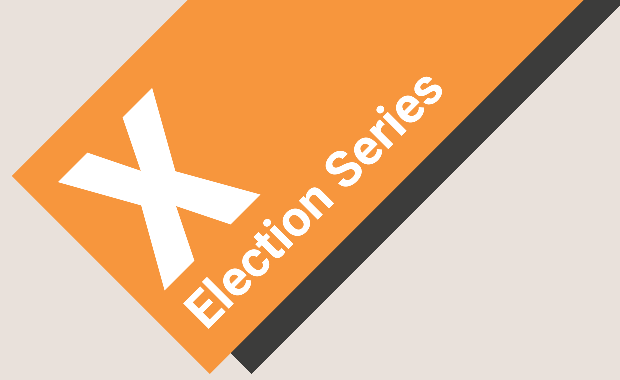
Centre for Economic Performance



June 2024
Paper number CEPEA057

Growth and productivity

Anna Valero and John Van Reenen

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

Economic and Social Research Council

Centre for Economic Performance

CEP Election Analysis 2024: Growth and productivity

Anna Valero and John Van Reenen

Executive summary

- We look at the growth performance of the UK economy since the coalition government took power in 2010 in the context of the previous decades.
- Gross domestic product (GDP) per capita, one key indicator of material wellbeing, has experienced weak growth over the past 14 years. On average, it grew at only 0.9% per annum after 2010, just under two-thirds of the 1997-2010 average of 1.4%. Its level today is lower than it was at the time of the last election in 2019.
- Total GDP growth has also slowed since 2010, but not by as much as GDP per person. This is because of rapid population growth, which in turn was largely driven by record levels of net migration. Migrants are just as productive and as likely to work as non-migrants, but by definition they increase the size of the population.
- The slowdown in GDP per head growth has come despite increases in the employment rate, which has grown by over 4 percentage points since 2010.
- The underlying cause of low GDP per capita growth is the collapse in the rate of productivity growth, which is the basic cause of many UK problems. For example, real wages are roughly at the same level as they were in 2007.
- Other countries have also had slowing productivity growth since the global financial crisis of 2007-09, but the slowdown has been particularly bad in the UK. Decomposing this slowdown, we show that there have been generally slower efficiency improvements ("TFP") after 2007. But the UK's relatively poor productivity performance is mainly due to low capital accumulation.
- Both public and private capital investment as shares of GDP are low in the UK compared with other countries. One of the reasons for this is policy uncertainty. There has been huge instability in recent years, with frequent changes in prime ministers, chancellors and business secretaries as well as policy changes and reversals in key areas of business policy. Having greater stability with a proper long-term growth plan will be crucial.
- There is some consensus between the main parties on several issues, such as the need for pension reforms, and addressing planning barriers that hold back infrastructure projects and housebuilding. Planning reforms are politically hard, and the Conservative government has made very limited progress – the Labour party seems willing to be more radical.
- When it comes to taking a more strategic approach to growth, there have been various strategies and plans under the Conservatives, with the most recent in the Advanced Manufacturing Plan announced in 2023. Labour have set out a broader industrial strategy and intend to bring back the Industrial Strategy Council and place it on a statutory footing. They have also set out how the net-zero transition will relate to their growth mission via the Green Prosperity Plan, backed with catalytic finance for GB Energy and the National Wealth Fund.
- Public investment has tended to be cut when public finances are tight and has been relatively low and volatile for some time. Indeed, planned cuts to public sector investment as a share of GDP are an implication of recent tax cuts announced by the Conservatives. Labour have set

out some changes that might be more permissive of higher public investment, in particular removing capital spending from the deficit rule and having a greater emphasis on net worth. But Labour plan to keep to the government's rule of a falling debt-to-GDP ratio between years four and five of a forecast horizon. This is likely to be the binding constraint on investment spending in the next few years.

- The UK's level of productivity has been lower than that of its peers for many years. In addition to increasing capital investment, improving skills (particularly of non-graduates) and raising innovation are critical.

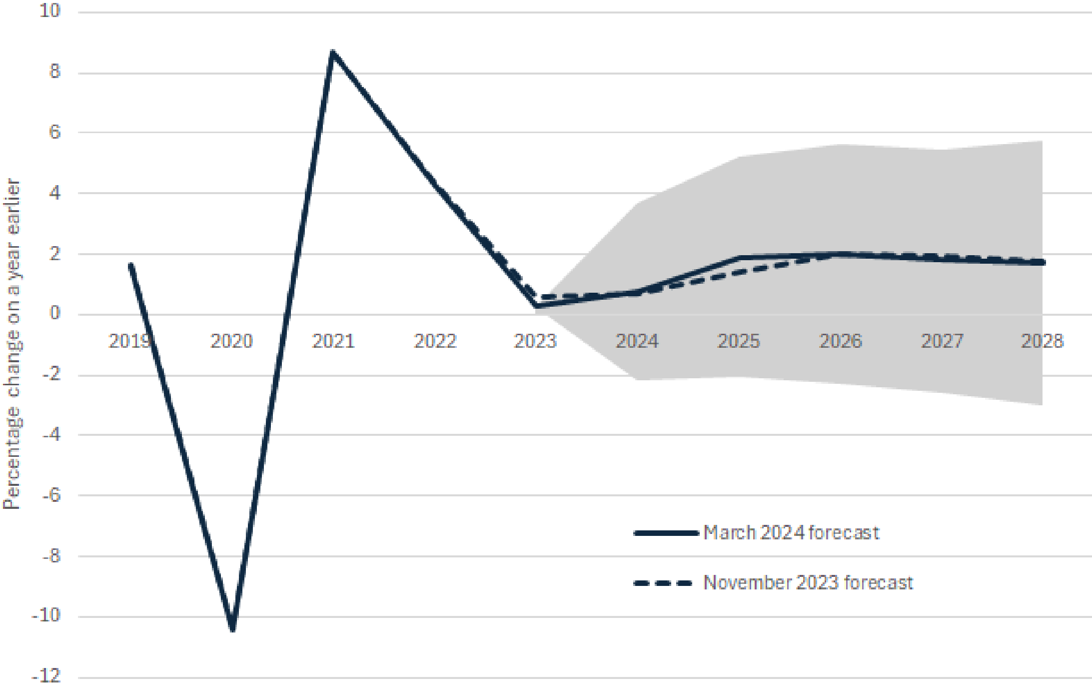
Introduction

Improving the UK's growth prospects is a key priority for both main parties, with the recent "technical recession" occurring against the background of a longstanding stagnation in productivity and living standards. This Election Analysis describes the UK's record on growth and productivity, what underlies its poor performance, and what can be done about it – comparing and contrasting approaches set out by the Conservatives and Labour in recent speeches and policy statements.

Growth outlook

The UK experienced close to zero growth in 2023, and in fact slipped into a technical recession in the second half of the year. While the recession was short-lived and the economy returned to growth in the first quarter of 2024 (recording a stronger than expected 0.6% growth on the previous quarter), the outlook remains poor. The Office for Budget Responsibility (OBR) has forecast 0.8% growth in gross domestic product (GDP) for 2024 (see Figure 1). The latest forecast for 2024 from the International Monetary Fund expects 0.7% growth in 2024 (upgraded slightly from 0.5% due to better than expected performance in the first quarter of the year), which is close to the average of the forecasts surveyed in May by HM Treasury, which was 0.6% for 2024.[1]

Figure 1: Office for Budget Responsibility Growth forecasts



Notes: Chart taken from OBR Economic and Fiscal Outlook, March 2024, Chapter 2, Chart 2.9. Shaded area represents the range between 10th and 90th percentile forecasts. https://obr.uk/economic-and-fiscal-outlooks/#chapter-2.

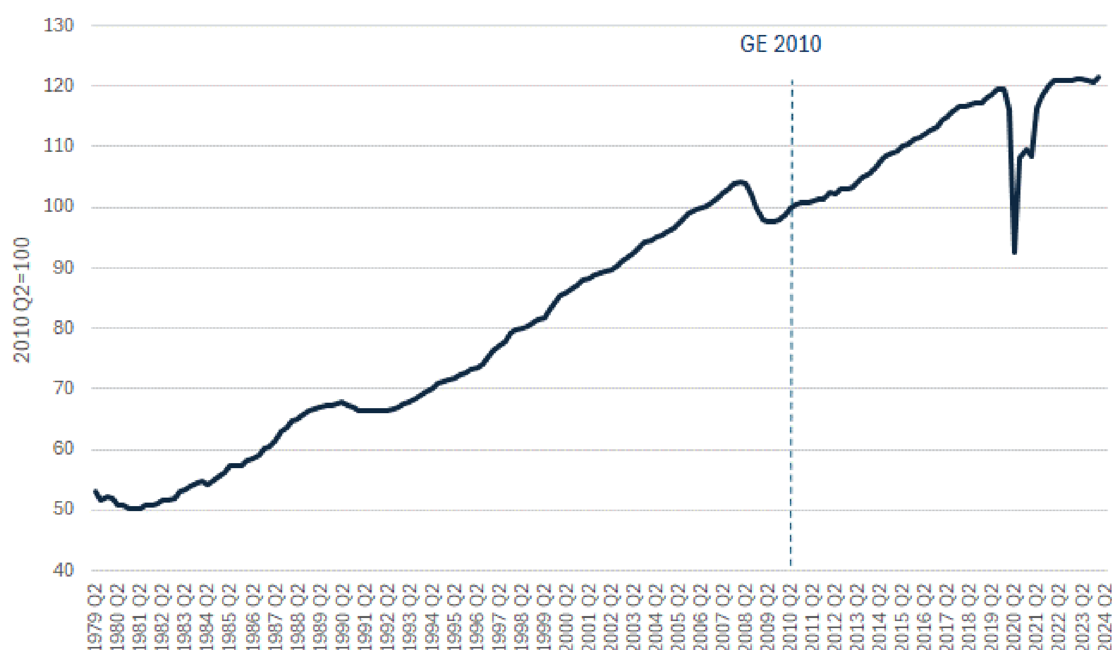
[1] See: HM Treasury (2024).

The UK's growth record since 2010

How does this recent experience and outlook compare to the bigger picture? To assess overall UK economic performance under the Conservatives' time in office, in the graphs that follow we generally base our estimates in 2010 (the second quarter, at the time of the general election) and use outcomes from the latest available data (usually until the first quarter of 2024). We start our historical comparison from 1979Q2 when Mrs Thatcher was elected.

We begin with real GDP growth, a measure of the change in the overall economic size of the economy, adjusted for inflation. Figure 2 shows the severity of the global financial crisis after 2007 and the slower growth in the subsequent recovery. Annual GDP growth between 2010 and 2023 was 1.6%, much slower than its historical average of 2.2% between 1979 and 2010. Between 1997 and 2010, Labour achieved a growth rate of 2% (a period which included the global financial crisis) – a quarter higher than 2010-2023. The impact of the Covid pandemic is very visible by the big drop in output in the second quarter of 2020. It is striking, however, that after an initial bounce back, GDP flatlined in 2023, recording zero growth.

Figure 2: Gross Domestic Product (GDP), 1979Q2-2024Q1



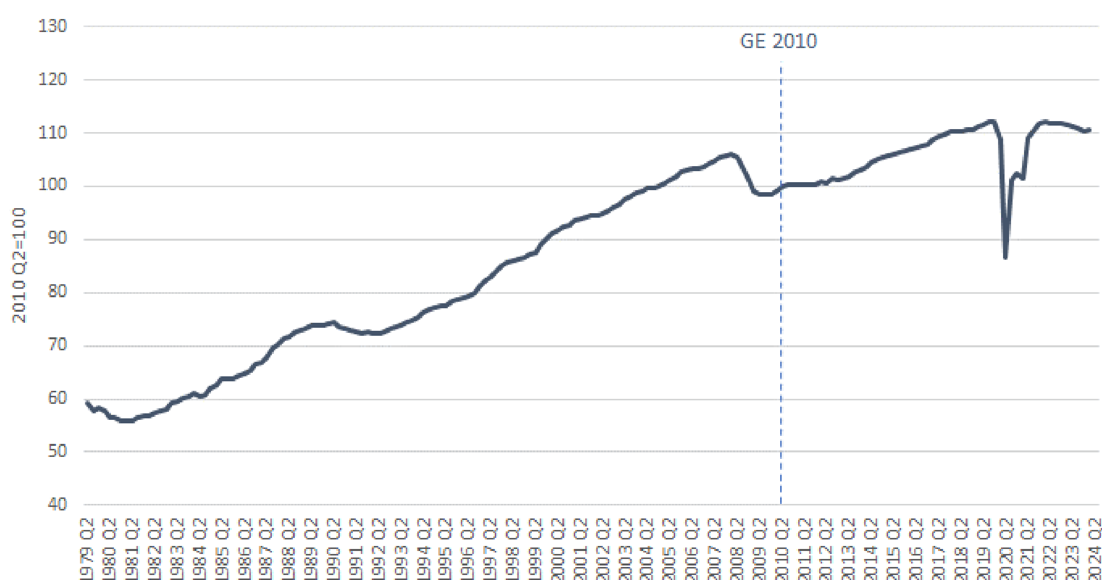
Notes: Seasonally adjusted £m Gross Domestic Product (Chained volume measures). Series based in 2010Q2 at 100, Series ABMI, release date: 10 May 2024. Source: ONS (https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/abmi/pn2)

GDP growth is heavily influenced by population trends, so a much better measure of a country's material wellbeing is the growth of GDP per person. For example, high immigration usually causes GDP to rise a lot, although GDP per capita may not change at all. The growth trends of GDP per capita in Figure 3 look somewhat worse than Figure 2, with average annual growth at only 0.9% during 2010-2023, over a third lower than the average during 1997-2010, which was 1.4%. Remarkably, GDP per capita was only back

to its 2019 level in 2022, and actually *fell* in 2023. The result is that in the latest data for 2024Q1, GDP per capita was only 11% higher than its level at the time of the 2010 election (this compares with GDP that was 21% higher in 2024Q1 versus 2010Q2).

This slower growth of GDP per capita compared to GDP is arithmetically due to the fact that the UK population has grown strongly over this period, driven by increasing net migration. Migration has not harmed GDP per capita – migrants are on average no less productive or less likely to have jobs than natives (if anything, the opposite is true), it is simply that meagre GDP growth has been outstripped by faster population growth. The increase in net migration may be surprising, as one of the key Conservative election pledges made in 2010 and subsequently repeated, was to *reduce* net migration to under 100,000. Indeed, lowering migration was a key issue in the 2016 Brexit referendum. Nevertheless, in the year ending December 2023, net migration reached 685,000.[2]

Figure 3: GDP per capita, 1979Q2-2024Q1



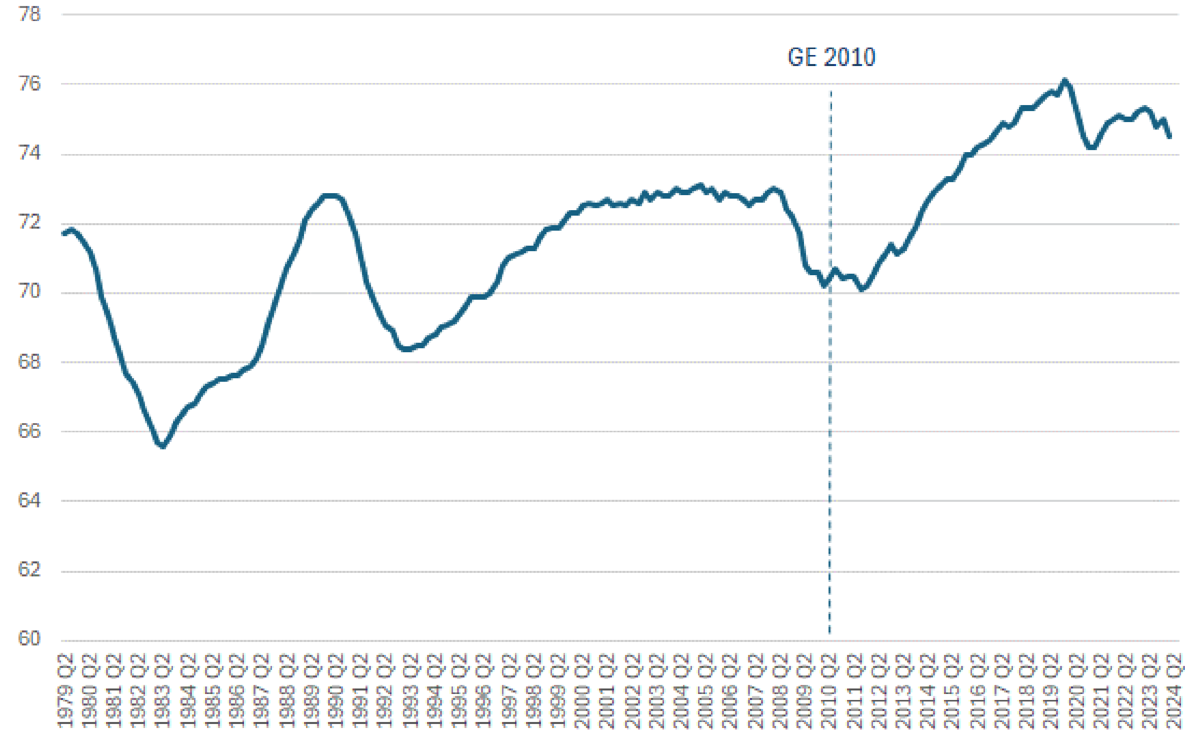
Notes: Gross domestic product (Average) per head, CVM market prices: SA, Series based in 2010Q2 at 100, Series IHXW, release date: 10 May 2024. Source: ONS (https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/ihxw/pn2)

GDP per capita is the product of two elements: the fraction of people in work and how productive those workers are in their jobs. Figure 4 has the first element, the employment rate. The UK employment rate is high by international and historical standards. After high unemployment in the 1980s and early 1990s, over 72% of the working age population (16-64) had jobs during the 2000s, and after a dip in the global financial crisis this had grown to 76% by the eve of the pandemic. In the latest data for 2024Q1, the employment rate was 74.5%, over 4 percentage points higher than its 2010Q2 level (70.4%). An important reason for this was the growth of self-employment, especially those who

[2] These data are according to the ONS Long-term international migration, provisional: YE June 2012 to YE December 2023, published on 23 May 2024. It was a record 764,000 for the year to December 2022. Source: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/bulletins/longterminternationalmigrationprovisional/yearendingdecember2023.

do not employ workers (the "solo self-employed"[3]). The employment rate fell under Covid-19, but then recovered, and today stands at 75%. Around one percentage point of the potential workforce has been "lost", mainly due to sickness. But the overall picture is that the reason for poor GDP per person growth since 2010 is clearly *not* due to a weak jobs market.

Figure 4: Employment rate (aged 16 to 64): %, 1979Q2-2024Q1

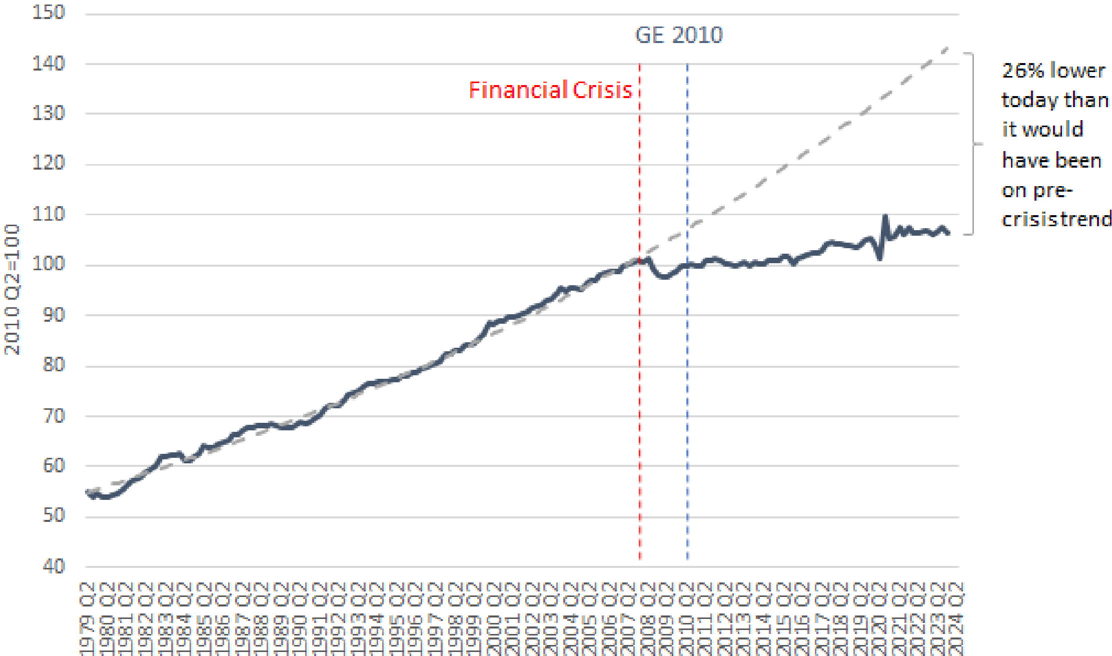


Notes: Employment rate (aged 16 to 64, seasonally adjusted): %, release date: 14 May 2024. Source: ONS (https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/timeseries/lf24/lms)

The real problem is productivity. It's better to look at this on a per hour basis, as GDP per worker could increase just by making people work longer hours, which is not a true improvement in productivity. Figure 5 shows GDP per hour – this took a hit in the global financial crisis and has not really recovered since. Over the 2010-2023 period, average annual productivity growth has been 0.5% – the 1997-2010 average was over three times higher at 1.6%. The productivity level is just 6.6% higher than it was at the time of the 2010 general election.

[3] See Boeri et al. (2020).

Figure 5: GDP per hour (labour productivity), 1979Q2 - 2023Q4



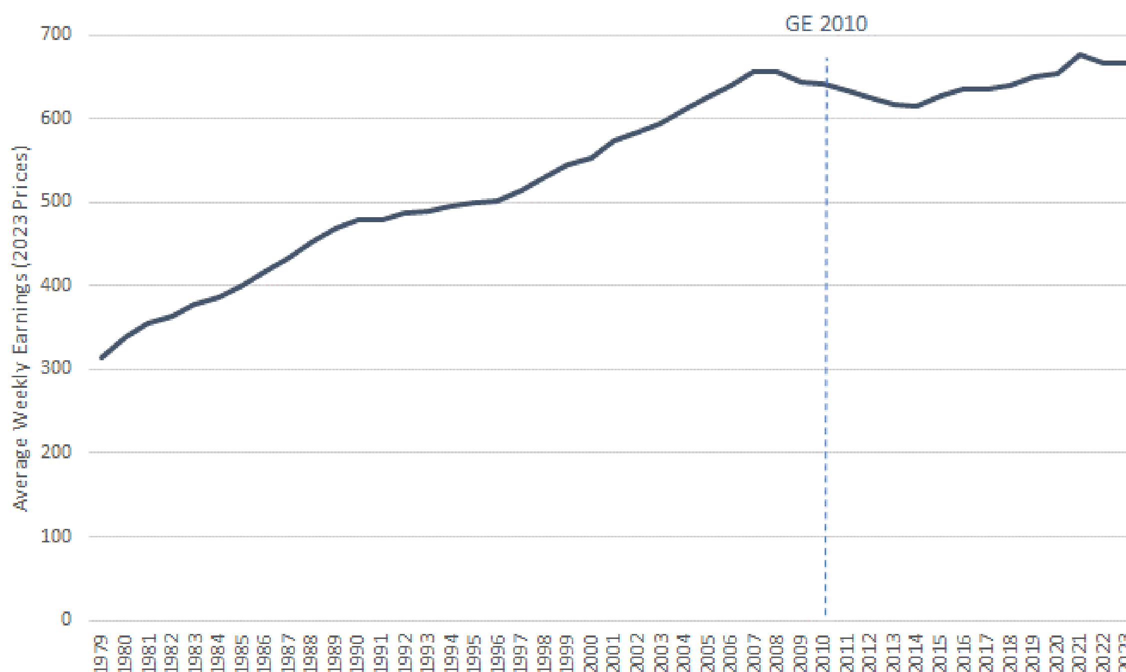
Notes: UK Whole Economy Output per hour worked SA, Series based in 2010Q2 at 100, Series: LZVB, release date: 14 May 2024. Source: ONS (https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/timeseries/lzvb/prdy).

Productivity growth is the driver of improvements in living standards, so the fact it has been so anaemic is the fundamental reason for the economic problems we face today from squeezed public services to a stagnation in living standards.[4] Looking now at the whole period since the global financial crisis, productivity is 26% lower today than it would have been if it had followed the pre-crisis (1979-2007) trend.

This productivity weakness is reflected in real wages. Figure 6 documents the evolution of real wages, showing that they are broadly the same today as 16 years ago. Some argue that this as the longest period of stagnation of British pay for centuries. This should not be a surprise as aggregate pay has broadly followed productivity in the UK over the last four decades (for example, Teichgräber and Van Reenen, 2021).

[4] Ending Stagnation, Resolution Foundation and CEP (2023).

Figure 6: Average real wages, Great Britain, 1979 to 2023.

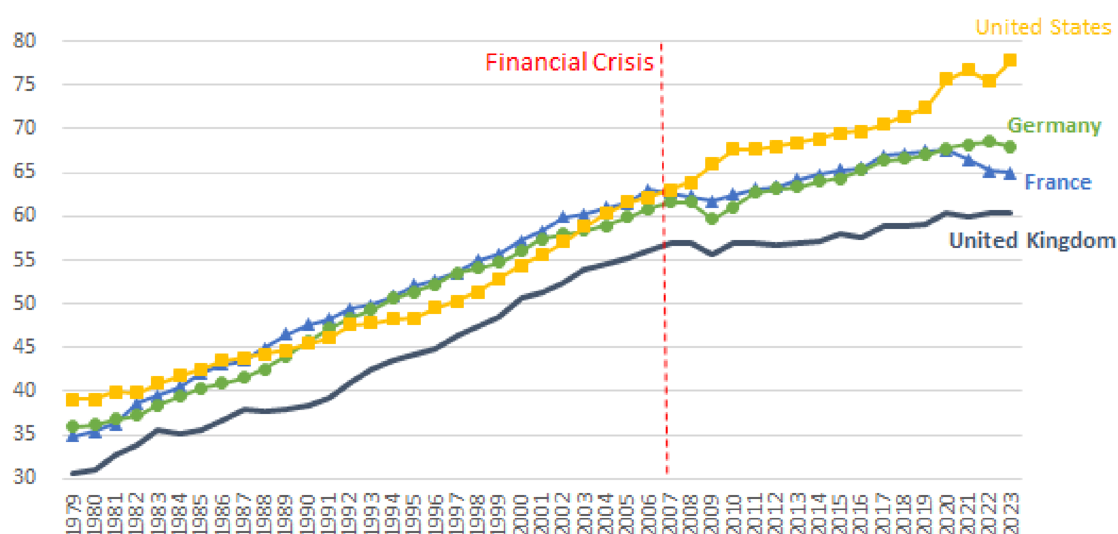


Notes: Real average weekly earnings for the whole economy, total pay, Great Britain seasonally adjusted, expressed in 2023 prices (CPIH deflator) from ONS. Source: Machin, Stephen (2024) Wage Controversies: Real Wage Stagnation, Inequality and Labour Market Institutions, LSE Public Policy Review.

The macro-economic picture seems rather bleak, with persistently low growth in productivity and therefore GDP per capita. But is any of this due to government policies? Events such as the global financial crisis, the Covid pandemic and Russia's invasion of Ukraine were largely outside of the influence of UK policymakers. One way to assess whether there are any UK specific factors is to look at our performance relative to other countries. Many comparisons are possible, but we focus on the UK relative to its core comparator countries: France, Germany and the United States.

Figure 7 plots GDP per hour for the UK versus this set of countries. This shows two things – first that that the UK's productivity level has been lower than its main peers consistently over the past four decades. Second, it is also clear that the UK's post financial crisis productivity growth has been relatively poor – certainly flatter than these comparators until the pandemic. This implies a widening productivity gap – particularly with the United States where GDP per hour worked was 11% higher than in the UK in 2007, and 29% higher in 2023. While France has seen a dip since the pandemic, its productivity level still remains 7% higher than the UK's in the latest data.

Figure 7: GDP per hour in the UK compared to France, Germany and the United States



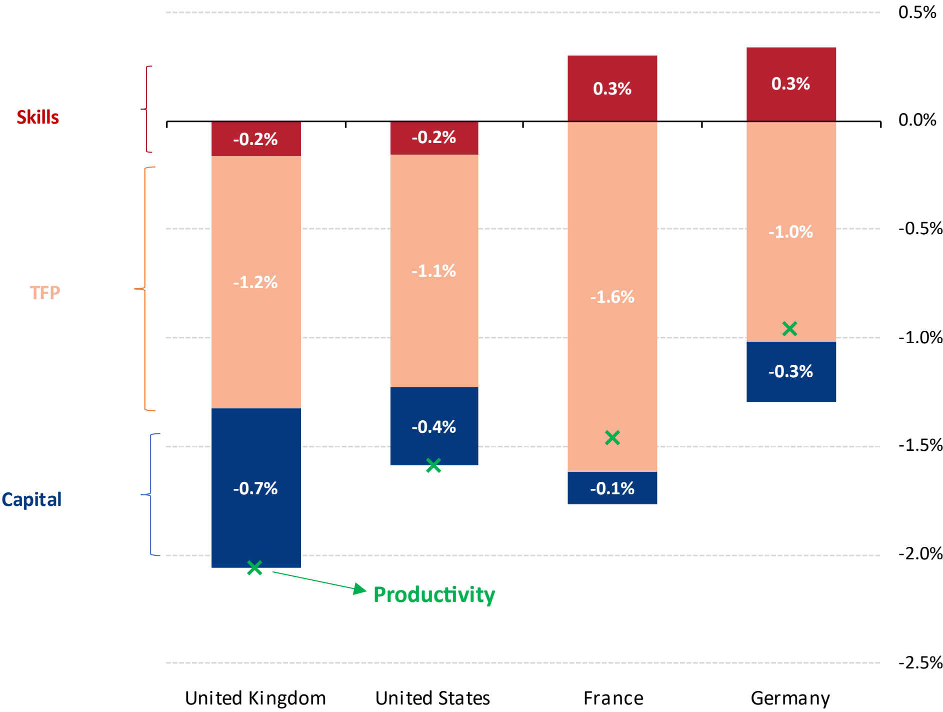
Source: OECD, GVA per hour worked. Combined unit of measure: US dollars per hour, PPP converted, Constant prices, 2015. Data extracted 23 May 2024. Note that UK data for 2023 were not yet available in the OECD dataset, so 0% is applied to the 2022 level to estimate 2023 productivity (this is the growth rate from the annual series of productivity) (ONS, UK Whole Economy: Output per hour worked SA: Index 2019 = 100. Series: LZVB, release date: 14 May 2024).

Productivity slowed across all countries, but the UK appears to have a particularly poor record. In order to understand what is driving this, Van Reenen and Yang (2023) decompose the change in productivity growth in the market economy (which drops government-connected industries like health and education) in the dozen years before and after the global financial crisis. Productivity growth in the UK fell by 2 percentage points after the crisis (from 2.5% per annum pre-crisis to 0.5% post crisis). Although all other countries also suffered falls, the UK's was worse than anywhere else – twice as much as the fall in Germany, for example.

Figure 8 shows where this fall came from. Just over half was due to slowing efficiency growth ("TFP") – this is a common pattern across countries, with the UK being not much worse than others. The figure also shows that skills growth slowed down in the UK and the United States, so these countries did not experience the positive contribution from human capital accumulation that was seen in France and Germany. What is striking, however, is that the contribution from slowing capital accumulation – essentially, low investment – was particularly large for the UK (twice as large as the United States and Germany, and seven times as large as France). Note that the UK's slowdown in productivity was not dominated by a single industry but was quite broad-based.[5]

[5] See, for example, Oliveira-Cunha et al. (2021).

Figure 8: UK productivity slowdown before and after the global financial crisis 2007-09, market economy



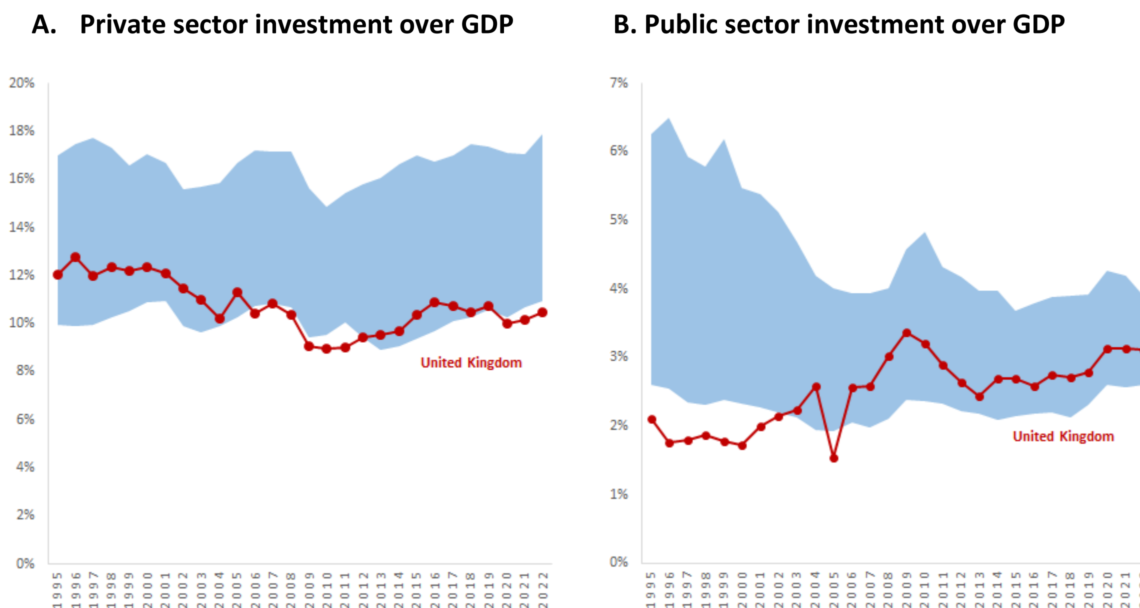
Source: Van Reenen and Yang (2024). Bars represent a decomposition of the change in percentage points in the annualised real value added per hour (productivity) growth rate in the 12 years before vs. 12 years after 2007 in the market economy. This change is shown by the green crosses. It is broken down into the components due to changing labour quality ("skills" in red), changes in capital intensity (blue) and the residual Total Factor Productivity ("TFP").

Longer-term underinvestment

The slowdown in UK capital accumulation in Figure 8 occurs against the backdrop of persistently low levels of investment that have been highlighted in many recent reports. Our work for the Economy 2030 Inquiry, for example, showed that business investment has been below that of other advanced nations over a number of years across both the private and public sectors (Brandily et al., 2022). And the low and volatile nature of public investment has often been pointed out as a major problem in the UK, especially as public investment can crowd in private investment (Odamtten and Smith, 2023; Zenghelis et al., 2024).

Figure 9 compares the UK's private and public sector investment rates (gross fixed capital formation as a share of GDP) to other G7 countries, illustrating our underperformance. The trends differ, however. Private sector investment began falling in the late 1990s, dipped during the global financial crisis (2007-09) and then started to recover before stagnating again following the Brexit referendum. In 2022, business investment was 10.5% of GDP, still lower than its level in 2016 (10.9%). Public sector investment on the other hand was rising from the late 1990s, fell during the austerity years, and then recovered slightly in recent years. Over the period since 1995, public sector investment as a share of GDP has averaged 2.5% in the UK, compared to 3.4% across the other G7 economies.

Figure 9: Capital investment (gross fixed capital formation) as a share of GDP, UK and G7 countries



Notes: Sourced from OECD Data Explorer, Data accessed: 28 May 2024. Series: Annual investment by asset and institutional sector: General government, and Total Corporations; Annual GDP and components – output approach. All series in national currency, current prices.

Based on current plans set out in the Spring Budget of 2024, public sector gross fixed capital formation is set to fall as a share of GDP, from 3.6% in 2024-5 to 3.1% in 2028-9. This is concerning given the historic underinvestment that we have documented, coupled with investments required for net zero and broader sustainability aims.

Policies to improve growth

Both main parties have put the economy at the centre of their campaigns and argue that their approaches will be best for growth. There are a number of welcome policy priorities that are shared by both the Conservatives and Labour, in particular those relating to **addressing longstanding barriers to private sector investment**[6] via reforms to the planning system to boost housebuilding and (green) infrastructure investment. Labour have signalled that they will be more aggressive on this – housebuilding has consistently been well below targets under the Conservative government.

There is also some consensus on the need to consolidate pensions funds and consider further reforms to channel UK pensions into productive UK investment. Other areas where there appears to be broad agreement relate to the need for improving access to growth finance for innovative firms, improving the diffusion of digital technologies and management practices across the economy and maintaining permanent tax incentives for business investment (full expensing of capital investment in corporate tax).

Labour differentiates itself with an emphasis on **stability**. Accompanying macro-level instability due to the global financial crisis, the Covid-19 pandemic and the energy crisis, has been much political and policy instability in the UK. This was most stark around the EU referendum and Brexit process, and in

[6] See Brandily et al., 2023a for discussion of barriers, and policy reforms to overcome them.

the aftermath of the Truss-Kwarteng mini-budget. But instability extends to the UK's approach to growth and business policies. Since 2010, we have had five prime ministers, seven chancellors, nine business secretaries, and numerous growth strategies and plans, each of which was meant to be for the long term. Uncertainty in general – and policy uncertainty in particular – can be a major drag on investment and therefore productivity (for example, Bloom et al, 2007, Baker et al, 2016).

Avoiding regular changes in party leadership and approach would clearly help. But another difference between the parties is that Labour is emphasising its plans for a more explicit and lasting focus on an **industrial strategy**, linking this also to its mission to decarbonise the UK energy system by 2030 via its Green Prosperity Plan.[7] Under the Conservatives, there have been various iterations of this type of approach in recent years, some explicit and overarching (Greg Clark's Industrial Strategy of 2017 which lasted until 2021) and others more targeted (Jeremy Hunt's five sectors and advanced manufacturing plan) – these have included support for clean technologies. But at a high level, while Labour have made the net zero transition a core part of their growth plan, the Conservatives have moved away from emphasising green growth opportunities towards more of a focus on the potential costs to households in the context of watering down some key policy commitments.[8] The distributional aspects of net zero must be managed, but the investments involved will ultimately bring bills down and make the UK more resilient to volatile fossil fuel prices in the future.[9]

Another difference relates to institutions. Labour has committed to bringing back the Industrial Strategy Council (ISC), [10] and placing it on a statutory footing – this could help to provide more policy certainty, consistency and coordination. There is also a case for an independent productivity-focused institution learning lessons from similar institutions in other countries and in other areas of UK economic policy.[11] An ISC with a broader remit (recommending policy, as well as evaluating it) could potentially fulfil this role. This type of institution would not only help to improve stability, but also the design and implementation of effective growth policies, and frameworks for targeting support, where the outcomes are long-term.

A key issue for whichever party forms the next government **is how to finance the much-needed increase in public sector investment for productivity and net zero**, given the already tight public finances, and additional demands from an ageing population, squeezed public services and defence budgets. While less ambitious than in previous statements, Labour plans additional public sector investment of around £4.7bn per year as part of its Green Prosperity Plan – some of which will be accounted for by establishing a state-owned energy company, GB Energy, and a new National Wealth Fund, both of which will seek to crowd in further private capital. Such commitment would imply less of a fall in public sector investment as a share of GDP than is currently planned.

As things currently stand, Labour has accepted Jeremy Hunt's fiscal rule to have the debt-to-GDP ratio falling in year 5 of the forecast horizon, but plan to adjust the deficit rule to exclude capital spending. This change is a sensible move, but over the next few years, the binding constraint on public sector investment is likely to be the debt-to-GDP rule. Figure 10 shows the public sector net debt (excluding

---

[7] Valero (2024).

[8] See Valero, Van Reenen and Serin (2023).

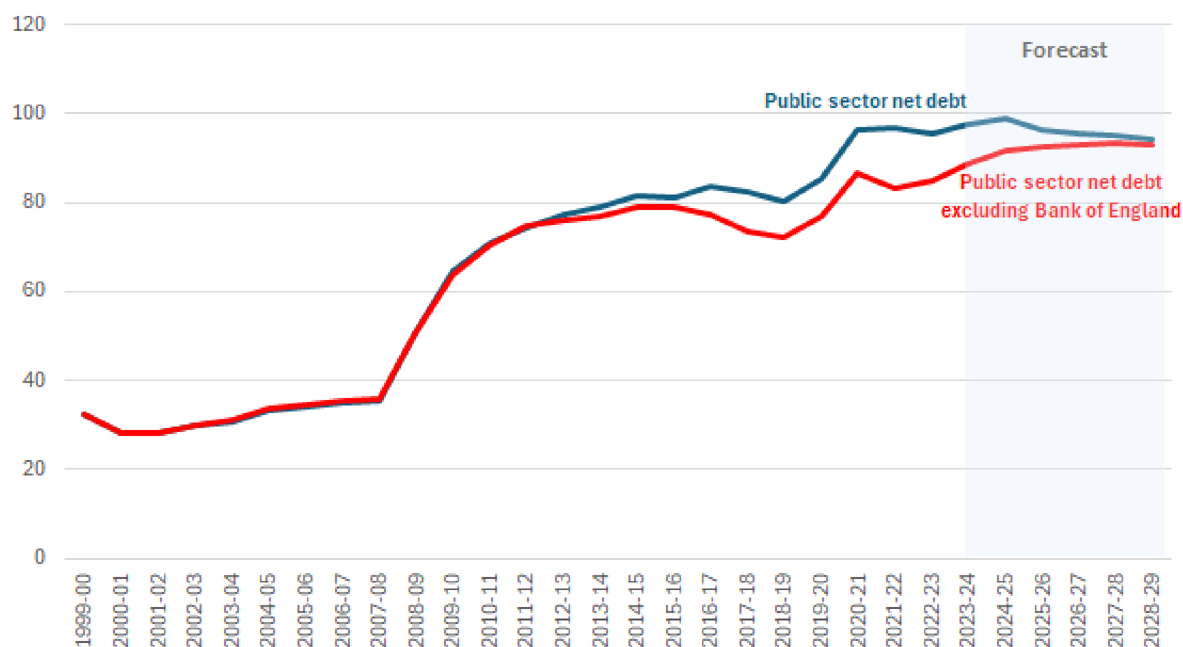
[9] See Valero (2024b).

[10] The Industrial Strategy Council was set up by the Conservatives in 2018 and disbanded in 2021. It was an independent unit in the business department (BEIS), with the remit of developing metrics to evaluate government progress against its industrial strategy objectives.

[11] See van Ark and Valero (2023); van Ark, Valero and Westwood (2024).

Bank of England) to GDP ratio (which the fiscal rule targets) in red. It is forecast to stabilise in 2028/29, but at a historically high level of over 90%. This is despite the share of taxes in GDP rising to over 37% in 2028-29,[12] which is a record for the UK, although around the European average.

Figure 10: Debt-to-GDP ratio, %



Notes: Sourced from Office for Budget Responsibility Economic and Fiscal Outlook, March 2024. Chart 4.18.

Public investment creates assets, of course, which are not taken into account (unless they produce a revenue stream within the five-year horizon for the debt-GDP rule). Labour has set out how it would place more emphasis on monitoring public sector net worth, create new requirements for the OBR to report on the longer-term impacts of capital spending decisions and a strengthened Enterprise and Growth Unit in Treasury having more influence on fiscal events.

A number of other key policy areas matter for growth, and some of these are covered in other CEP election analyses. First, trade policy. The OBR estimates Brexit implies a 4% hit to GDP due to reduced openness. Goods trade has suffered in recent years, and while services trade has held up so far, there are strong arguments for seeking a closer relationship with Europe as well as more innovative trade agreements, particularly on services, further afield.[13]

Second, skills. The UK has long underinvested in mid-level technical skills, and investment in work-related training in firms has been in decline. A growth strategy focused on specific sectors and technologies implies investment in higher level skills – degree and sub-degree (level 4 and 5) (Costa et al., 2023). Some of the gaps are in managerial skills – the UK scores much worse on these than the United States and Germany (see Scur et al, 2021).

---

[12] See OBR, Economic and Fiscal Outlook, March 2024, Table A.9: Fiscal Aggregates.
[13] See Bhalotia et al. (2023).

Third, there are many potential policies to stimulate more innovation[14] such as improving the use of spinouts and scale up from universities, where the UK maintains a strong comparative advantage.

Fourth, alongside the national productivity gaps documented here are large productivity gaps between regions (Brandily et al., 2022). Investment for productivity in the UK's second cities, such as Manchester and Birmingham, must be part of any strategy for improving national productivity growth and ensuring that it is more inclusive.[15]

And finally, we have argued that net zero should be embedded in a new growth strategy for the UK (Valero and Van Reenen, 2023; Zenghelis et al., 2024), and more detail on climate policy will be covered in another election analysis.

Conclusion

The UK's recent record on productivity growth has been weak relative to its own past and its international peers. Given that improving productivity is the only route to sustainable improvements in overall growth and living standards, a well-designed and lasting growth strategy is urgently needed.

A strategic approach is also required to ensure that the UK is able to access new opportunities for sustainable and resilient growth in light of global transitions towards net zero and digitisation, as well as to protect and build on its longstanding strengths in services and advanced manufacturing (Curran et al., 2022; De Lyon et al., 2022). Increasing investment across the public and private sector must be prioritised, and this will involve difficult choices and trade-offs in resource constrained times.

While the Conservatives have made some progress on long-term reforms to increase business investment, the party seems still to be focused on tax cuts, in particular to National Insurance, which will do little to address long-term productivity growth, and which would have to be funded by further cuts to public services or investment which have not been specified.

Labour appears willing to take a more explicitly strategic approach, although it is clearly constrained in terms of what can be committed in terms of resources. The reforms being outlined should be consistent with promoting stability, and more focus on long-term value creation within the fiscal framework.

Overall, it is clear that the next government will inherit a challenging economic position and a more radical approach is likely to be needed.

[14] See Bloom, Van Reenen and Williams (2019).

[15] See Economy 2030 reports on Birmingham (Brandily et al., 2023b) and Manchester (Brandily et al., 2023c), and UK Urban Futures Commission Report (2023).

References

Baker S, Bloom N & Davis SJ (2016), Measuring Economic Policy Uncertainty, Quarterly Journal of Economics, 131(4), pp1593-1636.

Bhalotia S, Dhingra S, Fry E & Hale S (2023), Trading Up: The role of the post-Brexit trade approach in the UK's economic strategy, Resolution Foundation, June 2023

Bloom N, Bond S & Van Reenen J (2007), Uncertainty and Investment Dynamics, Review of Economic Studies, 74(2), pp391-415.

Bloom N, Williams H & Van Reenen J (2019), A Toolkit of Policies to promote Innovation Journal of Economic Perspectives, 33(3), pp163–184.

Boeri T, Giupponi G, Krueger A & Machin S (2020), Solo Self-Employment and Alternative Work Arrangements: A Cross-Country Perspective on the Changing Composition of Jobs, Journal of Economic Perspectives, 34(1), 170-195.

Brandily P, Distefano M, Shah K, Thwaites G & Valero A (2023a), Beyond Boosterism: Realigning the policy ecosystem to unleash private investment for sustainable growth. Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Brandily P, Brewer M, Cominetti N, Coombes M, Corlett A, Judge L, Odamtten F, Overman H, Pacitti C, Rodrigues G, Shah K, Swinney P & Try L (2023b), A tale of two cities (part 1): A plausible strategy for productivity growth in Birmingham and beyond, Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Brandily P, Brewer M, Cominetti N, Coombes M, Corlett A, Judge L, Odamtten F, Overman H, Pacitti C, Rodrigues G, Shah K, Swinney P & Try L (2023c), A tale of two cities (part 2): A plausible strategy for productivity growth in Greater Manchester and beyond, Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Costa R, Liu Z, McNally S, Murphy L, Pissarides C, Rohenkohl B, Valero A & Ventura G (2023), Learning to grow: How to situate a skills strategy in an economic strategy. Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Curran B, Martin R, Muller S, Nguyen-Tien V, Oliveira-Cunha J, Serin E, Shah A, Valero A & Verhoeven D (2022), Growing Clean: Identifying and investing in sustainable growth opportunities across the UK. Resolution Foundation and London School of Economics and Political Science.

De Lyon J, Martin R, Oliveira-Cunha J, Shah A, Shah K, Thwaites G & Valero A (2022), Enduring strengths: Analysing the UK's current and potential economic strengths, and what they mean for its economic strategy, Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.HM Treasury (2024), Forecasts for the UK economy: a comparison of independent forecasts, May 2024. https://assets.publishing.service.gov.uk/media/664347aaf34f9b5a56adc6aa/Forecasts_for_the_UK_economy_-_May__with_cover_.pdf.

Machin, S (2024), Wage Controversies: Real Wage Stagnation, Inequality and Labour Market Institutions, LSE Public Policy Review.

Odamtten F & Smith J (2023), Cutting the cuts. How the public sector can play its part in ending the UK's low investment rut. Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Oliveira-Cunha J, Kozler J, Shah P, Thwaites G & Valero A (2021), Business time: How ready are UK firms for the decisive decade? Resolution Foundation and Centre for Economic Performance, London School of Economics and Political Science.

Resolution Foundation & Centre for Economic Performance, LSE (2023), Ending Stagnation: A New Economic Strategy for Britain.

Scur D, Sadun R, Van Reenen J, Lemos R & Bloom N (2021), The World Management Survey at 18, Oxford Review of Economic Policy, 37(2) 231–258.

Teichgräber A & Van Reenen J (2021), Have Productivity and Pay Decoupled in the UK? International Productivity Monitor, 41, 31-60.

UK Urban Futures Commission report (2023), Royal Society of the Arts and Core Cities. https://www.thersa.org/reports/uk-cities-unleashing-potential.

Valero A (2024a), Net Zero and Sustainable Growth, Chapter 2 in Labour Economics, Thinking Through Labour's Economic Agenda, Editors: Battacharya A and Lee N.

Valero A (2024b) What do times of economic hardship mean for the UK's transition to net zero? Grantham Research Institute Explainer, LSE, March 2024.

Valero A & van Ark B (2023), A New UK Policy Institution for Growth and Productivity – a Blueprint, Productivity Insights Paper No 027 (The Productivity Institute, 2023).

Valero A & Van Reenen J (2023), Embedding green industrial policy in a growth strategy for the UK. IPPR Progressive Review, 30(3): 175–183.

Valero A, Van Reenen J & Serin E (2023), The UK should lead on a green industrial strategy not roll back, LSE Politics and Policy blog, September 2023.

Van Reenen J & Yang X (2023), Cracking the Productivity Code: An international comparison of UK productivity. Centre for Economic Performance POID Special Report.

Zenghelis D, Serin E, Stern N, Valero A, Van Reenen J & Ward B. (2024), Boosting growth and productivity in the United Kingdom through investments in the sustainable economy. London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science.

The Centre for Economic Performance is a world-leading economics and policy research institute. CEP studies the determinants of economic performance at the level of the company, the nation and the global economy by focusing on the major links between globalisation, technology, the educational system and the labour market and their impact on productivity, inequality, employment, stability and wellbeing. It is part-funded by the Economic and Social Research Council and based at the London School of Economics and Political Science.

cep.info@lse.ac.uk | cep.lse.ac.uk/ | @CEP_LSE