How has the relationship between pay and productivity in the UK transformed in recent decades?

Chapter 1: Introduction

The relationship between productivity and living standards has often been taken as a stylised fact. Krugman (1990) writes,

> "Productivity isn't everything, but, in the long run, it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."

However, the specific link between productivity and living standards is not straightforward, as Oulton (2022) points out. Despite this, the link is often implied, at least in part, through the pass-through of productivity growth on *earnings*, and the simple observation that higher earnings, all else equal, tend to boost living standards. This sentiment has been echoed by the Chancellor of the Exchequer Rachel Reeves in her 2024 *Mais Lecture*:

> "At root, productivity remains the key medium term [sic] determinant of wages. It is the collapse in our productivity growth which explains our wage stagnation. […] What is demanded is a fundamental course correction. […] **Not only for the *living standards* of working people** …" (Reeves, 2024. Emphasis added)

This idea that productivity determines pay also has a clear theoretical basis in Solow's (1956) growth model. We take the standard assumptions:

1. Cobb-Douglas production function:

$$Y = K^{\alpha}L^{1-\alpha}$$

2. Wages set as the marginal product of labour:

$$w = \frac{\partial Y}{\partial L}$$

Where:

- Y is output,
- K is capital,
- L is labour,
- w is wages,
- α is the capital-share of output.

Combining assumptions 1 and 2, we rearrange to find wages in terms of capital-per-worker:

$$w = (1-\alpha)\left(\frac{K}{L}\right)^{\alpha}$$

Then find output-per-worker in terms of capital-per-worker:

$$\frac{Y}{L} = \left(\frac{K}{L}\right)^{\alpha}$$

Finally, we combine both equations to find that wages are proportional to output-per-worker, i.e., wages are proportional to labour productivity.

$$w = (1-\alpha)\frac{Y}{L}$$

The factor of proportionality, $1-\alpha$, is the proportion of labour employed in producing output.

Clearly, the link between productivity and pay, and thus productivity and living standards, has transcended beyond academic economics and gained acceptance in the political sphere.

However, in recent years, a view that productivity and pay have 'decoupled', or 'delinked', has come into vogue. The most popular recent embodiment comes in 'The Productivity-Pay Gap' diagram published by Bivens & Mishel (2015)[1], where American productivity is shown to have grown 8 times faster than pay from 1979 to 2014; see figure A.

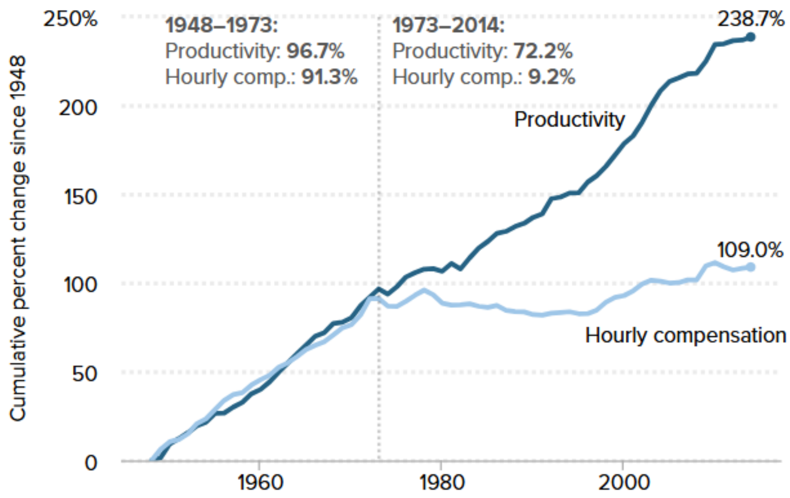

Figure A – "Disconnect between productivity and a typical worker's compensation, 1948–2014". (Bivens & Mishel, 2015. Figure A).

Returning to the UK, similar findings have been reported by Pessoa & Van Reenen (2013) and Teichgraeber & Van Reenen (2021). Figure B shows their estimation of the pay-productivity gap.

[1] The view, however, is much older. Lawrence & Slaughter (1993) represents an earlier incarnation with Feldstein (2008) rebuking the view based on methodological grounds.

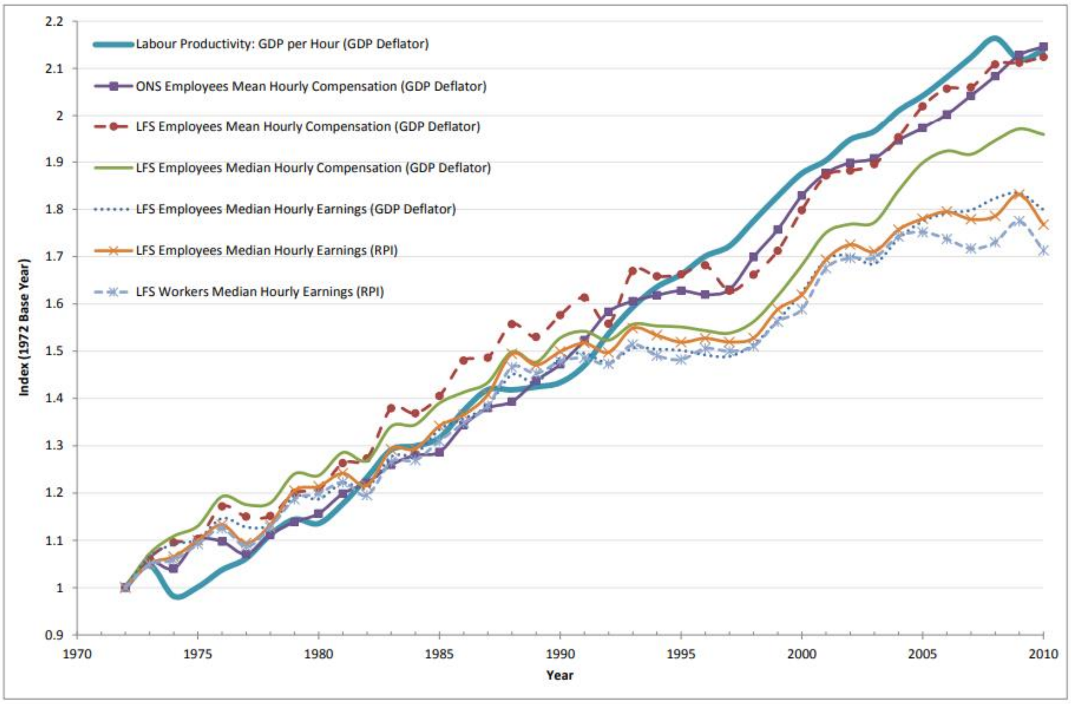

Figure B – "Hourly Decoupling in the UK" (Pessoa & Van Reenen, 2013. Figure 6)

A clear divergence can be ascertained in the early-mid 90s, and by 2010 median hourly earnings (deflated with retail prices) grew by 70% while productivity (deflated with a GDP deflator) grew by just over 110%.

Investigating the decoupling argument is complicated by the fact that exactly what is meant by 'decoupling' is hardly agreed upon, so clarification is important. Some parts of the literature argue that we should define decoupling as a divergence between typical worker compensation and mean productivity growth rates (Bivens & Mishel, 2015), while others suggest differentiating between mean and median earnings (Pessoa & Van Reenen, 2013; Stansbury & Summers, 2018; Ciarli, et al., 2018; Ciarli, et al., 2021); still others argue that decoupling should only be seen as a persistent fall in labour's share of income (Feldstein, 2008; Brill et al., 2017); labour's share of income is defined in national accounts as:

$$Labour\ share = \frac{Employee\ compensation + Self\ Employed\ Labour\ Income}{Gross\ Domestic\ Product - (Taxes - Subsidies)}$$

The view that decoupling is a change to the labour share is what led the Office for National Statistics (ONS) to state that, "[o]ver the last two-and-a-half decades […] the UK has not experienced the decoupling between pay and productivity reported in other advanced countries" (ONS, 2024). Indeed, labour's share of income has risen in the new millenium following historic lows in the 80s and 90s – see figure C.

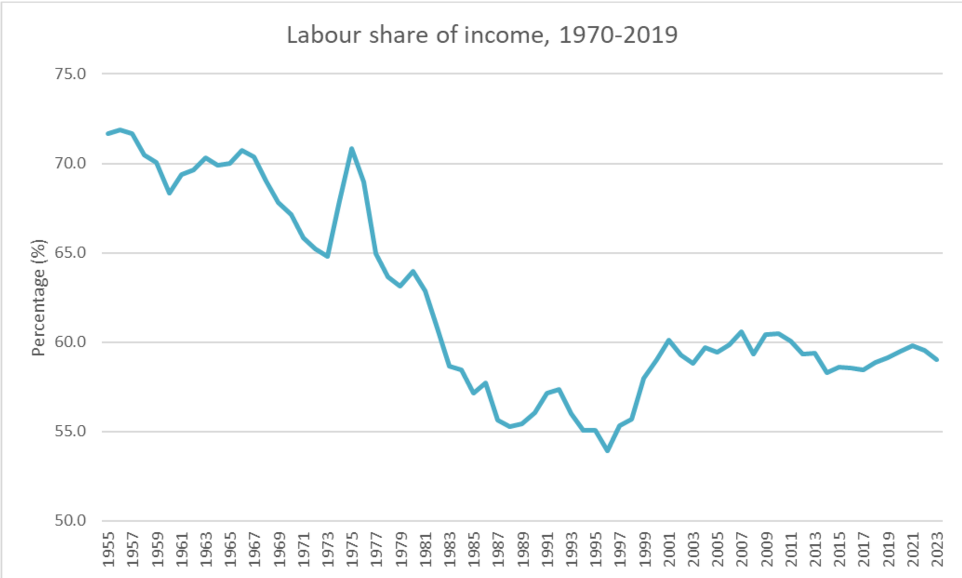

Figure C – Labour's share of income over time. Own illustration.

The disagreement over terms is understandable, because each argument for decoupling has certain justifications. Those concerned solely with the labour share analyse the productivity-pay question in the context of the production process – this perspective makes sense from the point of view of a firm, because it is employees' compensation with respect to a firm's output, *not* consumer prices, which reflect its real costs of employment (Stansbury & Summers, 2018, p. 10; Tuckett, 2017). Figure D shows how producer prices in the manufacturing and retail sector have grown slower than consumer prices – even if a firms' output revenues were shared with employees in constant proportion, the real value of that payment could still be declining.[2]

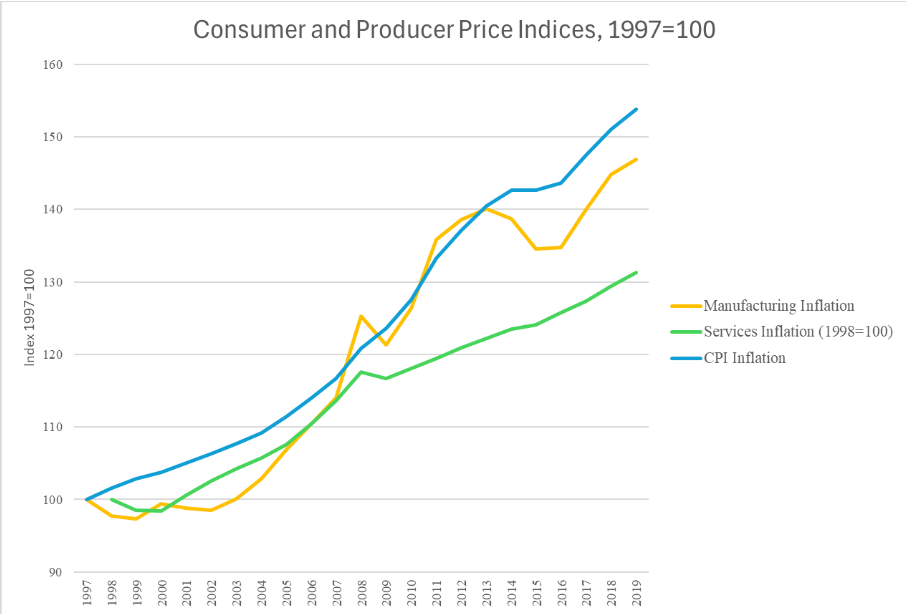

Figure D – Sectoral price inflation over time. Own illustration.

On the other hand, ignoring the effect of productivity on purchasing power is not appropriate when investigating changes to living standards (Stansbury & Summers, 2018, p. 13; Pasimeni, 2018, p. 7). As such, to properly investigate the connection in the UK between living standards and productivity (Reeves, 2024) and the claim that they have diverged or decorrelated (Pessoa & Van Reenen, 2013; Ciarli, et al., 2018; Ciarli, et al., 2021; Teichgraeber & Van Reenen, 2021) I will focus on the productivity elasticity across the real income distribution, deflated using consumer prices; the current literature that analyses this relationship suffers from a few methodological problems which will be explored later (Ciarli, et al., 2018; Brocek, 2019; Ciarli, et al., 2021). Furthermore, in order to verify common arguments that it is the growth in inequality which drives the divergence (Pessoa & Van

[2] This is why Feldstein (2008) argues it is more appropriate to user a producer – rather than consumer – prices when deflating income to compare it to productivity.

Reenen, 2013; Bivens & Mishel, 2017; Pasimeni, 2018; Brocek, 2019; Teichgraeber & Van Reenen, 2021), I will also focus on mean wages and mean labour compensation[3]

Chapter 2: Previous Literature

The existing body of literature in the UK is sectioned broadly into decomposition analyses, evidence supporting a productivity-pay decorrelation, and evidence against. Finally, non-UK investigations are analysed which also help to inform the empirical strategy.

Section 2.1: Decomposition Analyses

Pessoa & Van Reenen (2013) and Teichgraber & Van Reenen (2021) decompose the gap between median wages and productivity growth since the early 70s. They define net decoupling (ND) as the difference between labour productivity (LP) and mean compensation, both adjusted by an implicit GDP deflator. Gross decoupling (GD) is defined as the difference between LP and median wages, deflated by an output and consumer price deflator, respectively. The difference between the two measures can be decomposed to:

$$GD - ND = Inequality + Wage\ wedge + Price\ wedge \tag{1}$$

Equation 1 explains nearly the entire difference $GD - ND$, although measurement errors and self-employment labour income variation also account for a very small proportion. $Inequality$ represents differences between mean and median wages, $Wage\ wedge$ represents differences between wages and total compensation per hour, i.e., non-wage benefits such as pensions, and $Price\ wedge$ represents differences between producer and consumer prices. See figure E and F for a decomposition of the gap.

[3] Examining compensation is important to assess effects of inequality – see Section 2.1.

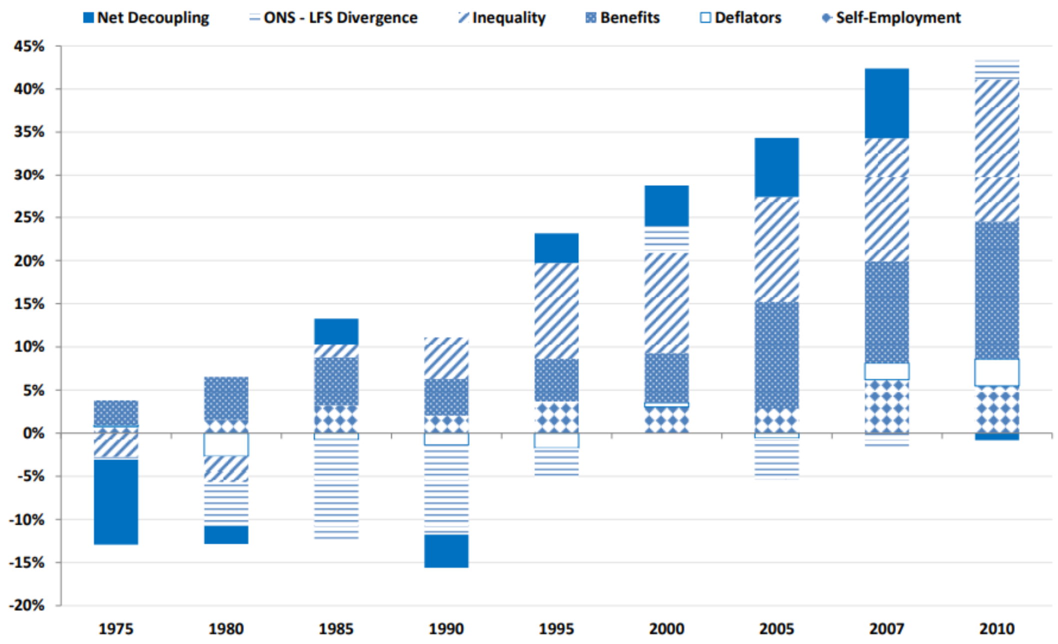

Figure E – "Decoupling Decomposition in the UK" Pessoa & Van Reenen (2013, p. 18. Figure 7)

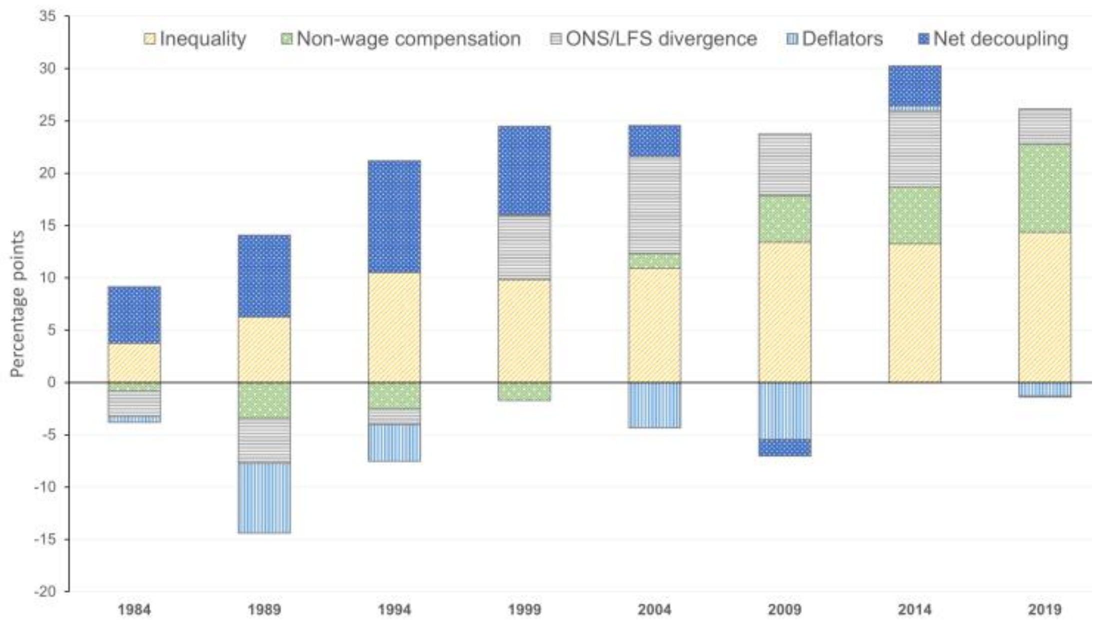

Figure F – "Decoupling Decomposition in the UK" Teichgraber & Van Reenen (2021, p. 41. Chart 5)

We see from both figures that the divergence in productivity-pay is mostly a growth in inequality and non-wage compensation. As Teichgraeber & Van Reenen (2021) point out, however, non-wage benefits are themselves likelier to accrue to high earners.

My main criticism of both studies and others like them (Bivens & Mishel, 2015; Tuckett, 2017) is the methodology which is used to make certain claims. For example, Van Reenen states that the findings of T&VR (2021) reinforces the idea the UK needs to "tackle this productivity [growth] challenge if we want to get back to sustainable earnings growth." (LSE News, 2021) However, if that is the main message of the study, it seems not to be getting through – on the same website, it is claimed the study shows "the typical worker may not feel much benefit [from productivity growth]". This apparent contradiction owes itself to the lack of quantitative backing possessed by graphical depictions of the productivity-pay divergence. Because there is mostly only circumstantial evidence with which to argue that trends are due to a given factor, readers are left to guess whether the productivity-causal link is broken, or binding but visually diverging due to orthogonal factors (Stansbury & Summers, 2018, p. 4)

Section 2.2: Evidence of Productivity-pay Decorrelation

Ciarli et al. (2018) use matched employer-employee combinations to investigate how low-wage workers benefit from productivity growth in the UK from 2011-15. Their methodology allows the study of effects at the firm, industry, and local labour market level. Their work builds on Carlsson (2016) who used a similar methodology and found that Swedish workers in 1990-96 gained greater benefit at the *industry level* from productivity improvements than at the *firm level*, meaning that productivity improvements in the firm employing them raised their wages less than productivity improvements in rival firms. Ciarli et al. (2018, p. 16) similarly report stronger effects at broader compared to narrower levels. Productivity growth effects on median wages were insignificant at the firm level, -0.040% at the industry level, and insignificant at the local labour market (LLM) level. Furthermore, most income quintiles experience insignificant wage growth due to productivity growth.

These findings are mirrored by Ciarli et al. (2021) who investigate the productivity-compensation nexus in London, Slough & Heathrow, and the rest of Great Britain at the LLM level in the period 2004-2014. The researchers employ a 2SLS regression, as endogeneity problems may arise between wages and productivity – for example, minimum wage increases may spur firms to increase productivity. They instrument using firms' technical productivity, as capital investment is less likely to be influenced by changes to minimum wages, and control for matched employer-employee fixed effects, and year fixed effects. They find statistically significant productivity elasticities of median wages of 0.35% and 0.26%, at the 5-year and 10-year time horizons, respectively.

These two papers suggest strong productivity-pay decorrelation in the UK; however, I believe there are significant potential methodological improvements; for example, Ciarli et al. (2018, p. 15) point out that their findings do not capture lagged effects of productivity, which are likely biasing results. The authors themselves state that firms may postpone wage increase to gain a competitive advantage or to recover from losses, and Carlsson (2016) – one of their seminal papers – does include lagged effects in his model. It is also likely that firms deliberate to discern the extent to which increases in output are due to labour productivity (Stansbury & Summers, 2018). This problem remains unaddressed in Ciarli et al. (2021).

Section 2.3: Evidence of Productivity-pay Correlation

Brocek (2019) is the only work, to my knowledge, which analyses productivity elasticities across the income distribution with lagged effects. Brocek (2019) runs separate OLS regressions for each decile of the wage distribution on productivity. Current and lagged unemployment is controlled for, as economic downturns are likely correlated with reduced wages in the short-term (Stansbury & Summers, 2018, p. 15) and increased productivity, given that unproductive workers are likely laid off first, and firms must make-do with less

(Lazear, et al., 2016). All variables are taken in their 3-year moving average (MA) forms to analyse lagged effects (Stansbury & Summers, 2018; Brocek, 2019; Pasimeni, 2018). Brocek's (2019) results are presented in figure G.

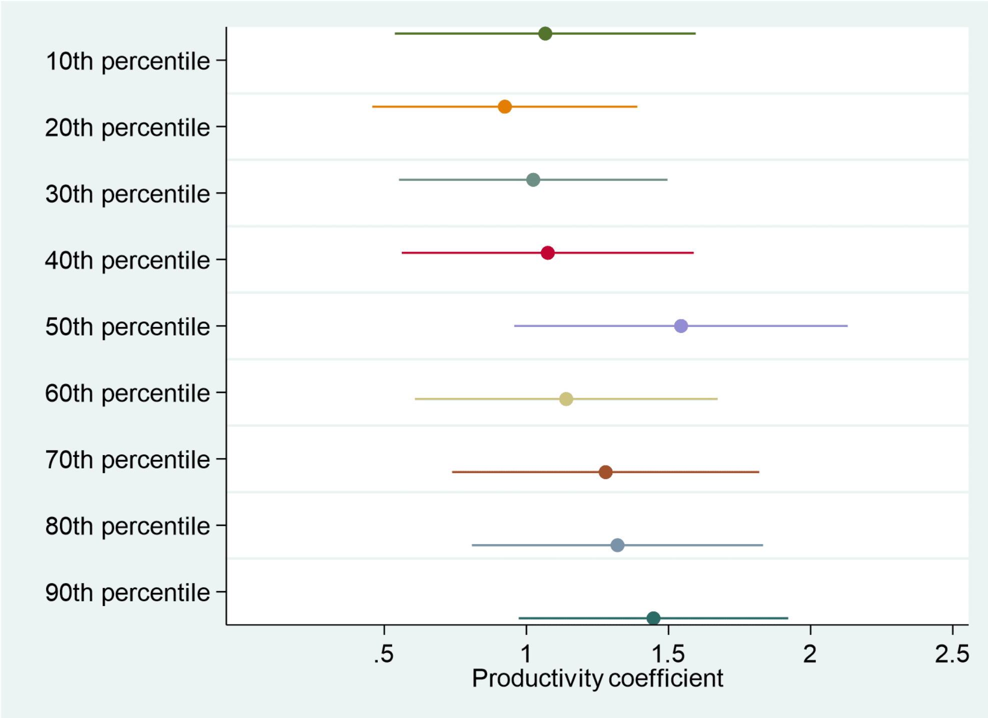

Figure G – "Estimates of [productivity elasticities] across the wage distribution" Brocek (2019, Figure 2)

Brocek (2019) finds strong productivity elasticities at the median level; none of the estimated coefficients are significantly different from 1 and are all significantly different from 0. However, I contend Brocek's (2019) study is hindered by: lack of testing, opaqueness of techniques, and data handling, as well as potentially omitted variable bias (OVB) and smallness of scope. I explore next.

Nasir et al. (2022) regress use a NARDL multiplier analysis to investigate mean weekly earnings with respect to productivity and GDP growth, controlling for inflation and unemployment; controlling for inflation is a novel contribution to the literature and takes into account its potential confounding effect given its negative relationship with real wages (Braumann, 2001) and its detrimental effects on productivity – high inflation tends to shift output from the productive to financial sector (Mishkin & Posen, 1997, p. 4). It is also important when determining wages due to conflict-theories of inflation which lay the foundations for an understanding of price-wage and wage-price spirals, as well as the mechanism of inflationary expectations (Blanchard, 2004; Blanchard, 2022; Rowthorn, 2024). Nasir et al.'s (2022) NARDL multiplier analysis finds that wages are very sticky downward, with the long-run difference between a positive and negative shock of 1% being roughly equal to 1%.

Section 2.4: Non-UK Productivity-pay Analyses

Stansbury & Summers (2018) calculate productivity elasticities for median and mean compensation, as well as production/non-supervisory average compensation, which is a dataset unavailable in the UK but which somewhat tracks the median compensation figure while providing an improved time-horizon (Stansbury & Summers, 2018, p. 12). Like Brocek (2019), Stansbury & Summers (2019) control for lagged and current unemployment, and use 3-year MAs to capture delayed effects of productivity[4]. Productivity elasticities are estimated as 0.7-1% for median and mean compensation growth and 0.4-0.7% for production/non-supervisory compensation growth.

Pasimeni (2018) is inspired by the Stansbury & Summers (2018) methodology and performs a panel-data fixed effects regression on 34 advanced economies. Again, unemployment is controlled for, although this time it is the actual[5] and differenced rate, and variables are taken as 3-year MAs and estimates are tested for robustness by substituting with distributed lag models. Pasimeni (2018, p. 12) reports weaker correlations than Stansbury & Summers

[4] Stansbury & Summers (2018, pp. 14-15) also point out that compensation may also precede a rise in productivity, given that the latter is anticipated.
[5] From Bivens & Mishel (2017).

(2018) with no coefficients crossing the 1% line at a 95% confidence level, however all productivity elasticities across specifications are significant.

Chapter 3: Empirical Strategy

This paper's empirical strategy mainly follows Stansbury & Summers (2018), Pasimeni (2018) and Brocek (2019), controlling for employment and one-period lagged unemployment and incorporating inflation as a novel control variable from Nasir et al. (2021) to reduce omitted-variable bias.

An OLS model will be used to regress productivity and earnings growth across the income distribution. I use a slightly modified version of Stansbury & Summer's (2018) framework such that the productivity coefficient $\beta \geq 1$ under the strongest 'linkage' view, and $\beta = 0$ under the 'delinkage' view. $0 < \beta < 1$ suggests a point along the spectrum.

Section 3.1: Baseline Specification

Equation (1) shows our baseline specification.

$$\frac{1}{3}\sum_{0}^{2}\Delta\log wages_{n,t-i} = \beta_0 + \beta_1\frac{1}{3}\sum_{0}^{2}\Delta\log prod_{t-i} + \beta_2\frac{1}{3}\sum_{0}^{2} unemp_{t-i} + \beta_3\frac{1}{3}\sum_{0}^{2} unemp_{t-i-1} + \beta_4\frac{1}{3}\sum_{0}^{2}\Delta inf_{t-i} + \epsilon_t \qquad (1)$$

Where $wages_{n,t}$ is the nth decile, $prod_t$ is labour productivity, $unemp_t$ is unemployment, inf_t is inflation and ϵ_t is the error term – all variables are expressed at a given year t.

Wages and productivity are logged to calculate elasticities and reduce variability. Following unit-root tests, wages, productivity and inflation were differenced to ensure stationarity – see Appendix I.

Our baseline regression will use net labour productivity to discount the value of depreciated capital from total output to better reflect the income available for workers (Bivens & Mishel, 2015; Stansbury & Summers, 2018, p. 11) The 25-49yr-old unemployment rate is also preferred to avoid capturing broader effects of demographic shift which may bias results (Stansbury & Summers, 2018, p. 15). Finally, the consumer price index (CPI) is preferred to CPI plus housing (CPIH) because this is the headline rate targeted by the Bank of England (BoE) (Nasir, et al., 2022). Finally, all models are regressed using robust standard errors.

Section 3.2: Alternative Specifications

Following Pasimeni (2018) and Stansbury & Summers (2018), and improving on Brocek (2019), we replicate the analysis using alternative specifications to check for the robustness of estimates. To test claims of growing inequality (Pessoa & Van Reenen, 2013; Pasimeni, 2018; Teichgraeber & Van Reenen, 2021) productivity elasticities on mean earnings and mean labour compensation are also estimated.

Chapter 4: Data

The data analysed in this study is primarily provided by the Office for National Statistics (ONS) and is analysed over the timeframe 1997-2019. Earnings distribution data is taken directly from the Annual Survey of Hours and Earnings (ASHE) (ONS, 2024) and deflated using CPI (ONS, 2025). Different productivity specifications are calculated by aggregating various ONS sources – see Appendix II. A restricted unemployment figure was calculated using the UNEM01 ONS (2025) dataset – see Appendix III. CPI was reused from deflation calculations to calculate inflation – see Appendix IV.

Section 4.1: Summary Tables

Table A: Dependent Variables

Income variable[6]	Obs.	Mean	Std. Dev.	Median	Min	Max
Hourly Earnings 1st	23	6.72	0.59	6.77	5.44	7.75
Hourly Earnings 2nd	23	7.74	0.54	7.81	6.53	8.52
Hourly Earnings 3rd	23	8.91	0.55	8.99	7.62	9.58
Hourly Earnings 4th	23	10.20	0.61	10.30	8.76	10.98
Hourly Earnings 5th	23	11.78	0.71	11.92	10.09	12.73
Hourly Earnings 6th	23	13.79	0.85	14.00	11.75	14.95
Hourly Earnings 7th	23	16.37	1.04	16.64	13.85	17.74
Hourly Earnings 8th	23	19.88	1.29	20.13	16.80	21.63
Hourly Earnings 9th	23	25.99	1.78	26.30	21.81	28.31
Mean Hourly Earnings	23	15.33	1.05	15.62	12.70	16.62
Mean Hourly Compensation	23	18.63	1.64	19.13	14.65	20.76

Table B: Independent Variables

Variable Name	Obs.	Mean	Std. Dev.	Median	Min	Max
Net Productivity, NDP	23	28.77	1.65	29.40	24.85	30.41
Net Productivity, NVA	23	32.66	1.98	33.57	27.92	34.76
Gross Productivity, GDP	23	34.10	2.22	35.14	28.97	36.48
Gross Productivity, GVA	23	37.99	2.56	39.25	32.05	40.83
Unemployment, 25-49yr	23	4.56%	1.09%	4.16%	2.83%	6.37%
Unemployment, unrestricted	23	5.81%	1.28%	5.40%	3.80%	8.10%
Inflation, CPI	23	1.93%	0.96%	1.85%	0.00%	4.28%
Inflation, CPIH	23	2.00%	0.77%	2.00%	0.40%	3.80%

Tables A and B provide summary statistics of the variables used in the regression. We find inflation hovering just below the BoE's 2% target and a 5.81% unrestricted unemployment rate, indicating a moderately loose labour market over the period. Interesting details of the data include the relatively huge jump of an average extra £6.11/hour going from the 8th to 9th decile and the rising standard deviation across the income distribution, likely that high earners' earnings have grown, in absolute terms, much faster than lower earners' earnings. On

[6] 'Hourly Earnings nth' denotes the nth decile.

the other hand, lower earners have seen their income grow by the most as a percentage – see figure H.

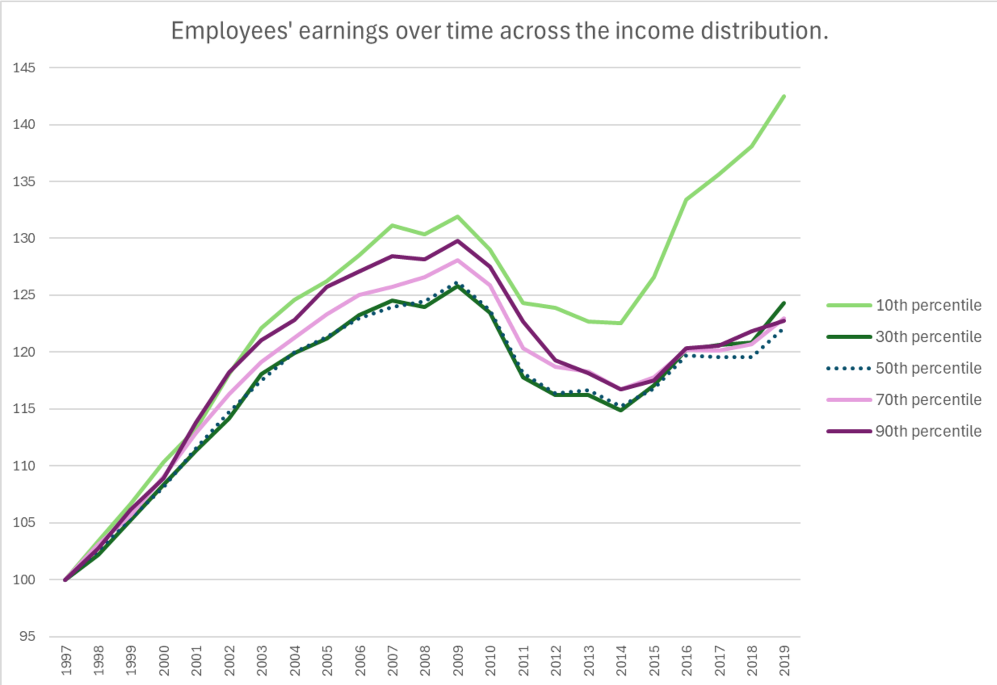

Figure H – Employees' earnings over time. Own illustration.

Meanwhile, productivity estimates slowly diminish as subsidies and taxes are subtracted from value added to domestic product, and then capital depreciation is subtracted from gross to net.

Chapter 5: Results

Table C – Median, mean, earnings and mean compensation regression results

	(1)	(2)	(3)
Variables	Median Earnings	Mean Earnings	Mean Compensation
$\frac{1}{3}\sum_{0}^{2} \Delta \log prod_t$	**1.185***** (0.000)	**1.566***** (0.000)	**1.967***** (0.000)
$\frac{1}{3}\sum_{0}^{2} unemp_t$	0.065 (0.864)	0.565 (0.203)	0.564* (0.094)
$\frac{1}{3}\sum_{0}^{2} unemp_{t-1}$	**-0.999**** (0.017)	**-1.410***** (0.007)	**-1.631***** (0.000)
$\frac{1}{3}\sum_{0}^{2} \Delta inf_t$	**-1.242***** (0.000)	**-1.244***** (0.000)	**-1.403***** (0.000)
Constant	**0.041***** (0.000)	**0.035***** (0.003)	**0.044***** (0.000)
F-test[§]	1.99 (0.176)	**10.57***** (0.0047)	**50.45***** (0.000)
R^2	0.889	0.861	0.956

Note: dependent variables are in three-year moving average, logged, differenced form.
[§]Null hypothesis is that coefficients are equal to 1.
Robust standard errors used.
p-values in parenthesis.
***** p<0.01**,**** p<0.05**, * p<0.1

Table D – Earnings percentiles 1-9 (less the median) regression results table.

	β_n-coefficients						
Dependent Variable	$prod_t$	$unemp_t$	$unemp_{t-1}$	inf_t	**Constant**	**F-test**§	**R^2**
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{1,t}$	**0.943***** (0.000)	**-1.396**** (0.017)	0.267 (0.629)	**-0.756**** (0.027)	.058 (0.000)	0.08 (0.779)	0.836
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{2,t}$	**0.931***** (0.000)	-0.825* (0.073)	-0.303 (0.501)	**-0.953***** (0.000)	.054 (0.000)	0.23 (0.638)	0.874
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{3,t}$	**1.092***** (0.000)	-0.298 (0.416)	-0.724* (0.068)	**-1.123***** (0.000)	.046 (0.000)	0.60 (0.449)	0.901
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{4,t}$	**1.154***** (0.000)	-0.102 (0.766)	**-0.850**** (0.030)	**-1.173**** (0.000)	.042 (0.000)	1.59 (0.225)	0.900
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{6,t}$	**1.271***** (0.000)	0.298 (0.417)	**-1.200***** (0.005)	**-1.253***** (0.000)	.039 (0.000)	4.16* (0.057)	0.894
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{7,t}$	**1.364***** (0.000)	0.390 (0.324)	**-1.288***** (0.005)	**-1.203***** (0.000)	.038 (0.000)	**6.26**** (0.023)	0.885
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{8,t}$	**1.430***** (0.000)	0.539 (0.192)	**-1.491***** (0.002)	**-1.263***** (0.000)	.040 (0.000)	**9.21***** (0.008)	0.896
$\frac{1}{3}\sum_{0}^{2} \Delta \log wage_{9,t}$	**1.501***** (0.000)	0.488 (0.247)	**-1.557***** (0.002)	**-1.230***** (0.000)	.045 (0.000)	**11.14***** (0.0039)	0.891

Note: independent variables are in three-year moving average form, and logged and differenced as baseline specification indicates.
§Null hypothesis is that coefficients are equal to 1.
Robust standard errors used.
p-values in parenthesis
***** p<0.01**,**** p<0.05**, * p<0.1

Table E – Productivity elasticities from various different specifications.

Alternative Specification		(1) Median Earnings	(2) Mean Earnings	(3) Mean Compensation
A1	Without unemployment	**1.176***** (0.000)	**1.458***** (0.000)	**1.861***** (0.000)
A2	Without inflation	**0.984***** (0.000)	**1.364***** (0.000)	**1.740***** (0.000)
A3	With time trend	-.1918951 (0.185)	-0.322 (0.641)	**2.107***** (0.000)
A4	With pre-2008 dummy variable	0.130 (0.859)	0.671 0.471	**2.156***** (0.000)
A5	Contemporaneous only	**0.882***** 0.002	**1.138***** 0.001	**1.934***** 0.000
A6	Contemporaneous w/o inflation	0.320 0.179	**0.543**** 0.047	**1.164***** 0.003
A7	2-year moving average	**1.120***** (0.000)	**1.455***** (0.000)	**1.946***** (0.000)
A8	4-year moving average	**1.210***** (0.000)	**1.598***** (0.000)	**1.954***** (0.000)
A9	5-year moving average	**1.261***** (0.000)	**1.658***** (0.000)	**1.992***** (0.000)
A10	Net Productivity (NVA)	**1.268***** (0.000)	**1.668***** (0.000)	**2.040***** (0.000)
A11	Gross Productivity (GVA)	**1.302***** (0.000)	**1.729***** (0.000)	**2.066***** (0.000)
A12	Gross Productivity (GDP)	**1.230***** (0.000)	**1.638***** (0.000)	**2.008***** (0.000)
A13	Unrestricted employment	**1.039***** (0.000)	**1.408***** (0.000)	**1.786***** (0.000)
A14	CPIH-based inflation	**1.0635***** (0.000)	**1.438***** (0.000)	**1.804***** (0.000)

Note: unless stated otherwise, variables modelled as baseline specification.
p-values in parenthesis.
Robust standard errors used.
*** **p<0.01**,** **p<0.05**, * p<0.1
Cells that cannot reject the $\beta = 1$ *F-test at the 5% significance level are shaded grey.*