PEGFA

# Policy Brief

**The macroeconomic effects of public spending in health and education and capital and progressive taxation of profits and wealth**

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**Abstract**

A policy mix suggested by UNITE (2024) based on increasing public spending in health and education by increasing the wage rates of public sector workers by 23% and increasing employment amounting to a further 2.79%-point increase in public spending as a ratio to GDP, a 2%-point increase in public gross fixed capital formation, a 7.1%-point increase in the average effective tax rate on profit income, a progressive wealth tax on the top 1% increasing the average effective tax rate on wealth by %0.38%-point, and a New Deal for Workers increasing labour's power, which is estimated to increase the wage rates in the private sector by 3.24% could lead to substantial improvements in income, employment and public finance. The estimated effects suggest that in response to this policy mix GDP increases by 22.44%, employment increases by 2.83%,private investment as a ratio to GDP increases by 6.50%, public debt/GDP decreases by 9.45%-point, thanks to a very strong increases in GDP, despite a high increase in public spending.

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**The macroeconomic effects of public spending in health and education and capital and progressive taxation of profits and wealth**

This policy brief presents the effects of the policy mix proposed by the UNITE the Union (2024) ahead of the 2024 general elections in the UK on GDP, employment and public debt. The policy mix consists of increasing public spending in health and education and gross fixed capital formation, progressive taxation of profits and wealth and measures to increase the bargaining power of labour. The parameters used in the simulations are based on econometric estimations by Onaran, Oyvat, Fotopoulou (2022, 2023).[1] The detailed components of the policy mix is as follows (UNITE 2024):

A. The public spending in health and education (social infrastructure) consists of both 1) increasing the wage rates of public sector workers by 23% in real terms and 2) increase in employment amounting to a 2.79%-point increase in public spending as a ratio to GDP.
B. A further 2%-point increase in public gross fixed capital formation targeting both the green economy and other public physical infrastructure.
C. A 7.1%-point increase in the average effective tax rate on profit income.[2]
D. A progressive wealth tax on the top 1% starting with a marginal tax rate of 1% reaching to 4% at the top 0.1% based on Tippet, Wildauer Onaran (2024).[3] This increases the average effective tax rate on wealth to 1.37% from 0.99% (by %0.38%-point).

[1] Onaran et al. (2022, 2023) presents estimations using Instrumental Variables revising the OLS estimations in the project by Onaran et al. (2019) "The effects of income, gender and wealth inequality and economic policies on macroeconomic performance in the UK" funded by the Economic and Social Research Council (ESRC) Rebuilding Macroeconomics Network Plus grant. These estimates do not take into account potential non-linear negative effects or supply bottlenecks as an outcome of a high increase in public spending or wages a short period.
[2] The author is grateful to Alexander Guschanski, Thomas Rabensteiner and Rob Calvert Jump for calculating the increase in average effective tax rate on corporate profits corresponding to UNITE (2024).
[3] Individuals with net wealth above £2.2 million (the top 1%) are taxed at a marginal rate of 1%; above £3.6 million (the top 0.5%) at a marginal rate of 2% and above £11.2 million (the top 0.1%) at a marginal rate of 4%.

E. New Deal for Workers increasing labour's power, which is estimated to increase the wage rates in the private sector by 3.24% based on Onaran, Guschanski, Rabensteiner (2024).[4]

The Appendix presents the effects of each of these policies on the components of aggregate demand (private household consumption, private investment, exports, imports, government spending in social and physical infrastructure and other government spending) after accounting for the multiplier effects, GDP, employment (both total and separately of women and men), and public debt/GDP. The short run is where policies do not influence labour productivity (output/hours of work) and the medium run is where changes in wages, private or public investment in social and physical infrastructure improve productivity.  In summary after accounting for productivity increases,

A1. 23% public sector pay leads to an increase in GDP by 10.07%, and a decrease in public debt/GDP by 3.97%-point.

A2. A further 2.79%-point increase in public spending in health and education (as a ratio to GDP) leads to an increase in GDP by 10.16%, and a decrease in public debt/GDP by 0.15%-point.

B. A 2%-point increase in public gross fixed capital formation (as a ratio to GDP) leads to an increase in GDP by 4.90%, and a decrease in public debt/GDP by 0.57%-point.

[4] Onaran, Guschanski, Rabensteiner (2024) presents a simulation for  3.24%-point rise in the wage share based on Obst, Onaran, Nikolaidi (2020) and Guschanski and Onaran (2018). For a constant productivity in the short-run, we assume this is equivalent  to a rise in the wage rate. In the medium run productivity changes endogenously.

C. A 7.1%-point increase in average effective tax rate on profit income leads to a decrease in GDP by 4.56% (primarily due to a 2.06%-point decline in private investment as a ratio to GDP), and a decrease in public debt/GDP by 1.54%-point.

D. A 0.38%-point increase in average effective tax rate on wealth leads to an increase in GDP by 1.63%, and a decrease in public debt/GDP by 3.92%-point.

E. A 3.2% increase in wage rates in the private sector due to New Deal for Workers leads to an increase in GDP by 0.25%, and a decrease in public debt/GDP by 0.43%-point.

Finally, adding up the effects of these 6 policies (see the final row in the Appendix Table),

- GDP increases by 22.44%,
- employment increases by 2.83%,
- private investment as a ratio to GDP increases by 6.50%,
- public debt/GDP decreases by 9.45%-point, thanks to a very strong increases in GDP, despite a high increase in public spending.

## References

Obst, Thomas , Onaran, Özlem, Nikolaidi, Maria (2020), The effects of income distribution and fiscal policy on aggregate demand, investment and the budget balance: the case of Europe. Cambridge Journal of Economics, 44 (6): 1221-1243

Onaran, Özlem, Oyvat, Cem, Fotopoulou, Eurydice 2023. Can wealth taxation fund public investment in a caring and sustainable economy? The case of the UK, *Cambridge Journal of Economics*, 47(4):703–724 2023

Onaran, Özlem, Oyvat, Cem, Fotopoulou, Eurydice 2022. A macroeconomic analysis of the effects of gender inequality, wages, and public social infrastructure: the case of the UK, *Feminist Economics*, 28:3, 23-55

Onaran, Ö, Oyvat, C. and Fotopoulou, E. 2019. "The effects of income, gender and wealth inequality and economic policies on macroeconomic performance in the UK", Greenwich Papers in Political Economy, No71, ESRC Project Report

Onaran, Özlem, Guschanski, Alexander and Rabensteiner, Thomas 2024. Business case for a New Deal for Workers: What is good for Workers is good for the Economy, PEGFA Policy Brief no: 30

Guschanski, Alexander and Onaran, Özlem (2018), Determinants of the wage share: A cross-country comparison using sectoral data. CESifo Forum, 19 (2) . pp. 44-54

Tippet, Ben, Wildauer, Rafael, Onaran, Özlem 2024. The case for a progressive annual wealth tax in the UK, PEGFA Policy Brief no: 31

UNITE Research, 2024. Workers' Manifesto.

**Appendix** (simulations based on Onaran et al. 2022, 2023)

The total (post-multiplier) effects of changes in fiscal and labour market policies on the components of aggregate demand (as a ratio to GDP), GDP, employment and public debt/GDP

| | %-point change in consumption in rest f the economy /GDP | %-point change in consumption in ealth and Education /GDP | %-point change in private investment /GDP | %-point change in exports /GDP | %-point change in imports in N /GDP | %-point change in public social infrastructure investment /GDP | %-point change in government current expenditure /GDP | %-point change in public physical infrastructure investment /GDP | % Change in GDP | % change in total employment | % change in female employment | % change in male employment | %-point change in public debt /GDP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ΔCN/Y | ΔCH/Y | ΔI/Y | ΔX/Y | ΔM/Y | ΔGH/Y | ΔGC/Y | ΔIG/Y | ΔY/Y | ΔE/E | ΔEF/EF | ΔEM/EM | ΔD/Y |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9)(i) | (10) | (11) | (12) | (13) |
| A.1. The effects of a 23% increase wage rates in Health and Education | | | | | | | | | | | | | |
| SR | 5.342 | 1.425 | 2.914 | 0.000 | 3.678 | 3.171 | 1.076 | 0.316 | 10.565 | 11.125 | 11.413 | 10.895 | -4.225 |
| MR | 1.542 | 1.285 | 3.185 | 1.508 | 1.885 | 3.111 | 1.026 | 0.301 | 10.074 | -1.286 | 0.321 | -2.575 | -3.974 |
| A.2. The effects of a 2.79%-point increase in public spending in health and education (social infrastructure)/GDP by increasing employment | | | | | | | | | | | | | |
| SR (ii) | 5.676 | 0.197 | 2.924 | 0.000 | 3.402 | 4.121 | 1.116 | 0.328 | 10.961 | 16.229 | 19.793 | 13.370 | -3.341 |
| MR (ii) | 1.951 | 0.061 | 2.943 | 1.412 | 1.573 | 4.023 | 1.034 | 0.304 | 10.156 | 4.243 | 9.034 | 0.402 | -0.150 |
| B. The effects of a 2%-point increase in public physical infrastructure investment/GDP (green and other) | | | | | | | | | | | | | |
| SR | 2.134 | 0.065 | 1.101 | 0.000 | 1.955 | 0.545 | 0.456 | 2.134 | 4.479 | 4.716 | 4.838 | 4.618 | -0.650 |
| MR | 2.050 | 0.055 | 1.315 | 0.183 | 1.946 | 0.595 | 0.499 | 2.146 | 4.898 | 3.711 | 4.007 | 3.475 | 0.575 |
| C. The effects of a %-point increase in the tax rate on profit income | | | | | | | | | | | | | |
| SR | -1.637 | -0.047 | -0.991 | 0.000 | -0.987 | -0.275 | -0.230 | -0.068 | -2.261 | -2.380 | -2.442 | -2.331 | -0.984 |
| MR | -3.000 | -0.069 | -2.058 | -0.132 | -1.853 | -0.554 | -0.464 | -0.136 | -4.561 | -3.761 | -4.002 | -3.568 | -1.539 |
| D. The effects of a 0.36%-point increase in the tax rate on wealth | | | | | | | | | | | | | |
| SR | 0.098 | 0.004 | 0.211 | 0.000 | 0.115 | 0.032 | 0.027 | 0.008 | 0.264 | 0.278 | 0.285 | 0.272 | -1.585 |
| MR | 0.859 | 0.022 | 1.013 | 0.015 | 0.694 | 0.198 | 0.166 | 0.049 | 1.626 | 1.595 | 1.652 | 1.549 | -3.925 |
| E. The effects of a 3.2% increase in wage rates in the private sector due to New Deal for Workers | | | | | | | | | | | | | |
| SR | 0.868 | 0.026 | -0.081 | -0.359 | 0.405 | 0.008 | 0.007 | 0.002 | 0.067 | 0.071 | 0.073 | 0.069 | -0.171 |
| MR | 0.416 | 0.007 | 0.102 | -0.114 | 0.227 | 0.030 | 0.025 | 0.007 | 0.247 | -1.670 | -1.447 | -1.849 | -0.435 |
| F. Sum A1+A2+B+C+D+E | | | | | | | | | | | | | |
| SR | 12.480 | 1.671 | 6.078 | -0.359 | 8.568 | 7.602 | 2.451 | 2.720 | 24.076 | 30.038 | 33.960 | 26.894 | -10.956 |
| MR | 3.818 | 1.362 | 6.501 | 2.873 | 4.473 | 7.403 | 2.285 | 2.671 | 22.441 | 2.833 | 9.566 | -2.566 | -9.447 |

Notes: (i) Column (9)=(1)+(2)+(3)+(4)-(5)+(6)+(7)+(8). In each column, the marginal effects are divided by Y.
(ii) SR: short run. MR: medium-run, defined as the cumulative of the effects when productivity changes endogenously.