Investigating productivity-compensation decoupling across industries and income levels from 1997-2019.

# Introduction

In modern, developed economies, there has been emerging a branch of literature related to the decoupling of labour productivity and compensation across time. The concern is that labour productivity has risen consistently year-over-year, whereas median compensation has stagnated.

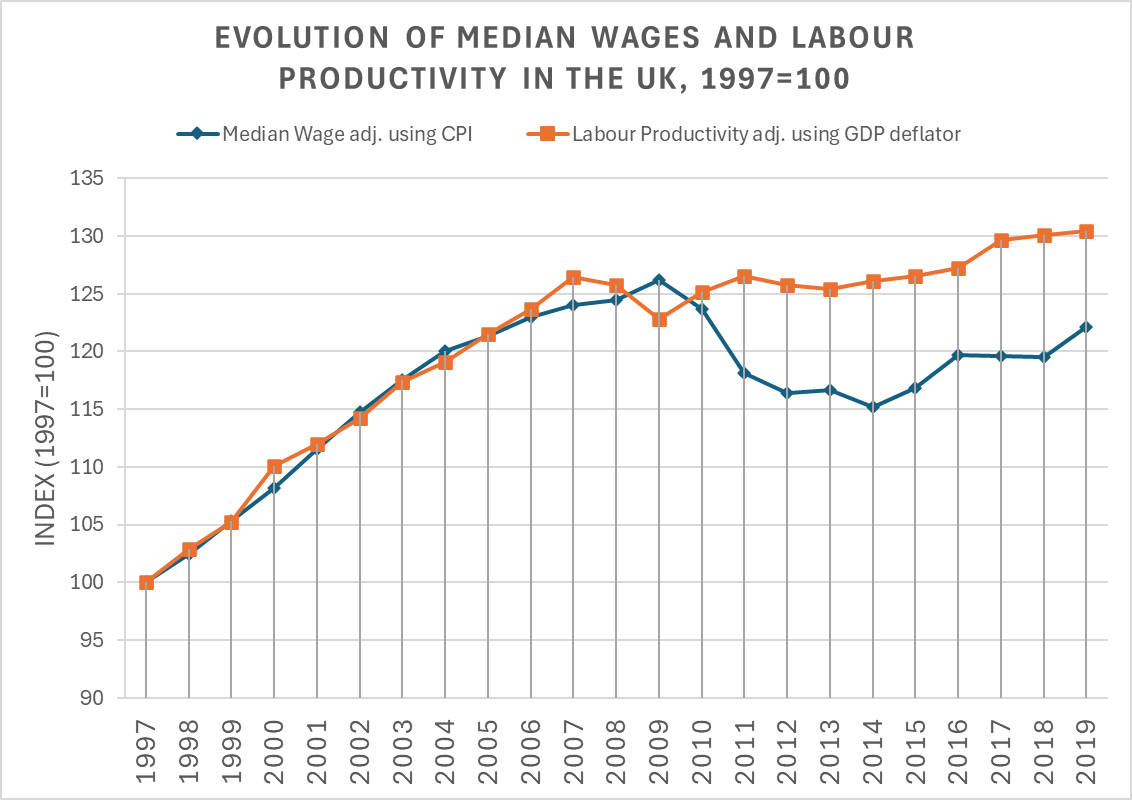


Figure – Median wages sourced from ASHE Table 4.5a 1997-2019, Productivity from ONS Blue Book 2023.

Tracking growth rates through indices is common practice in the literature (Brill2017; Fleck2011; VanReenen2013; Teichgraeber2021), although it may create confusion of when exactly decoupling occurs. Figure 1 shows the relative growth of average productivity and median wages (different compensation measures will be discussed later) from 1997 and both curves diverge around 2011. Pessoa & Van Reenen (2013) catalogue changes from 1948 and their curves diverge around 1992, finally Teichgraeber & Van Reenen (2021) catalogue changes from 1981, identifying divergence around 1990. To explain this heterogeneity, decoupling should be understood not simply as a visual divergence, but a sharp difference in the curves’ slopes which is not later compensated. This can be seen in figure 2.

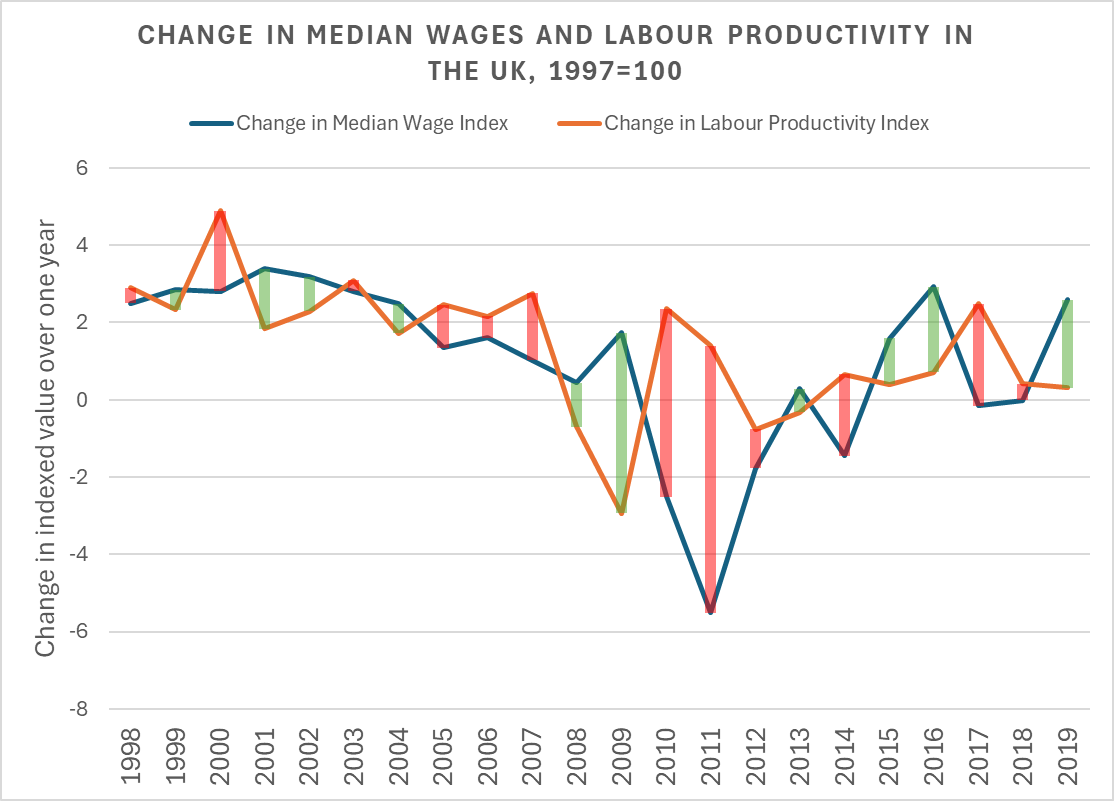


Figure 2

Using figure 2, decoupling clearly occurs in 2011

Decoupling is concerning because increases in productivity are traditionally seen by economists as one of the main drivers of standards of living (Hornbeck2019p. 1) and because many models of economic growth, e.g., Solow’s (1956) economic growth model or Kaldor’s (1957) set of stylised facts, derive or assume a positive relationship between the average wage and the productivity of labour. Pessoa & Van Reenen’s (2013) distinction between ‘net’ and ‘gross’ decoupling is therefore critical to understand how the decoupling shown in figure 1 relates to mainstream economic theory.

Net decoupling, , is equivalent to a decline in the labour share, and can be measured as the difference between labour productivity and *mean compensation* where both are adjusted by an output price deflator; gross decoupling, , which is shown in figure 1, is defined as the difference between productivity and *median wages*, deflated by an output price and consumer price deflator, respectively. Consequently, differences between the two measures can be broken down:

Where represents differences between mean and median wages, represents differences between wages and total compensation per hour, and represents differences between producer/output and retailer prices. The importance of distinguishing between producer and retailer prices will be explained.

Evidence of net decoupling would seem to contradict existing economic growth models and assumptions, while evidence of gross decoupling would not be so surprising. Inequality has certainly increased since 1997, with real mean wages growing 26.18% while real median wages only grew 22.15%; furthermore, Pessoa & Van Reenen (2013) find strong divergence between wages and total compensation, with employers gradually spending a higher proportion of labour compensation on non-wage benefits such as pension contributions.

However, even while gross decoupling would not so surprising, it clearly casts doubt on whether increases in productivity can be relied on to increase standards of living.