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State and the economy:
A strategy for wage-led development

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Abstract: Since the 1980s there has been a clear reversal of the trends towards relatively egalitarian income distribution achieved during the post-war era, with a global race to the bottom in the share of wages in national income in the UK and elsewhere. This decline in the wage share was associated with a weaker and volatile growth performance. In the UK, similar to the US or the periphery of Europe, households increased their debt to maintain consumption levels in the absence of decent wage increases. The crisis of 2007-9, and the subsequent Great Recession has proven the fragility of this model. The recovery in Britain is built once again on the shaky ground of household debt instead of wage growth. Empirical evidence shows that in the vast majority of countries a fall in the wage share leads to lower growth; this is what we call a wage-led growth economy. The UK is a typical example of a wage-led economy. In a wage-led country like the UK, or the EU as a whole, more egalitarian policies are consistent with growth. A wage-led recovery out of the financial crisis is feasible, but will need political will to achieve. Globalisation is not an impediment to a wage-led development strategy. The UK and the EU as a whole would be the economies that would benefit most from a coordinated boost to the wage share at the global level. As such, the UK and Europe could, and should, take a step forward in terms of radically reversing the fall in the wage share. This would then create space for egalitarian growth strategies at a global level. The fall in the wage share has been a deliberate outcome of policies that led to the fall in the bargaining power of labour, welfare state retrenchment, and financialisation. The solution therefore lies in reversing this process. Policies should be in place to ensure that nominal wages increase in line with inflation and productivity. This should follow an initial gradual correction of the loss in the wage share in the past three decades. A strategy of wage-led development requires a policy mix that includes labour market policies aiming at pre-distribution, as well as redistributive policies through progressive taxes. Furthermore, distribution policies need to be complemented by a macroeconomic and industrial policy mix. Wage policies have to be embedded into broader targets of equality, full employment, and ecological sustainability.

Keywords: wage share, wage-led growth, minimum wage, living wage, public investment, pre-distribution, redistribution, collective bargaining

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1. Introduction

More than five years after the Great Recession, we have experienced not only the slowest recovery in the history of the UK, but also an upturn without a recovery in real wages. Real earnings in 2014 (deflated by the RPI) are at the same level as they were in 2000, and are still 13.8% below their peak level of 2008[1]. While there is some excitement that nominal wages have finally caught up with inflation after five years of real wage decline, in early 2014, earnings are still lagging behind inflation in RPI.[2] The weekly earnings of typical self-employed people, a major source of the job creation during this so-called recovery, have been hit far harder than those of employees, who have already experienced unprecedented falls (D'Arcy and Gardiner, 2014).[3] . There is also no recovery for those trapped on zero-hours contracts. But there is one more important issue that is missing in the debate: the distribution of income between wages and profits. Even when nominal wages start rising faster than prices, if real wages (nominal wages adjusted for inflation), do not rise along with productivity (output per employee), the share of labour in the national income pie will contract in favour of the owners of capital. This is what the UK has been experiencing in the last three decades, well before the crisis of 2008.

A dramatic decline in the wage share in national income has been a common trend in both the developed and developing world, along with neoliberal policy reforms following the 1980s. These reforms promised to stimulate private investment and exports, which in turn were expected to generate higher growth, the trickle-down effects of which were believed to be the creation of more jobs. This has not happened. In fact the fall in the wage share is responsible

[1] In 1987 prices (deflated by RPI index with the base year value in 1987 indexed to 100), the real weekly earnings (including bonuses) in January 2000 was £186.7, and they are £186.0 in 1987 prices (£474 in current prices) as of March 2014. In the peak of February 2008, they were £215.7 in 1987 prices. Own calculations based on ONS data available at http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Weekly+Earnings#tab-data-tables and http://ons.gov.uk/ons/taxonomy/index.html?nscl=Retail+Prices+Index#tab-data-tables.

[2] Own calculations based on ONS data as above.

[3] In 2011-12 the typical self employed person earned 40% less than the typical employed person; this is a remarkable increase in the gap from its level of 28% in 2006-07 (D'Arcy and Gardiner, 2014).

for lower and more volatile growth rates, and a crisis-prone economy in the UK and across most other major economies in the world (Onaran and Galanis, 2012). This is because wages are not just a cost but a source of demand; wage stagnation leads to lower demand, and hence potentially lower growth. In the UK, just as in the US, debt accumulation by working people has substituted the lack of wage growth, and maintained consumption in the run up to the crisis. Since 2007, we have seen that this was a fragile and unsustainable model.

Capitalism needs workers and their wages as much as it needs big-business and their profits. If the fruits of technological change and increasing productivity are not shared by workers, capitalism faces demand deficiency and potentially a crisis of realisation of profits.

Even the World Economic Forum, which represents the interests of big business, has been listing income inequality as the greatest global risk since 2012. Christine Lagarde, Managing Director of the International Monetary Fund (IMF), in her speech at the 2013 World Economic Forum said: "Excessive inequality is corrosive to growth; it is corrosive to society. I believe that the economics profession and the policy community have downplayed inequality for too long." Until recently economic orthodoxy, including the IMF has purposefully overlooked inequality, but most of their recent concern has been focused on the very bottom of the wage distribution, or more recently the top of the distribution, while nothing has been said about the middle. The financial crisis opened up an historic window of opportunity for those working broadly on the causes and consequences of the fall in the share of wages in national income. Nevertheless, what is advocated in speeches or discussion notes (e.g. Ostry et al, 2014), is far from translating itself to the policy of the governments or international institutions such as the IMF. The aim of this paper is to illustrate why capital's victory over labour has been empty[4], and why inequality hampers rather than spurs growth and job creation.

[4] See Johnson (2013), who has reported the findings of Onaran and Galanis (2012) in The Financial Times with the title "Capital gobbles labour's share, but victory is empty."

2. Falling wage share, rising top income share

Since the 1980s there has been a clear reversal in the trends towards relatively egalitarian income distribution that were achieved during the post-war era, with a global race to the bottom in the share of wages in GDP (Onaran and Galanis, 2012; Stockhammer, 2013; OECD 2012). This has been due to real wages (nominal wages after correcting for the rise in prices) increasing at a slower pace than productivity in most years, with even decreasing real wages in some instances – a process referred to as wage moderation.

Figure 1 shows the adjusted wage share[5] in the UK, the original 12 Eurozone member states (Eurozone-12) and the US, plotted against growth rates in GDP. There is a clear secular decline in the wage share in all countries starting from the late 1970s or early 1980s. The share of wages in UK GDP fell from 77.3% in 1975 to 68.5% in 2008. It is true that during the crisis productivity fell even more than real wages, and labour share increased in 2009, as it mostly does during recessions; however this trend is reversed in 2010-11 and then again in 2013 as labour share fell once again. Historically, the wage share tends to rise during recessions as companies hold on to workers, then falls back in a recovery. But during the Great Recession the labour share did the opposite: it fell soon after the initial year of the recession, and when the recovery began it kept falling. This has important consequences for aggregate demand and may partly explain why the recovery is so weak or stagnation has persisted.

[Figure 1]

[5] Wages are adjusted labour compensation, calculated as real compensation per employee multiplied by total employment. In the national accounts, all income of the self-employed are classified as operating surplus. However, since part of this mixed income is a return to the labour of the self-employed, the simple (unadjusted) share of labor compensation in GDP underestimates the labour share. Thus the adjusted wage share allocates a labour compensation for each self-employed person equivalent to the average compensation of the dependent employees. This methodology is used by the OECD and AMECO for calculating adjusted labour share.

The fall in the UK or the US seems to be more moderate than in the Eurozone; but this is only because the very high top managerial wages, specific to Anglo-Saxon countries, are reported in the national accounts as part of labour compensation. In the Anglo-Saxon countries a drastic rise in the remuneration of top managers has occurred since the 1980s (Atkinson *et al.*, 2011). Managerial wages did not experience the same surge in continental Europe. If we could calculate the wage share excluding these top managerial wages, the fall in the UK would look more like that in the Eurozone, which is about 11%-point over the last three decades.

After the US, the top 1% income share is highest in the UK with 13% as of 2011, as can be seen in Figure 2. Prior to the crisis, the top 1% income share had almost reached its historical peak levels previously seen before World War I and the Great Depression in the UK and the US.

[Figure 2]

Between 1976 and 2007 in the UK, the income of the top 1% has grown by 3.7% in real terms as opposed to almost stagnation – growth of a mere 0.6% - in the real income of the bottom 99% (TUAC OECD, 2013). The fraction of growth captured by the top 1% has been 24.3% in the UK.

The rise in personal income inequality, in particular top income shares, and the surge of the 'working rich' as part of it, has attracted most of the mainstream focus. Similarly, there is increasing recognition of the concerning growth of the low-wage and precarious workforce - the working poor. At the same time as managerial wages were rising, a significant low-wage segment emerged in both the UK and the US , as well as in countries like Germany, where top income shares did not experience a significant rise. While the developments in the top and bottom of the wage distribution are important causes, the silence regarding the middle of the wage distribution, and overall the fall in the share of wages at the expense of rising share of capital (profits) in national income is remarkable.

In reality, the rise in personal income inequality is interlinked with the declining share of labour income in favour of capital income, i.e. rising functional income inequality, because the distribution of capital income is more unequal than that of labour income; hence a decrease in the labour share in national income and a rise in capital's income share makes the economy more unequal, and increases personal income inequality as well (Daudey and Garcia-Penalosa, 2007; Dafermos and Papatheodorou, 2011). Evidence shows that the increase in capital's share in national income at the expense of labour income was the main driving force behind the increase in personal income inequality (Wolff and Zacharias, 2013).

The rise in the profit share and top income shares went along with a dramatic rise in wealth accumulation at the top as well (Goda, 2014). The net wealth of the so called high net worth individuals[6] (HNWIs) increased more than 1.5-fold between 2002 and 2007, from US$26.7 to US$41 trillion; the global wealth holdings of billionaires increased even more by 2.3-fold (Goda, 2014). Both the HNWI population and the mean wealth per HNWI increased. Personal income inequality and wealth concentration self-reinforce each other, because high income households save a higher proportion of their income and also income from capital is an important part of income at the top of the distribution.

The redistribution from labour to capital has been so stark that it eventually attracted the attention of even the orthodox international institutions in the 2000s with both the IMF and the European Commission (EC) publishing reports. The mainstream conclusion, informed by neoclassical theory, as most prominently represented by the IMF (2007), the EC (2007) and Bassanini and Manfredi (2012) of the OECD, is that technological change is the primary determinant of falling wage shares; globalisation is listed as the second most important cause.

[6] HNWI are individuals who have a net worth of at least US$1 million (primary residency excluded).

The policy translation of these mainstream findings is that the fall in the wage share is inevitable as long as we are not against technical change and globalisation; hence nothing can be done, other than perhaps skill upgrading. However, the fall in the share of labour and the rise in profit share are not limited to unskilled industries; it has happened also in industries hiring predominantly skilled labour.[7] Moreover, Stockhammer (2013) argued that a close examination of the reported findings reveals that the the negative effects of technology were not robust in different estimation methods or specifications. Indeed both the IMF (2007) and the EC (2007) report that the effect of technological change on labour's share is not significant any more when a time trend[8] is included. However, instead of interpreting these non-robust effects of technology with caution, they rather make a strong case that the fall in the wage share is an outcome of technological progress. Hence, the policy implication of these mainstream institutions is that the fall in labour share is predominantly an unavoidable consequence of technological change; as long as we are not against technology, we have to accept the rise in inequality in favour of capital. On the contrary, the political economy approach (Rodrik, 1997; Diwan, 2001; Harrison, 2002; Onaran, 2009; Jayadev, 2007; Rodriguez and Jayadev, 2010; ILO, 2011; Kristal, 2010; Stockhammer, 2013) emphasises the negative effects of globalisation, financialisation, and the decline in government spending on the bargaining power of labour, and hence the wage share. The implication of these political economy findings is that the fall in the wage share is an outcome of policy design, and can be reversed by the correct policies. These will be discussed in more detail in the final section of the paper.

[7] IMF (2007) attempts to distinguish the effects on the wage share of workers in skilled and unskilled industries; however the study claims that the income share of skilled workers rose by focusing on the share of the wage bill in the industries using predominantly skilled labour as a ratio to the economy-wide value added, rather than the share of wages in the skilled sectors as a ratio to the value added in those sectors, which is also mentioned in a figure in the paper. According to the latter indicator, which is reported but not discussed in the IMF study, the labour share of skilled workers is also falling in some major economies.

[8] These are called time effects in panel data estimations.

3. The effect of falling wage share on growth

An important question is how economies performed during these decades of decline in the wage share. Figure 1 above plots both the wage share and growth rates and Table 1 below shows in more detail the average growth rates in GDP in different periods in the UK, Eurozone-12 and the US. The decline in the wage share was associated with a weaker growth performance in each decade compared to the previous decade in all cases. In the UK, the seemingly higher growth rates of 2000-2007 are an illusionary outcome with hindsight. In the absence of strong productivity-oriented wage increases, increasing household debt fuelled consumption; this provided a fragile growth model, which collapsed with the Great Recession. Average annual growth in the 2000s (2000-13) in the UK, including the years of the Great Recession, was a dismal 1.7%.

[Table 1]

What do competing economic theories predict about the effect of a fall in the wage share, hence a rise in the profit share on growth? Mainstream economic policy informed by neoclassical economics emphasises the supply side rather than the demand side of the economy; and assumes that demand will follow supply. Typically, wages are treated merely as a component of cost. When the wage share falls, and profit share increases this is expected to lead to a rise in private investment due to higher profitability, as well as net exports due to lower unit labour costs, and thus higher international competitiveness. This thinking guides policies promoting wage moderationin the UK and Europe. E.g. the European Commission (2006) explicitly argues that wage moderation, i.e. real wage growth below productivity growth, is the key to preserve growth and jobs in a competitive global economy. From this perspective, further deregulation in the labour markets would be seen as a positive development to ensure wage moderation.

However, the facts summarised in Figure 1 and Table 1 clearly pose a puzzle from the perspective of these mainstream policies. Why is growth lower in the post-1980s despite a rise in the profit share?

Post-Keynesian/post-Kaleckian models address this by integrating the dual role of wages both as a cost and a source of demand.[9] These models synthesise the ideas of Keynes, Kalecki, and Marx, and while they accept the direct positive effects of higher profits on private investment and net exports as emphasised in mainstream models, they contrast these positive effects with the negative effects on consumption. Demand plays a central role in determining growth, and the distribution of income between wages and profits have a crucial effect on demand.[10] Firstly, consumption is expected to decrease when the wage share decreases, since workers consume more as a proportion of their income compared to the owners of capital. In technical terms, the marginal propensity to consume out of wage income is higher than that out of profit income. Secondly, a higher profitability (a lower wage share) is expected to stimulate private investment for a given level of aggregate demand. Thirdly, net exports (exports minus imports), for a given level of domestic and foreign demand, will depend negatively on unit labour costs, which are by definition, closely related to the wage share. Thus, the total effect of the decrease in the wage share on aggregate demand of the private sector (households and firms) depends on the relative size of the reactions of consumption, private investment and net exports to changes in income distribution. If the total effect is negative, the demand regime is called wage-led; otherwise the regime is profit-led.

[9] The theoretical models have been formally developed by Rowthorn (1981), Dutt (1984), Taylor (1985), Blecker (1989), Bhaduri and Marglin (1990).

[10] The distribution of income between wages and profits, i.e. labour and capital, reflects the “functional distribution of income” between different classes. The emphasis on personal income distribution in the mainstream debates on inequality, e.g. the share of top 1%, neglects the change in the distribution of income between labour and capital. However, the latter has significant consequences for demand. Needless to say, this does not mean that the rise in top income shares is unimportant, but the analysis of inequality should incorporate the inequality between classes as well.

Theoretically, both are likely scenarios, and whether the negative effect of lower wages on consumption, or the positive effect on investment and net exports is larger in absolute value, is an empirical question depending on the parameters of an economy. If consumption is very sensitive to distribution, i.e. if the differences in the marginal propensity to consume out of wages and profits is very high; if investment is not very sensitive to profits, but responds more to demand; if domestic demand constitutes a more significant part of aggregate demand; and if net exports are not very responsive to relative prices and the effect of labour costs on export prices are not very large, then the economy is more likely to be wage-led. If the responsiveness of investment to profits is rather strong and foreign trade is an important part of the economy (as is the case in small open economies) and is very responsive to labour costs, then the economy is more likely to be profit-led. In a wage-led economy, a fall in the labour share would generate a decline in GDP; for growth a higher wage share is required. Pro-capital policies would generate more growth only if an economy is profit-led.

While Post-Keynesian/post-Kaleckian models offer a general theory, which allows for different regimes and opposing effects of the wage share on growth, mainstream economic policy assumes that all economies are profit-led. Indeed the mainstream argument goes beyond that since the EC's policy of wage moderation is prescribed to all the countries in Europe; hence the EC implicitly assumes that Europe as a whole is profit-led. Similarly, these policies have been exported to the developing world through the IMF and the World Bank; hence the implicit assumption must be that the global economy is profit-led.

4. Empirical evidence for wage-led growth

A wide body of empirical research in the tradition of Post-Keynesian/post-Kaleckian models challenge the assumption that all countries are profit-led (e.g. Onaran and Galanis, 2012;

Onaran et al 2011; Stockhammer et al 2009; Hein and Vogel, 2008; Naastepad and Storm, 2007; Stockhammer and Onaran, 2004; Bowles and Boyer, 1995).

This section first summarises our most recent estimation results regarding the effects of the changes in the wage share on growth based on Onaran and Galanis (2012), for the UK as well as other major developed and developing G20 countries. These countries constitute more than 80% of global GDP. In this work, we also go beyond the nation state as the unit of analysis and discuss the global effects based on the responses of each country to changes, not only in domestic income distribution, but also to trade partners' wage share. This is because a change in the wage share in a trade partner affects the import prices and foreign demand for each country. This global interaction is crucial, since neoliberal and pro-capital redistribution policies have been implemented almost simultaneously in many developed and developing countries in the post-1980s period,. Thus we have experienced a global race to the bottom in the wage share.

This empirical analysis is based on econometric estimations of consumption, investment, exports, and imports. Consumption is estimated as a function of adjusted profits, and adjusted wages. Our empirical findings verify that the marginal propensity to consume out of profits is lower than that out of wages in all countries; thus a rise in the profit share leads to a decline in consumption. Private investment is estimated as a function of output and the profit share. To estimate the effects of distribution on net exports we follow a stepwise approach: Exports are estimated as a function of export/import prices, and the GDP of the rest of the world; imports as a function of domestic prices/import prices, and GDP; domestic prices and export prices, are estimated as functions of nominal unit labour costs and import prices. The total effect of a change in wage share on exports is the effect of nominal unit labour costs on prices, the effect of prices on export prices, and the effect of export prices on exports. The effect of the wage share on GDP via the channel of international trade not only depends on the sensitivity of exports and imports to prices, but it also depends on the degree of openness of the economy (*i.e.*, on the share of exports and imports in GDP); thus in relatively small open economies net exports may play a major role in determining the overall outcome; the effect becomes much lower in relatively closed large economies.

Table 2 summarises the effects of a 1%-point increase in the profit share on consumption, investment, and net exports based on the estimations by Onaran and Galanis (2012).

[Table 2]

One finding stands out as a robust result for all countries. When the profit share increases, this leads a much more substantial fall in domestic consumption compared to the rise in private investment. Ignoring exports and imports for a second, looking at only on the effects on domestic demand, i.e. the effects on consumption and investment (in columns A and B), the negative effect of the increase in the profit share on private consumption is substantially larger than the positive effect on private investment in absolute value in all countries. This means that demand in the domestic sector of economies, leaving the foreign demand aside, is clearly wage-led.[11] Hence, domestic demand unambiguously contracts when the wage share falls and profit share increases. However, the effects on net exports in Column C then have a crucial role in determining whether the economy is profit-led. Column D reports the total effect on private demand. Column E shows the total effects after the multiplier process: The initial change in private demand due to a change in income distribution leads to a multiplier mechanism, which affects consumption, investment, and imports. This magnifies the effects of a change in income

[11] Consistent with our findings, previous findings for the individual countries in the literature also mostly conclude that domestic demand is wage-led. See Stockhammer et al (2009) for the Euro area; Stockhammer and Stehrer (2011) for Germany, France, US, Japan, Canada, Australia; Naastepad and Storm (2007) for Germany, France, Italy, UK; Hein and Vogel (2008) for Germany, France, UK, US; Bowles and Boyer (1995) for Germany, France, UK, US, Japan; Stockhammer et al (2011) for Germany, and Ederer and Stockhammer (2007) for France.

distribution on aggregate demand further. If the sign of the total effect in columns D and E are negative, then the economy is wage-led; thus a rise in the profit share leads to a negative effect on growth.

The results for the UK indicate that it is a wage-led economy.[12] A 1%-point increase in the profit share leads to a 0.03% decrease in private demand after the multiplier effects (see Column E). This is due to a decline in the share of consumption by 0.30%-point as a ratio to GDP, which cannot be offset by a modest rise in investment by only 0.12%-point and in net exports by 0.16%-point as ratios to GDP.

Demand in the Eurozone-12 is also significantly wage-led; a 1%-point increase in the profit share leads to a 0.13% decrease in private demand. Unsurprisingly, Germany, France, and Italy as individual large members of the Eurozone-12 area are also wage-led. The absolute value of the effect of an increase in the profit share on demand in the individual countries like Germany and France is smaller than in the Euro area as a whole, because the net export effects are higher for the individual countries, which have a much higher export and import share in GDP due to trade with the other European countries as well as non-European countries, whereas the Euro area as a whole is a rather closed economy with low extra-EU trade albeit a high intra-EU trade. Previous studies show that small open economies in the Euro area, like the Netherlands and Austria, may be profit-led, when analysed in isolation (Hein and Vogel 2008; Stockhammer and Ederer, 2008). . A similar argument would apply to the rest of the EU as well. Thus wage moderation, which keeps real wage growth below productivity, and leads to a fall in the wage share in Europe as a whole is likely to have only moderate effects on foreign trade, but it will have substantial effects on domestic demand. Second, if wages were to change simultaneously in all the EU countries, the net export position of each country would change little because extra-EU trade is comparatively small. Thus, when all EU countries

[12] Hein and Vogel (2008), Naastepad and Storm (2007), and Bowles and Boyer (1995) are the other studies who have tested similar models for the UK, and they all have found that the UK is a wage-led economy.

pursue "beggar thy neighbour" policies, the international competitiveness effects will be minor, and the domestic effects will dominate the outcome.

The US, Japan, and in the developing world, Turkey and Korea, are also wage-led. Overall, the results indicate that large, relatively closed economies are more likely to be wage-led. Canada and Australia in the developed world, and China, South Africa, Mexico, Argentina, and India are profit-led; as small open economies with a high share of exports and imports in national income, the net export effects are higher in all of these countries.

So far, these are only the national effects in isolation, i.e. assuming that the change is taking place only in one single country. The last column of Table 2 summarises the total effects when there is a global race to the bottom - a simultaneous 1% decrease in the wage share in all of these large developed and developing countries which constitutes 80% of world GDP.

Comparing columns E and F, the contraction in the UK, as well as other wage-led countries (Eurozone-12, US, Japan, Turkey, and Korea) is now much higher. In this global race to the bottom scenario, a 1%-point simultaneous decrease in the wage share leads to a decline in UK GDP by 0.21%-point; the effect is now economically a lot more important. In this case, the Eurozone-12 contracts by 0.25%-point.

The profit-led economies of Canada, Mexico, Argentina, and India also start contracting when the effects of decreasing import prices and changes in the GDP of the trade partners on net exports are incorporated in a simultaneous race to the bottom scenario. These countries could grow when they experienced a fall in the wage-share alone, but when the wage share falls in all their trade partners, this expansionary effect of a fall in the wage share is reversed, as relative competitiveness effects are reduced and global demand contracts, when all countries are implementing a similar wage competition strategy.

Most interestingly, overall, a 1%-point simultaneous decline in the wage share in the world leads to a decline in the global GDP by 0.36%-points (the average of the growth rates in column F of Table 2 weighted by the share of each country in the world GDP). Thus the world economy in aggregate is wage-led; if there is a simultaneous decline in the wage share in all countries (or as in our case in the thirteen major economies of the world), aggregate demand in the world economy also decreases. To reformulate the results positively, a 1%-point simultaneous increase in the wage share at the global level could lead to 0.36%-point higher rate of growth in the global GDP. In this scenario, the UK economy would grow by 0.21%-point.

Finally we simulate the effects of an alternative scenario of a simultaneous wage-led recovery in these thirteen large economies as opposed to a race to the bottom. It is possible to find a scenario, where all countries can grow along with an improvement in the wage share; e.g. if all wage-led countries return to their previous peak wage-share levels, and moreover, if all originally profit-led countries increases their wage-share by 1-3%-point, all countries could grow, and the global GDP would increase by 3.05% (Onaran and Galanis, 2012). As part of this global high road scenario, a 7.8% point increase in the wage share in the UK leads to a 1.9% growth in UK GDP.

To summarise, firstly, domestic private demand (the sum of consumption and investment) is wage-led in all countries, because consumption is much more sensitive to an increase in the profit share than investment is. Tthus an economy is profit-led only when the effect of distribution on net exports is high enough to offset the effects on domestic demand. Secondly, foreign trade forms only a small part of aggregate demand in large countries, like the UK, and therefore the positive effects of a decline in the wage share on net exports do not suffice to offset the negative effects on domestic demand. Similarly, if countries, which have strong trade relations with each other (like the EU), are considered as an aggregate economic area, the private demand regime is wage-led. Thirdly, even if there are some countries, which are profit-led, the global economy as a whole is wage-led because the world is a closed economy. Mainstream strategies that impose the same wage moderation policies in all countries, assume that the world as a whole, as well as the majority of countries, are profit-led. This is against the logic of our findings, given that the effects of a fall in the wage share on domestic consumption more than offsets the effects on investment; if there is no trade, then a closed economy cannot be profit-led.

The micro rationale of an individual firm cannot be generalised to the macro rationale of a country. Individual firms might prefer to suppress the wages of its own workers to increase profits (ignoring the effects of this on productivity and morale), but they would prefer all other firms to give a pay rise such that there is someone to buy their goods. Even though a higher profit share at the firm level seems to be beneficial to individual capitalists, at the macroeconomic level a generalised fall in the wage share generates a problem of realisation of profits due to deficient demand in a wage-led economy. Furthermore, even in profit-led countries, a global fall in the wage share leads to a global aggregate demand deficiency, and potentially contraction in the individual profit-led country as well. A seemingly rational pro-profit strategy at the level of an individual firm or a country is irrational and contractionary at the macro or global level.

5. Policy implications for the UK’s wage-led economy

Empirical evidence provides support for alternative policies for wage-led development. At the national level, in a country like the UK, where the parameters of the economy suggest that the growth regime is wage-led, pro-profit redistributive policies are detrimental to growth. In wage-led economies, more egalitarian policies are consistent with growth. Even if we make a very cautious interpretation of the empirical findings, it is clear that there is room for policies to decrease income inequality without hurting the growth potential in a wage-led economy like the UK.

Evidence also shows that large countries or large economic areas like the EU, which have high intra-regional trade and low extra-regional trade, are more likely to be wage-led. This implies that in the EU, macroeconomic policy coordination, in particular with regards to a wage policy, with an aim to reverse the fall in the wage share over recent decades, can improve growth and employment. The current wage moderation policy of the European Commission impedes growth.

Economic conservatives and neoliberals often assert that in a highly competitive global environment, wages cannot be increased. However, there is strong empirical evidence to reject this myth that a single country cannot have pro-labour policies in a globalised economy. Globalisation is not an isolated phenomenon; and it is not only an economic process, but also a process of political contagion. Wage moderation policies have been imposed on all countries as a means of competition based on labour costs. Neoliberal national governments across the world used globalisation as an excuse to implement policies that led to a drastic fall in the wage share, while International Financial Institutions such as the IMF have imposed policies such as labour market deregulation in its structural adjustment programmes as a conditionality for credit support in the developing countries. The policies of the Troika in the periphery of Europe is a recent example of this imposition. There is a coordination of neoliberal policies that leads to the diffusion of policies that promote international competition based on wage moderation. However, contrary to the common wisdom, our results show that neoliberal globalisation, which has led to a global race to the bottom in the wage share amplifies the negative effects of wage moderation as international competitiveness effects of lower wages cancel each other out across the countries . When policies that lead to a decrease in the wage share are implemented in all countries, their effects on net exports become irrelevant, as relative prices of exports and imports do not change much. As a consequence, each individual country is left with only the negative effects of a fall in the wage share on domestic consumption.

The low-wage reserve army of labour in the developing world is not the main cause of labour losing ground to capital at home in the UK or Europe. Indeed the developed countries have been the leader of anti-labour wage moderation policies; and used globalisation as a pre-text to implement them and to claim that there is no alternative. Furthermore, international financial institutions served to implement them in developing countries as part of austerity and structural adjustment programmes in the 1980s. However, evidence shows that the developed world has to do the just the opposite: start with pro-labour policies to improve the wage share unilaterally at home and export these good policies to the rest of the world. According to our findings, the UK and the EU as a whole would be the economies that would benefit most from a coordinated boost to the wage share at the global level. As the main beneficiaries of a global wage-led recovery, the UK and Europe could, and should, take a step forward in terms of radically reversing the fall in the wage share first at home. This would create space for levelling the global playground through international labour standards and domestic demand-led and egalitarian growth strategies. Even the individual profit-led countries can grow if there is a simultaneous increase in the wage share. Indeed, in the majority of profit-led countries, it is not at all possible to grow with policies that result in a decline in the wage share, when this strategy is implemented in many other large economies at the same time. If we want developing countries like China to rebalance their economies towards domestic demand as opposed to mere reliance on export orientation based on low wages, we should start at home. The wage moderation policy of the UK and Europe is the ultimate impediment to wage-led development in the Global South as well. Current mainstream policies that place an excessive emphasis on international competitiveness based on wage competition are counter-productive in a highly integrated global economy. In contrast, a wage-led recovery offers a solution to correct global imbalances via coordinated macroeconomic and wage policy, where domestic demand plays an important role.

Finally, a common worry, also among progressive policymakers is the following question: if the rest of Europe or the world does not reverse their low road policies, can the UK implement pro-labour policies unilaterally? Yes, because the UK is a wage-led economy, even after considering the negative effects of a rise in the wage share on international trade. Starting from today's level of low wage share, if our trade partners do nothing to increase wages in their own countries, and if it is only the UK that introduces pro-labour policies that lead to a 1%-point annual increase in the wage share, the UK could still achieve an annual growth rate in GDP, which would be 0.03%-point higher than if nothing was done. The effect of a moderate increase in the wage share on growth is not very high, but it is positive; hence a rise in the wage share does not lead to a recession. Would that not increase the trade deficit problem further? Not significantly; the effect of a rise in the wage share on the trade deficit is minor; we estimate that a 1%-point increase in the wage share increases the trade deficit as a ratio to GDP by only 0.16%-point. Furthermore trade imbalance is a structural problem, and it has to be tackled accordingly through industrial policy rather than being posed as a barrier to egalitarian policies. Finally, what if our trade partners continue their aggressive wage competition policies via further decreases in the wage share, while they free ride on the rise in the wage share and growth in the UK? The answer is that there would be still an area of manoeuvre left in a wage-led economy like the UK, even in the presence of 'beggar thy neighbour' policies elsewhere; however we do not deny the fact that this area of manoeuvre will be significantly narrower in the case of a continued race to the bottom, and if good pro-labour policies cannot be extended to the rest of Europe, protectionist measures against social dumping should be secured. Conversely, the effects of the pro-labour policies would be a lot stronger if implemented at the

European level; therefore we should see Europe as a chance to increase our area of manoeuvre, and use every chance to improve cooperation among pro-labour forces.

Policies to push for a wage-led development strategy can be, and should be, implemented for not only equality but also economic and political stability: rising income inequality has been one of the root causes of the Great Recession (Goda et al, 2014). How did the global economy or the UK manage to grow along with declining wage shares until the Great Recession? A decline in the wage share has led to a potential deficiency in aggregate demand; the outcome should have been a stagnation of demand and growth according to our results. This was mainly circumvented by two growth models: in the UK, the US, or the periphery of Europe, households increased their debt to maintain consumption levels in the absence of decent wage increases. Financial deregulation and housing bubbles made this possible. The second growth model has been the export-led case of countries like Germany or Japan. As domestic demand stagnated along with falling wage share in these countries, they maintained their growth thanks to exports to countries with a debt-led growth model. The debt in the latter model was financed with capital flows from the export-led countries. The current account surpluses in the export-led countries are the mirror image of the current account deficits of the debt-led countries. Both are equally unsustainable as they could only co-exist with debt and global imbalances. The Great Recession has proven the fragility of this model. Lessons have been ignored by those who benefit from inequality. The recovery in Britain is built once again on the shaky ground of household debt instead of wage growth.

Reversing inequality would not only bring us a step closer to eliminating a root cause of the crisis, but it would also be a way of making the responsible pay for the crisis.

How can we achieve wage-led development? Has the fall in the wage share not been an inevitable consequence of the so-called skilled bias technological change or globalisation as the mainstream tells us? No, as we have discussed in Section 3, the fall in the wage share has been a deliberate outcome of policies that led to the fall in the bargaining power of labour, welfare state retrenchment, and financialisation. The solution therefore lies in reversing this process.

Policies should be in place to ensure that nominal wages increase in line with inflation and productivity. This should follow an initial gradual correction of the loss in the wage share over the past three decades. Productivity orientation, however, should reflect what is relevant and valuable for the job, rather than a blind emphasis on output per worker or hour. In particular in services, e.g. in care jobs, a high quality delivery of the service requires a lower output per hour rather than a high one; wage norms should reflect meaningful measures of performance and quality.

A strategy of wage-led development requires a policy mix that includes labour market policies aimed at pre-distribution, i.e. the determination of wages as market outcomes, as well as redistributive policies through progressive taxes. Furthermore, distribution policies need to be complemented by a macroeconomic and industrial policy mix. Wage policies have to be embedded into broader targets of equality, full employment, and ecological sustainability. This is why this paper discusses a strategy for wage-led development rather than simply a strategy for growth.

5.1 Pre-distributive labour market policies

A wage-led development strategy requires policies targeting the top, middle, and bottom of the wage distribution. Mainstream interest in inequality has focused excessively on the bottom, and only more recently on the top of the income distribution, while the middle is either ignored, or is seen as an impediment to improvements in the bottom due to the so-called powerful workers organised in the unions. However, the wage share of workers in the middle of the income distribution has also been squeezed by rising profits and managerial salaries.

Strengthening the bargaining power of labour

An improvement in the wage share has to include a rise in the wages of the middle, which in turn requires re-regulating the labour market, and strengthening the bargaining power of labour via an improvement in union legislation, and widening the coverage of collective bargaining.

A government dedicated to strengthening collective bargaining as a policy objective can make a big difference. Ewing and Hendy (2013) remind us how the UK was the pioneer in the world in the development of collective bargaining during 1917-1921 and in the aftermath of the Great Depression after 1934. Sadly the UK has also led the attack on collective bargaining in the post-1980s. Their work highlights the importance of the state in institution building to facilitate sectoral bargaining structures, and the key role played by the Ministry of Labour, which was established in 1916. In its early days, sectoral collective bargaining also received the interest of employers, who regarded it as a means of avoiding undercutting by competitors. Collective bargaining coverage was as high as 70% in 1950, and increased to 82% in 1979; yet is now below 25%. The UK was the only country in the EU with collective bargaining coverage below 50% until recently (Ewing and Hendy, 2013).

Beyond sectoral bargaining structures, improving wage coordination at the national level is crucial for reducing wage inequality. Highly structured industrial relations at the national level lead to lower inequality among wage earners. Earnings dispersion is lower the higher the union density, bargaining coverage and the degree of centralisation or coordination (OECD, 2004). Even the World Bank (2013) in its recent World Development Report admits that the potential negative impacts of collective bargaining and minimum wages on employment and other labour market outcomes have been over-stated in the past.

Improving minimum and living wages

Regarding the bottom of the wage distribution, the key priority is establishing a sufficiently high statutory minimum wage to address the growth of in-work poverty. Evidence shows that robust minimum wages can reduce inequality (ILO, 2012). A rise in minimum wages not only reduces reliance on benefits, but also improves demand and growth in a wage-led economy. Low-income earners would spend a higher proportion of their income, and this would lead to a further increase in growth and employment through the multiplier effects. In the US, the myth about the negative effects of minimum wages on youth employment was discredited after research by Card and Krueger (1994) showed that in the fast food industry, a major employer of young workers, minimum wages indeed increased, not decreased, youth employment. In an extensive meta-analysis of the studies on the effects of minimum wages in the US, Doucouliagos and Stanley (2008) show that there is little or no evidence of a negative association between minimum wages and employment. Butcher et al. (2012) showed that minimum wages in the UK decreased inequality, but had no significant negative effects on employment. Furthermore research shows that a higher minimum wage reduces turnover among workers, and creates employment stability for low-wage workers (Dube et al., 2011), which in turn helps firms to increase their productivity (Pollin et al., 2008). The Greater London Authority reports that 80% of employers believe that the living wage has enhanced the quality of work (Lansley and Reed, 2013). Raising the minimum wage can also increase labour force participation rates, as paid employment becomes attractive, and reduce spending on unemployment benefits by the state. Lansley and Reed (2013) argue that the government gets back about 45% of any increase in low pay rates through reduction in public spending on tax credit and benefits as well as increased tax revenues.

How high should the minimum wage be? The reference point has to be a living wage. A living wage is defined as a wage that gives workers the ability "to maintain self respect and to have both the means and the leisure to participate in the civic life of the nation" (Glickman, 1997). Currently in the UK, the legal minimum wage is well below the living wage as calculated by various bodies. Pollin (2007) discusses the experience of Santa Fe in the US, and suggests a strategy of making the minimum wage a living wage through gradual increases. After each step of increase, employment effects can be assessed before proceeding with further increases. Once the living wage level has been attained, increases beyond this could then be tied both to inflation and average labour productivity (Pollin, 2007). In the transition period of gradual adjustments to the minimum wage, living wage rates should be used within public sector organisations, and should be imposed on private firms working as contractors or suppliers to the public sector. Even after the convergence of the national minimum wage to a living wage, local authorities can set their own living wage norms at levels higher than the national minimum wage as local costs of living differ.

Enforcing pay ratios

Finally, for a wage-led recovery, the higher end of the wage distribution must be regulated as well. This would increase the area of maneuver to increase wages at the bottom and the middle, while offsetting the squeeze on profits by cutting high managerial wages. The recent crisis has made it clearer that top executive pay has been fundamentally unrelated to firm performance in the financial industry, but the problems with top pay is not limited to banks but is in fact widespread among large companies in the private sector. Hutton (2011) reports that pay ratios in the public sector are mostly within a 20:1 band, whereas according to a report by One Society (2011), the ratio is at 262:1 among FTSE 100 companies. Corporate governance reforms should aim at curtailing top managerial compensation via limiting the ratio of top pay to median incomes in the private sector. Lansley and Reed (2013) report a variety of examples where private firms or cooperatives voluntarily implemented top-to-bottom ratios between 6:1 to 19:1. France has imposed a maximum of 20:1 pay ratio in public sector firms in 2012, which has put a downward pressure on executive pay in some major private companies as well (Lansley and Reed, 2013). In 2013 in a referendum in Switzerland, 35% of the voters voted for legally capping the top-to-bottom pay ratio in all firms at 12:1.

5.2 Redistributive policies

Labour market policies need to be complemented by redistributive policies to tame the power of capital. Wage-led development requires redistribution from capital to labour and from the top 1% towards the 99%, in particular towards the bottom 50%. This requires a rise in corporate tax rates as well as top marginal income tax rates.

Progressive taxation

We need to restore the progressivity of the tax system. Recent history shows that higher top marginal tax rates discourage excessive managerial pay. Progressive income tax could be used to impose a maximum income, with the highest marginal tax rate increasing to 90-95% above a threshold corresponding to the top 1% of incomes. Indeed, this rate is not radical compared to the top tax rates in the UK before the 1980s: between 1974 and 1979 the top income tax rate in the UK was 83% on incomes above approximately £91,000 in today's prices (£24,000 at 1979's). Indeed, with additional taxes of 15% on unearned income such as dividends and interest on investments, the top rate was as high as 98% in 1979. High top marginal tax rates need to be combined with policies regulating bonuses in the form of stock options and top pay.

Progressive taxation should also include taxes on wealth such as real estate, cash, deposits, shares and bonds. This would permanently narrow the inequality in wealth distribution, and prevent a high concentration of wealth.

One possibility would be to link top income and wealth taxes to median incomes and median wealth holdings (Goda et al. 2014), e.g. a top marginal tax rate of 70% for income above 10 times the median income, a top marginal tax rate of 10% on all personal net wealth (excluding primary residence) that is above 100 times the median wealth, and of 90% for all inheritances that are above 100 times the median wealth.

In the meantime, tougher regulations, preferably at the EU or global level should make sure to prevent tax avoidance and evasion.

5.3 Egalitarian development through a macroeconomic and industrial policy mix

The policies that have changed the balance of power relations in favour of capital have been among the core causes of the fall in the wage share and go well beyond labour market policies. Therefore any strategy to reverse this has to include policies to rebalance power relations through taming the power of capital.

This strategy should firstly aim at reversing the welfare state retrenchment of the previous decades. Government spending on public goods such as education, health, pensions, and social security are part of the social wage. The dramatic marketisation of the supply of these public goods has narrowed the fall-back options of labour, and eroded its bargaining power. Restoring and strengthening the welfare state will significantly improve labour market outcomes for wage bargaining.

A related issue about public spending is public sector wage setting. Public sector wage setting has a strong signal effect on the wage bargaining process in the private sector. The severe austerity policies since 2010 have been not only about shrinking the state and slashing welfare spending, but have also been an agenda for eroding the power of labour unions in the public sector, and imposing pay freezes on public sector workers. There is a cross-party consensus in the UK regarding public sector wage freezes under the pretext of defending jobs. However, the dilemma of pay versus jobs is not empirically validated for the UK as a wage-led economy. Austerity policies with further detrimental effects on the wage shares will only bring further stagnation.

Financialisation has been the other important macroeconomic factor that has caused a massive shift in power relations in favour of capital. The increased role of financial activity and financial institutions in determining corporate strategies and economic outcomes since the 1980s has had significant effects on the bargaining position of labour (Hein and van Treeck, 2010; Hein and Mundt, 2012; Stockhammer, 2013). Non-financial firms have increased their fall-back options in terms of the choice between geographic locations as well as investing in financial versus real assets. It has also led to the orientation towards shareholder value, and hence prioritised shareholders' demands over workers. The same process often had effects on the public spending and taxation decisions of governments, which in turn has contributed to the erosion of the bargaining power of labour. Hence, reregulating finance, and reversing financialisation is an indispensable element of a wage-led development strategy.

Finally, the neoliberal shift in macroeconomic policy away from a broad focus on full employment to a narrow focus on inflation targeting and tight fiscal and monetary policy in the post-1980s has been detrimental for growth, as well as labour's bargaining power and equality. Reorienting macroeconomic policies towards full employment is important for not just rebalancing power relations but also for rebalancing the economy.

It is also crucial that policies for wage-led development are complemented by a broad mix of economic policy, because the effects that can come from a wage-led recovery on growth and hence employment are modest, albeit positive, in magnitude. Wage-led growth is not a magic bullet to solve all the ills of our current economic model. For sustainable and egalitarian development, we need to mobilise all of the tools of economic policy and public spending with an aim to achieve full employment, ecological sustainability, and equality. Investment and industrial policy lie at the core of such an economic policy mix. New investments are the most important locomotive of growth and increases in productivity. As such, it is also an important guarantee for productivity-oriented wage increases. As already mentioned above, investment and industrial policy is also the tool to offset and change the effects of wage increases on trade deficits in two ways: Firstly, investment can decrease the import dependency of the economy. Secondly, in the long run it can change the composition of exports, and shift exports towards innovative products, where demand is less sensitive to prices, thereby the effect of labour costs on exports are more modest.

The weakening of productive investment has been detrimental for job creation. Among developed countries, the UK has one of the lowest private investment to GDP ratios. Private sector investment has grown at a significantly slower pace than GDP, and this has curbed job creation (IILS/ILO, 2011). This has been related to financialisation and the short-termism orientated towards the maximisation of dividends to shareholders along with managerial bonuses. A pro-labour and pro-jobs strategy needs to break this orientation and put private investments in line with profits, as well as stimulating investments via higher demand, and industrial policies. But most of all, an investment programme has to rely on public investment, in two areas in particular: ecological investments and social infrastructure.

First, public investment, in green industries like renewable energy, public transport, and housing would not only make up for the missing investment, but will also help to meet emissions targets to address the ecological crisis. Ecological sustainability requires a shift in the composition of aggregate demand towards long-term green investments; this cannot be achieved without new strategic tasks for active public investment.

Second, public investment should fill in the big gap in social infrastructure; i.e. in health, education, childcare, and elderly care, which cannot be provided adequately by private investment based on profit motive. The need for social services is not met under the present circumstances, where they are provided either at very low wages (to ensure an adequate profit), or as a luxury service for the rich, or via invisible unpaid female labour within the gendered division of labour in the private sphere. To avoid this deficit they can be provided by the state or by non-profit/community organisations. Public investment and spending in social infrastructure would generate public employment in labour-intensive social services, and be a vehicle for generating full employment with lower rates of growth, a target more consistent with low carbon emissions. This could also hit another target of increasing female labour force participation rates via socialising the invisible and unpaid care work done by women. Ilkkaracan (2013) calls these purple jobs. However, these jobs need to be made attractive for all by improving pay and working conditions in these industries. Thus a new orientation towards high-skilled, decent service-sector jobs should be promoted instead of the current reliance on low-pay service jobs with weaker labour unions. These policies put gender equality in pay and employment at the heart of a wage-led development strategy.

Last but not least, a key policy measure to maintain full employment and a more equal income distribution is a substantial shortening of working time in parallel with the historical growth in productivity. Reduction in weekly working hours should take place without loss of wages, in particular, in the case of low and median wage earners, which implies an increase in hourly wages as well as the wage share. This is not an unrealistic target. Compared to the 19th Century, we are all working part-time today. But the shortening of working hours has slowed down since the 1980s, with the notable exception of France (Bosch and Lehndorff, 2001). More equal countries have shorter working hours (Schor, 2010). The shortening of hours over previous decades has also been associated with higher hourly productivity (Bosch and

Lehndorff, 2001). Shorter working hours not only create more growth but also increase the job creation potential of a given rate of growth. The UK and the US have much longer hours than Germany and the Netherlands (Schor, 2010). This means that an employer in the UK needs more demand than a German employer to create an additional job. This is again a way of combining full employment and low carbon emission targets.

6. Conclusion

There is strong empirical evidence in the UK as well as many other countries in Europe and the world, a fall in the wage share leads to lower growth; hence growth is wage-led and not profit-led. In a wage-led country like the UK, or the EU as a whole, more egalitarian policies are consistent with growth. Globalisation is not in itself an impediment to a wage-led development strategy, as long as the neoliberal policies that have determined the process of globalisation since the 1980s can be replaced by policy coordination to bring wages in line with productivity increases. The need for coordination does not exclude the possibility to implement pro-labour policies in a single country like the UK. However, the impact of these policies on growth and employment are stronger when they are coordinated across countries. This calls for the UK and Europe plays a leading role in coordinating policies both at the European and global level to reverse the fall in the wage share.

Policies aiming at reversing the fall in the wage share and the rise in inequality are particularly important for an economically and politically sustainable recovery after the Great Recession. A strategy of wage-led development requires a mix of policies aiming at pre-distribution and redistribution as well as macroeconomic policies and industrial policy for full employment and ecological sustainability.

None of the policies that have been discussed above are unknown to policy makers. History of the UK as well as other developed and developing countries provide examples on how they can be implemented. The tools for a wage-led development strategy are available. Their implementation is a question of optimism of the will and political change.

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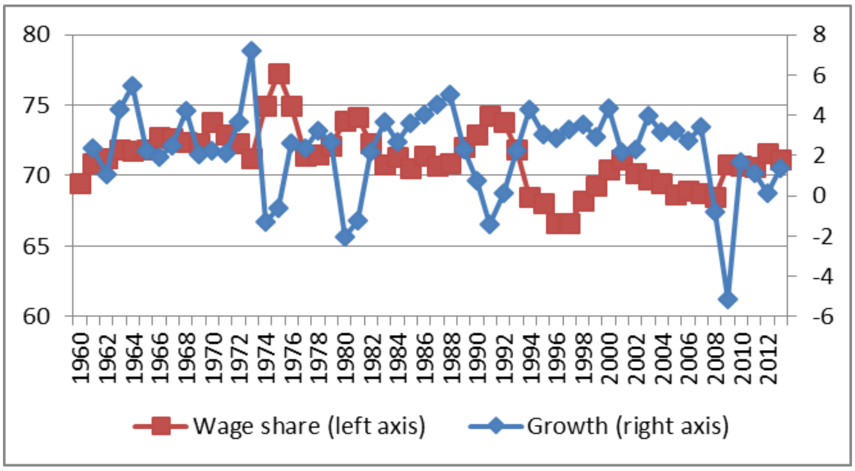
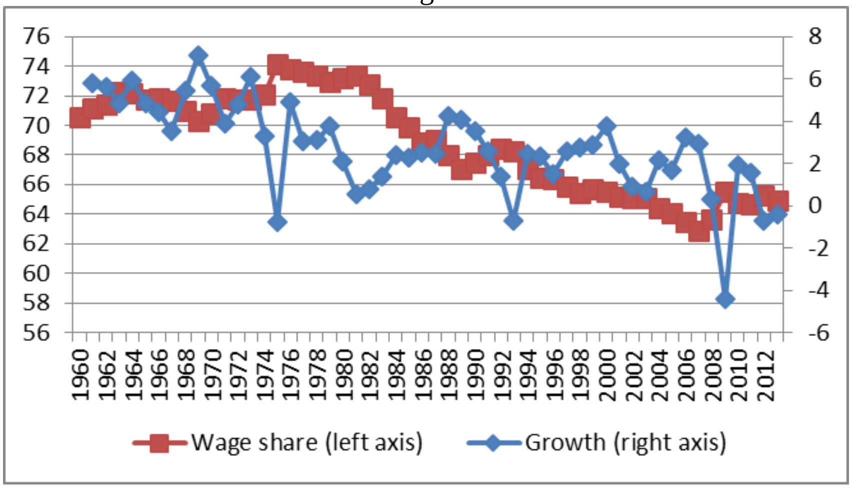
Figures and Tables

Figure 1. Wage share (adjusted, ratio to GDP at factor cost, %) and growth in GDP (%), 1960-2013

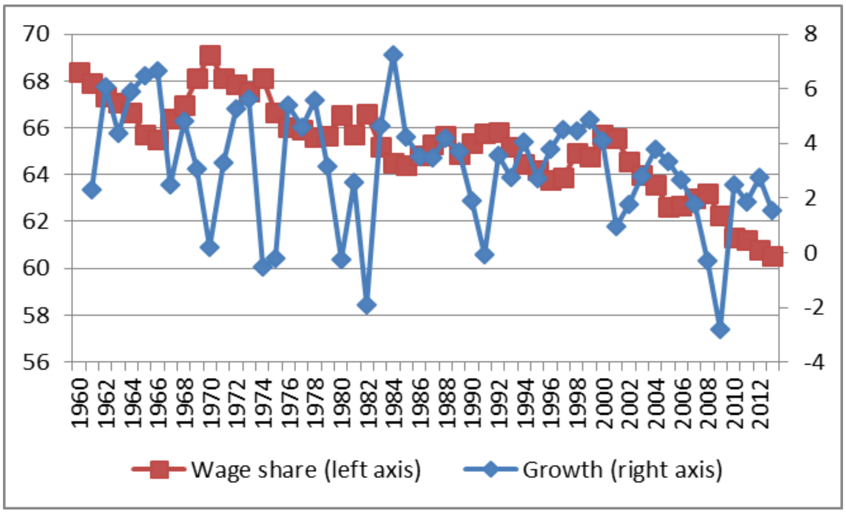
a. The UK



b. Eurozone-12 original member states

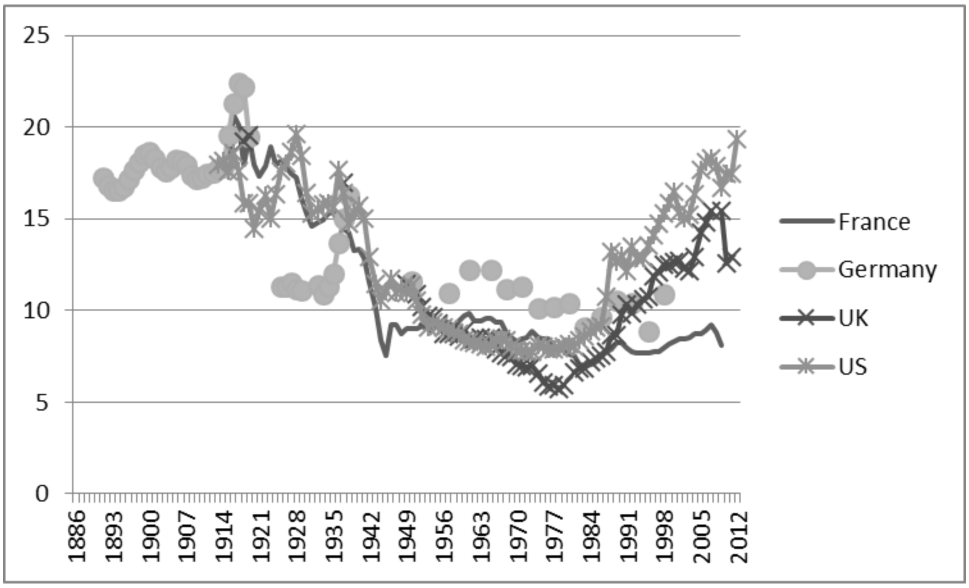


c. The US



Source: Ameco.
Note: Adjusted wage share is labour compensation per employee multiplied by the number of employed people as percentage of GDP at factor cost.

Figure 2 Income share of the top 1% of the income distribution in the US, UK, France and Germany



Source: World Top Incomes Database http://g-mond.parisschoolofeconomics.eu/topincomes Note: There is a break in the UK series in 1990.

Table 1 Average growth of GDP (%)

	1961-69	1970-79	1980-89	1990-99	2000-2007	2008-2013
United Kingdom	2.90	2.42	2.48	2.18	3.17	-0.28
Euro area (12 countries)	5.29	3.78	2.27	2.12	2.16	-0.28
United States	4.69	3.24	3.14	3.25	2.65	0.93

Source: Ameco.

Table 2. The summary of the effects of a 1%-point increase in the profit share (1%-point decrease in the wage share)

	The effect of a 1%-point increase in the profit share in only one country on					The effect of a simultaneous 1%-point increase on % change in aggregate demand
	C/Y	I/Y	NX/Y	private excess demand/Y	% change in aggregate demand (D*multiplier)	
	A	B	C	D (A+B+C)	E	F
Euro area-12	-0.439	0.299	0.057	-0.084	-0.133	-0.245
Germany	-0.501	0.376	0.096	-0.029	-0.031	-
France	-0.305	0.088	0.198	-0.020	-0.027	-
Italy	-0.356	0.130	0.126	-0.100	-0.173	-
United Kingdom	-0.303	0.120	0.158	-0.025	-0.030	-0.214
United States	-0.426	0.000	0.037	-0.388	-0.808	-0.921
Japan	-0.353	0.284	0.055	-0.014	-0.034	-0.179
Canada	-0.326	0.182	0.266	0.122	0.148	-0.269
Australia	-0.256	0.174	0.272	0.190	0.268	0.172
Turkey	-0.491	0.000	0.283	-0.208	-0.459	-0.717
Mexico	-0.438	0.153	0.381	0.096	0.106	-0.111
Korea	-0.422	0.000	0.359	-0.063	-0.115	-0.864
Argentina	-0.153	0.015	0.192	0.054	0.075	-0.103
China	-0.412	0.000	1.986	1.574	1.932	1.115
India	-0.291	0.000	0.310	0.018	0.040	-0.027
South Africa	-0.145	0.129	0.506	0.490	0.729	0.390

Source: Onaran and Galanis (2013), "Is aggregate demand wage-led or profit-led? a global model", *in Wage-led Growth. An Equitable Strategy for Economic Recovery, eds. Lavoie and Stockhammer, Palgrave, 2013*

Note: C: Consumption, I: private Investment, NX, net exports, Y: GDP. The global simulation excludes Germany, France and Italy since they are part of the Eurozone