

Functional income distribution: vector for a new growth model

Ignacio Álvarez

nacho.alvarez@uam.es

Department of Economic Structure

Autonomous University of Madrid

Jorge Uxó

Jorge.Uxo@uclm.es

Department of Economic Analysis and Finance

University of Castilla-La Mancha

Jesús Cruces

jcruces@1mayo.ccoo.es

1º de Mayo Foundation, Spain

Abstract:

Inclusive growth is a term that has recently been developed by international organizations, such as IMF and OECD, but without clear references to the new pattern of income distribution that needs to be put in place.

The wage share has significantly deteriorated since the 1980s, with this decline occurring within the large majority of OECD countries and industries. We analyze to what extent a change in this pattern of income distribution could be a vector to articulate a 'high-road' strategy of inclusive growth.

We explore the possible macroeconomic consequences of such a change, and the type of policies and institutions that can contribute to achieve the new pattern of income distribution and growth. We suggest several lines of action aimed to reverse the falling tendency of the wage share.

Functional income distribution: vector for a new growth model

Inequality has been placed at the centre of the academic and political agenda in recent years. Unlike previous periods, the interests of international economic institutions and orthodox economics have also shifted to this field, to the point where inequality is conceived as an obstacle for sustainable growth. Nowadays, the 'inclusive growth' approach has become widely used to analyse and the economic challenges that we face. Nevertheless, some questions arise on this approach, especially about the role of institutions, governments and industrial relations.

1.- A growing concern for inclusive growth

In recent decades there has been a growing literature on the need to transform economic growth, in the direction of making it more inclusive. The concept of 'inclusive growth' is developed in the 2000s, when the World Bank, first, and other international institutions (IMF, OECD), later, confirm that growth does not reduce global inequalities, and can even increase them. A decade before the Great Recession, these international agencies begin to see how economic growth, specifically in developing countries, was not resulting in the reduction in inequality and increase in living standards expected.

As a consequence of the Great Recession, but also of the policies developed by the OECD countries to tackle the crisis, advanced countries experience after 2008 an increase in unemployment, fiscal cuts and low-paid jobs. In this context, work no longer assures a route out of poverty, economic inequalities grow and the living conditions of large sections of the population deteriorate. From this point on, international organizations begin to use the inclusive growth analytical framework to address the challenges of growth in OECD countries.

"Inclusive growth" is defined as *Economic growth that creates opportunity for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society* (OECD, 2015).

From the moment this concept is coined, the literature approach to inclusive growth is multidimensional, going beyond income and per capita GDP. In addition to income, other dimensions are considered fundamental to understand well-being, such as jobs, skills and education, health status, environment, civic participation and social connections. As a consequence, these other dimensions are considered fundamental to understand the absence of inclusive growth. Specifically, literature points to the lack of education and skills, the lack of productive employment, poor access to services and infrastructures, deterioration of fiscal transfers, financial system exclusion or the lack of home and financial asset ownership, among others (OECD, 2015; WEF, 2017). Economic policy should therefore focus on the direction of correcting these problems.

However, the concept of inclusive growth, as presented by mainstream literature and by international organizations, suffers today from at least three limitations.

First, despite the growing consensus on the need for a more socially-inclusive approach, we do not have a systemic framework to guide policy and practice. What an inclusive growth strategy looks like? Are there different strategies available? What role should the functional distribution of income play in this new pattern of income distribution?

Second, the attempts that have been made to develop a systemic framework to guide policy are certainly limited and present important contradictions. WEF (2017) and OECD (2015) constitute significant attempts to develop a systemic framework for policy, but they return to the traditional inconsistencies of the mainstream literature in this field: with insufficient empirical support and ignoring important academic research, these organizations continue to recommend policies that reinforce the growth of inequalities of recent years (e.g., elimination of employment protection to

promote growth and “productive employment”, labor market liberalization to promote “supply-driven growth”, strong constraint on fiscal transfers to assure “growth-friendly” public finances...). It is not realistic to think that with the same type of labor and social policies of the last two decades we are going to achieve different results in terms of inequality.

Third, the dominant approach to inclusive growth usually lacks a fundamental dimension for understanding the distribution of income in advanced economies: industrial relations and labor market institutions. It is necessary to incorporate into the agenda of inclusive growth institutional factors linked to collective bargaining, in order to develop a systemic framework to guide policy for egalitarian growth. A real commitment for inclusive growth must take into consideration not only redistribution of income, but also predistribution of income and the institutional barriers that prevent socializing productivity gains in a more equitable way.

A growing concern for inclusive growth needs to think also about a new distribution model. In this paper we focus on analyzing this question: what kind of policy agenda can be designed to achieve inclusive growth, and what role can functional distribution play in this agenda?

The rest of the paper is structured as follows. In the second section we analyze how a change in functional income distribution can lead to a new (high-road) growth strategy. And in the third section we present the economic policy implications derived from our analysis.

2.- Rethinking the growth model: a new pattern of functional income distribution to build up a high-road strategy

One of the main differences between the Great Depression of 1929 and the Great Recession of 2008 is that the first one resulted in a major paradigm shift, with the development of new intellectual approaches and new economic policies. With the Great Recession of 2008 we cannot say that the same thing happened.

The key aspects of economic policy in the 1990s and 2000s have remained essentially unchanged in developed countries after the Great Recession: financial liberalization and full capital mobility in a context of flexible exchange rates, rigid control over fiscal budgets with the priority of reducing public deficits, deregulation of labor markets and strong pressure on labor costs as the main macroeconomic adjustment variable, to mention only the most outstanding aspects of economic policy.

This strengthening of the neoliberal economic policy in the EU during the Great Recession has reinforced what we might call a ‘low-road’ strategy of growth. The economic crisis, particularly in the Eurozone, was explained by the European authorities as the consequence of some countries living “beyond their means”, with heavy private indebtedness and significant external imbalances. This misinterpretation of the causes of the crisis led the European Commission to deep the same kind of orthodox policy that had already been implemented before the crisis: reductions in public spending and public investment, and wage cutbacks to enable internal devaluation as a way to improve competitiveness and export-led growth.

The European Commission and the international organizations presented this strategy as a shock therapy to enable a rapid recovery of GDP and employment. A decade after the crisis, the results are however poor: annual growth in the EU27 as a whole has been 0.6% for the period 2008-2016 and 1.1% during the second half of the period, from 2012 to 2016 once this strategy is fully implemented (0.3% and 0.8% respectively for the Eurozone). 7 millions of jobs were lost during the crisis and in peripheral countries the pre-crisis levels of employees have not been yet recovered, with 21 millions of European people remaining unemployed (in 2007 there were 17 million unemployed). Wages have stagnated on the continent, and there has been a significant loss of purchasing power in peripheral countries. In addition, income inequalities have increased

significantly. All this has not been however functional to bring corporate investment back to the pre-2007 levels: gross fixed capital formation in the Eurozone today is 6% lower than it was in 2007.

Widespread fiscal cuts and wage devaluation have reinforced a low-road strategy of growth across the EU, particularly in peripheral economies, underpinning non-inclusive growth. As a consequence of the economic policy pursued during the crisis, it is not surprising that the tendency of the wage share to fall –one of the most noteworthy characteristics of income distribution since the 1980s– has accelerated there where these policies have been applied more intensely (Figures 1 and 2).

Fig. 1: Adjusted wage share in EU27 and peripheral countries, 1960-2016 (% GDP)

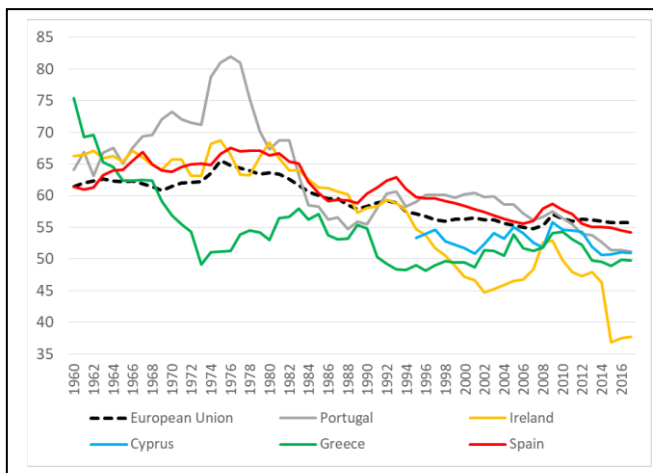
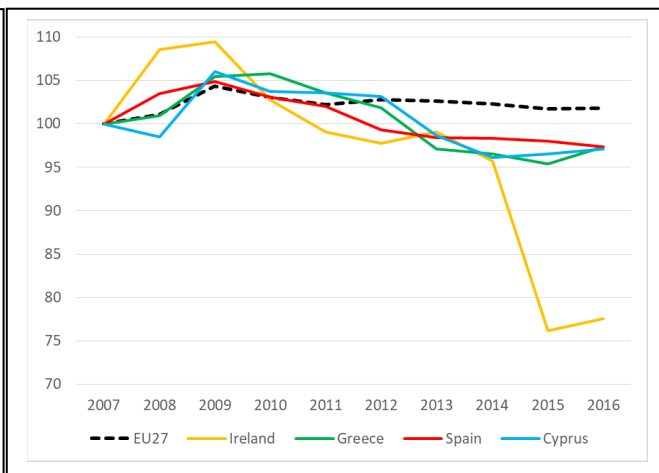


Fig. 2: Adjusted wage share in EU27 and peripheral countries (2007=100)



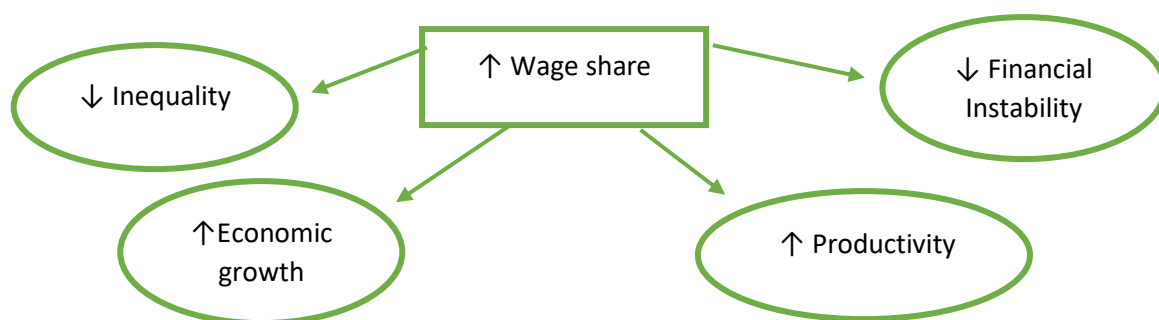
Source: AMECO

Source: Own calculations with AMECO

The wage share has significantly deteriorated since the 1980s, with this decline occurring within the large majority of OECD countries and industries. But, to what extent a change in this pattern of income distribution could be a vector to articulate a ‘high-road’ strategy of inclusive growth? In the following lines we explore that possibility.

We believe that a new ‘high-road’ strategy of inclusive growth can be articulated around a U-turn in the trend to fall of the wage share. Reversing this trend could contribute to articulate an inclusive growth model based on these four characteristics (Fig. 3): 1) a significant reduction of economic inequalities 2) a strengthening of job creation; (3) a sustained increase in productivity and a reinforcement of non-price determinants of competitiveness; and (4) greater financial and external stability.

Fig. 3: A new pattern of functional income distribution to build up a high-road strategy

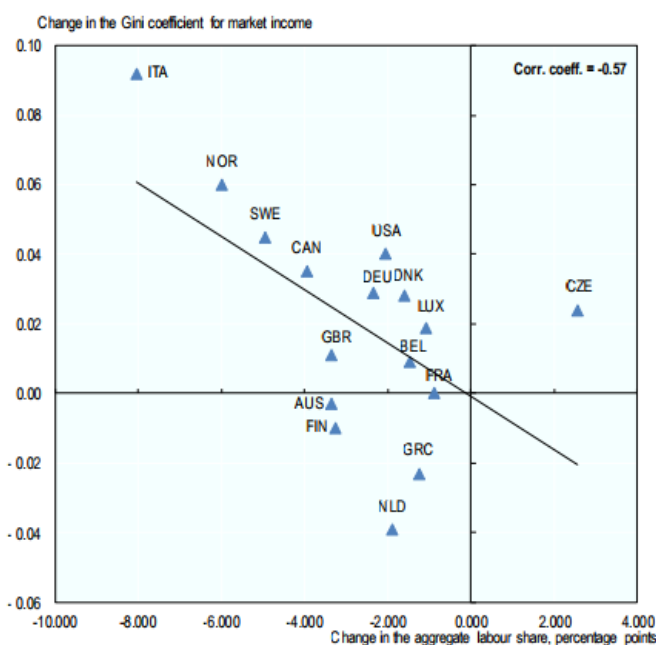


2.1- Functional distribution of income and economic inequalities.

There is abundant literature explaining how the increase in income inequality experienced by developed countries over the last few decades is connected to the fall in wage share (Piketty 2014; OECD and ILO 2015; Jacobson and Occhino, 2012).

Empirical evidence shows how a higher capital share is associated with higher inequality in the personal distribution of income in EU27 countries, since capital is more concentrated than labor endowments (Piketty 2014; OECD and ILO, 2015). That is to say, since labor income is more uniformly distributed across households than capital income, the decline in the wage share concentrates total income at the top of the distribution. According to Jacobson and Occhino (2012) the decline in the labor share from 1979 to 2007 raised the Gini index by 2.3 percentage points, for the case of the US economy. As we can see in Figure 4, this inverse relationship also occurs for the EU27 economies: the wage share decline progresses hand-in-hand with the increase of market income inequalities.

Fig. 4. Changes in the wage share and in income inequality in OECD countries, 1990s to mid-2000s



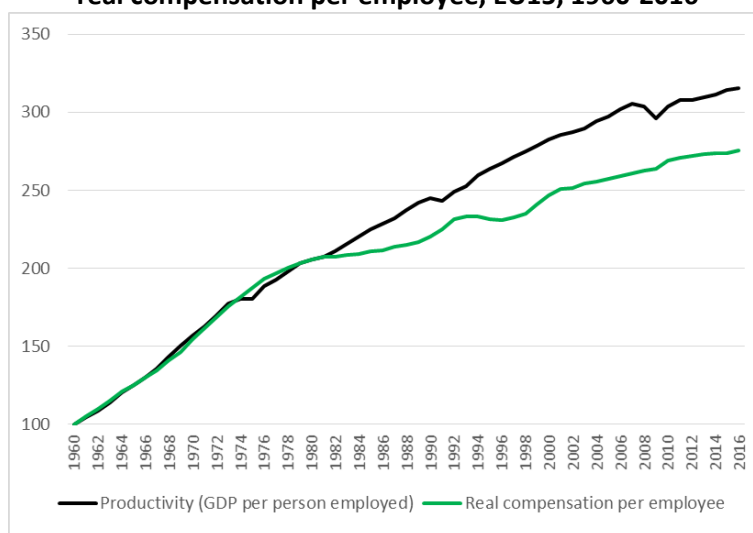
Notes: Labour share: 3-year moving averages centred around start and end dates. The wage of the self-employed is imputed assuming that their annual wage is the same as for the average employee of the whole economy. The Gini coefficient is based on pre-tax and transfer income of the population aged 18 to 65 years. a) 1990-2004 for Canada; 1990-2005 for Denmark, Netherlands and the United States; 1991-2004 for Italy, Sweden and the United Kingdom; 1995-2004 for Australia, Belgium, Germany and Norway; 1995-2005 for Finland; 1996-2004 for Czech Republic, France and Luxembourg; 1999-2004 for Greece.

Source: OECD and ILO (2015: p.11)

Moreover, some studies indicate that the fall in the wage share hides very different effects depending on the diverse levels of wage remuneration. According to various estimates (OECD, 2012; Piketty 2014), the fall in the wage share is more pronounced if the richest 1% of the population is not considered. The increase in labor income that has occurred among the top incomes entails that, when we look at the aggregate data, the global fall of the wage share is somewhat blurred. In particular, the OECD (2012) points out how in advanced and EU economies the wage share has fallen during the last two decades for the 99 per cent of income earners, while increasing by 20 per cent for the top income population (1% per cent).

A falling wage share reflects an increase in returns to capital relative to labor, due to a more rapid growth in labor productivity than in typical worker's compensation. The fall of wage share shows therefore uneven bargaining power among different social groups to capture increases in productivity. As we can see in Figure 5, since 1980s, productivity gains are unequally captured by capital and labor. It seems therefore difficult to address the problem of inequality and non-inclusive growth without rebalancing the institutional capacity of different social groups to capture productivity increases, i.e. without reestablishing a more balanced bargaining power in the labor market.

Fig. 5. Disconnection between productivity and real compensation per employee, EU15, 1960-2016



Source: AMECO

2.2- Functional distribution of income and economic growth

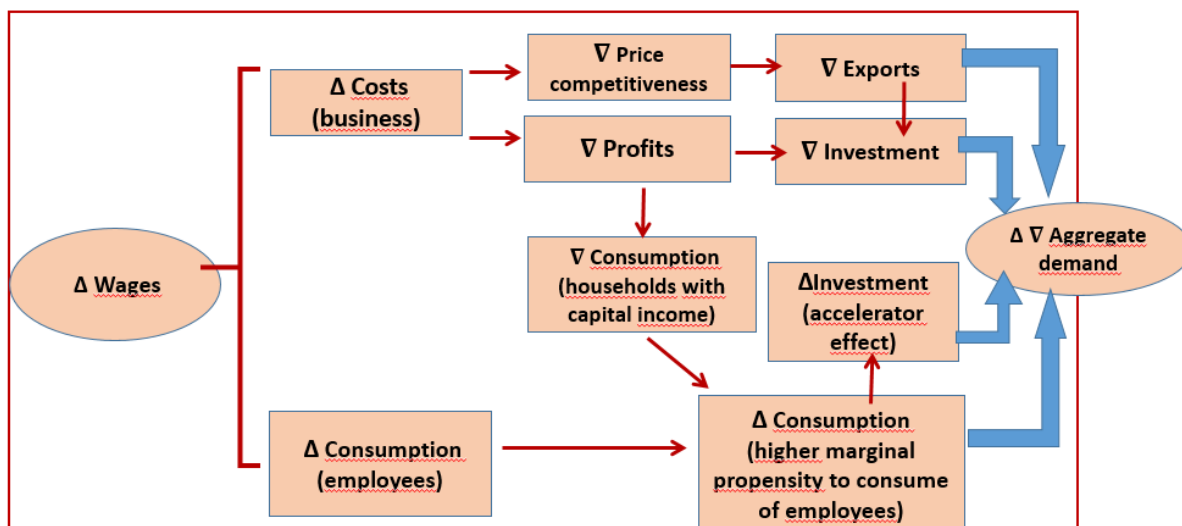
In addition to affecting the personal distribution of income, the fall in wage share also influences macroeconomic dynamics. This is due to the double dimension of wages in economics: wages represent a cost to corporations and, at the household level, wages are a significant determinant of private consumption (and therefore of investment too).

Bhaduri and Marglin (1990) analyzed the effects of changes in functional income distribution on consumption, investment and economic growth. These authors study the contradictory impact of a distributive change on the various components of aggregate demand, as well as the net effects on economic growth. Given an increase in the wage share, consumption will rise as the propensity to consume out of wages is higher than the propensity to consume out of profits. This increase in wage share will have also contradictory effects on investment (with a negative effect due to increased costs, and a positive impact due to the accelerator effect of demand). Finally, net exports might fall if the increase in the wage share comes with a loss of price competitiveness. On the other hand, an increase in the profit share will lead to lower consumption expenditure and a higher volume of net exports, as well as simultaneous opposite effects on the demand for investment. Depending on the final effect of a change in income distribution on aggregate demand, economies can be labeled as wage-led or profit-led (Figure 6).

The net effect of an increase in the wage share will depend on the elasticity of consumption, investment and net exports to a change in wages, profits, labor costs and prices. Specifically, the net effect will depend on whether the elasticity of investment vis-à-vis profits, and net exports elasticity vis-à-vis changes in relative prices, are large enough to offset the expansionary effect on consumption. The final effect of a change in functional income distribution on aggregate demand is therefore undetermined, and depends on the specific characteristics of each economy. It is thus

an empirical issue. Of course, each regime –whether it is wage-led or profit-led– leads to different policy implications that should be taken into account when authorities seek to support a sufficient level of aggregate demand.

Fig. 6. The Bhaduri-Marglin model. Wages are cost for corporations but also aggregate demand

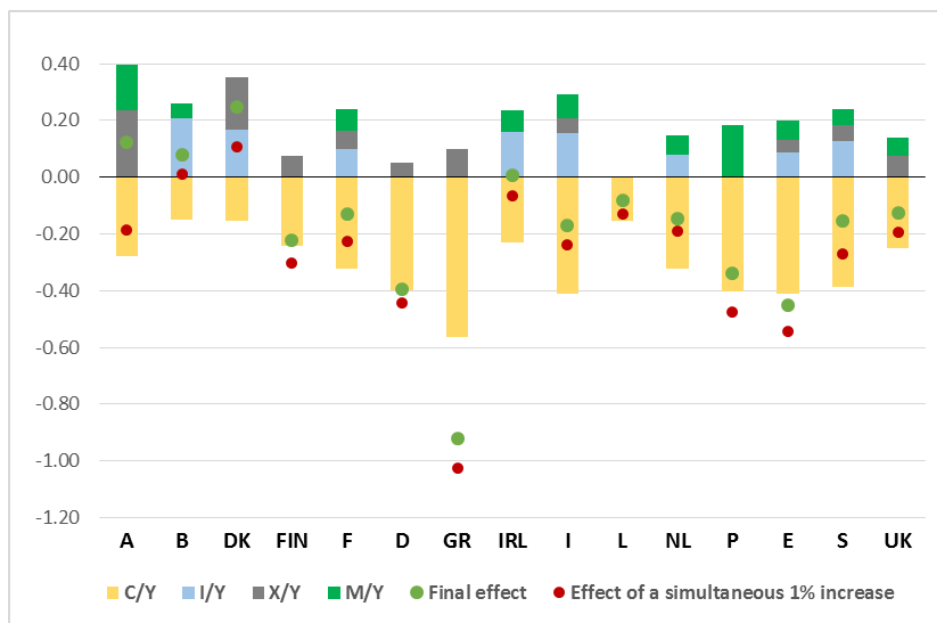


The Bhaduri-Marglin model has become widely used, resulting in abundant empirical literature aimed at determining the macroeconomic consequences of redistribution towards profits or wages. Notable surveys of the empirical studies carried out in the literature can be found in Hein and Vogel (2008), Onaran *et al.* (2011), Onaran and Galanis (2012), Lavoie and Stockhammer (2013), Stockhammer and Onaran (2012), Stockhammer (2015) and Blecker (2016).

Most of this literature, both for individual and for country-group studies, concludes that aggregate demand is mainly wage-led for advanced economies: Naastepad and Storm (2006) for Germany, France, Italy, the UK and the Netherlands; Hein and Vogel (2008) for Germany, France, the UK, the US; Stockhammer *et al.* (2011) for Germany; Ederer and Stockhammer (2007) for France; Álvarez *et al.* (2017) for Spain; Stockhammer and Stehrer (2011) for Germany, France, the US, Japan, Canada, Australia; Stockhammer *et al.* (2009) for the Eurozone; Onaran and Galanis (2012) for the main OECD economies. Moreover, even small open economies that may be profit-led in a single country analysis become wage-led when considered in external interaction with other trading partners, since OECD countries have strong trade links with one another (Onaran and Galanis 2012; Onaran and Obst, 2016; Onaran and Stockhammer, 2016). The latter would be particularly noticeable in the case of the Eurozone.

As we can see in Figure 7, which illustrates empirical estimations of Onaran and Obst (2016), the net effect of a 1% point increase in the profit share is mostly recessive in the Eurozone. The possible positive effect that a pro-capital distribution might have in some cases on the net export balance, or on investment (when considered isolated), is finally outweighed by the negative effect it has on private consumption and, via the accelerator effect, on final investment (when we consider all the simultaneous effects on the various components of aggregate demand).

Fig. 7. The effect of a 1% point increase in the profit share on % change in consumption (C/Y), investment (I/Y), exports (X/Y) and imports (M/Y) on aggregate demand



Notes: A = Austria, B = Belgium, DK = Denmark, FIN = Finland, F = France, D = Germany, GR = Greece, IRL = Ireland, I = Italy, L = Luxembourg, NL = Netherlands, P =

Portugal, E = Spain, S = Sweden, UK = United Kingdom

* The effects of Consumption (C/Y), investment (I/Y), exports (X/Y) and imports (M/Y) on aggregate demand are computed as the effect of a 1%-point increase in the profit share in the corresponding country. The final effect on aggregate demand is the sum of those effects multiplied by the implicit multiplier. The effect of a simultaneous 1% - point increase in the profit share is computed as an increase of all countries together.

Source: Own calculations based on Onaran and Obst (2016) data.

These outcomes are due to three important factors (Alvarez *et al.*, 2017). First, the marginal propensity to consume out of wage income is invariably greater than the marginal propensity to consume out of capital income. Thus, a pro-capital income distribution reduces aggregate consumption.

Second, although the profit share has a significant statistical impact when explaining capital formation in the long term, private investment is more influenced by the evolution of income and the consequent accelerating effect of demand¹. As internal devaluation policies shrink domestic demand, they tend to reduce also private investment (even if the increase profit margins).

Third, unit labor costs are a strong determinant of domestic prices, although the translation of unit labor costs into export prices is much more limited. The economic growth of major trading partners is far more relevant vis-à-vis explaining exports than the change in relative prices. It thus crucial to support internal demand at the EU level.

The main consequence of the results achieved by this literature is that the economic policy pursued in recent years in EU27 countries, and particularly in the Eurozone, is mistaken. The strategy of internal devaluation and wage cuts has increased inequality and, moreover, it has also meant a loss of potential growth. Internal devaluation policies, especially in the peripheral countries of the Eurozone, have continued to deepen the decline in the wage share after the crisis, reinforcing the potential deficiency and the stagnation in aggregate demand.

¹ That is why in figure 7 an increase of the profit share does not have statistical effects on the investment in several countries

More egalitarian policies in the field of functional distribution are required to achieve inclusive growth. It has sometimes been argued that the overall expansionary effect of a pro-labor wage policy on economic growth is limited. But, in any case, the good news is that contrary to what mainstream economics suggest, there is plenty of room to reduce inequality without hurting economic growth and job creation in the Eurozone (Onaran and Stockhammer, 2016). Policies aimed at recovering the wage share ratio not only do not detract potential from economic growth, but they can even contribute to strengthening it.

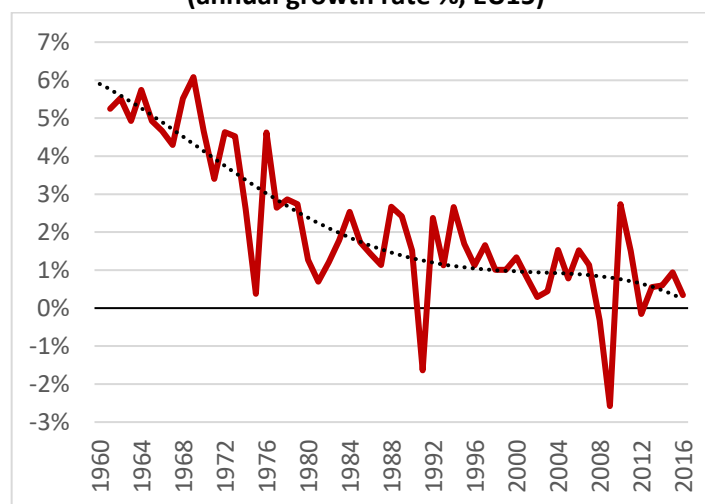
Furthermore, if new distributive policies are complemented by new fiscal policies in the Eurozone, with a balanced budget expansionary policy, the expansive effect on aggregate demand becomes much more significant (Obst *et al.* 2017; Uxó and Alvarez, 2017). A policy mix that links the mentioned pro-labor wage policy with an expansionary fiscal policy financed by progressive taxation would have a considerable expansionary effect.

Particularly, the expansionary-inclusive effects of growth would be reinforced if a new fiscal policy is focus on promoting redistribution towards low-income families, with higher propensity to consume (for example a guaranteed income scheme for low income households to address the situation of those most affected by the crisis). As Obst *et al.* (2017) and Uxó and Alvarez (2017) have shown, this expansionary policy would be sustainable and compatible with a reduction of the public deficit, since it would be financed by progressive taxes² and by the effect of growth on public revenues.

2.3- Functional distribution of income and productivity

Building a high-road strategy requires a better understanding of the impact of the prevailing income distribution regime not only on current macroeconomic aggregates, but also on future potential growth. An income distribution regime based on the fall of the wage share has a contractive effect on GDP. Furthermore, this distribution regime can determinate also a more limited growth of labor productivity.

Fig. 8. Gross domestic product at 2010 reference levels per person employed (annual growth rate %, EU15)



Source: AMECO

² There are multiple combinations of revenues and expenditures by which the required stimulus in aggregate demand might be achieved: only by means of an increase in expenditures, only by tax reductions, by a combination of more expenditure and less taxes, or by an increase in both expenditures and taxes, taking advantage of the “balance budget multiplier” (Wren-Lewis, 2011; Karagounis *at al.*, 2015). Each of them, however, have different implications on public deficit and debt, because the multipliers associated to each instrument are not equal. Given that the expenditure multiplier is clearly higher than the revenues one, there exist a combination of discretionary increases in both expenditures and revenues that would permit simultaneously to achieve the targeted impulse in GDP and employment and to let the public budget balance relatively constant.

It is known that labor productivity has for decades experienced a decreasing trend in developed economies (Figure 8). While in the EU countries the annual productivity growth was 3.7% in the period of 1960-1980, this advance was reduced to 1.2% for the period of 1981-2007. Moreover, after the Great Depression productivity growth has slowed further, with average growth for the period 2008-2016 of 0.1%.

Mainstream economics have traditionally explained the major determinants of productivity using supply-side factors, typical of neoclassical economics (Wolff, 1997; Jorgenson, 2002; Griffith *et al.*, 2004). These factors include the strengthening of technological capital, research and development efforts, human capital and education, industrial structure and institutional flexibility (product market regulation, labor market regulation and taxes).

However, recognizing the importance of these determinants is not enough to explain the evolution of productivity in recent decades. Productivity has decelerated despite the fact that EU27 economies have followed the main recommendations of international organizations to increase efficiency growth: trade and financial liberalization, reduction of personal and corporate taxes, flexibilization of the labor market and institutional frameworks, development of legal regimes favorable to spillovers, more advanced innovation systems and investment in human capital. None of these policies has been able to stop the productivity slowdown.

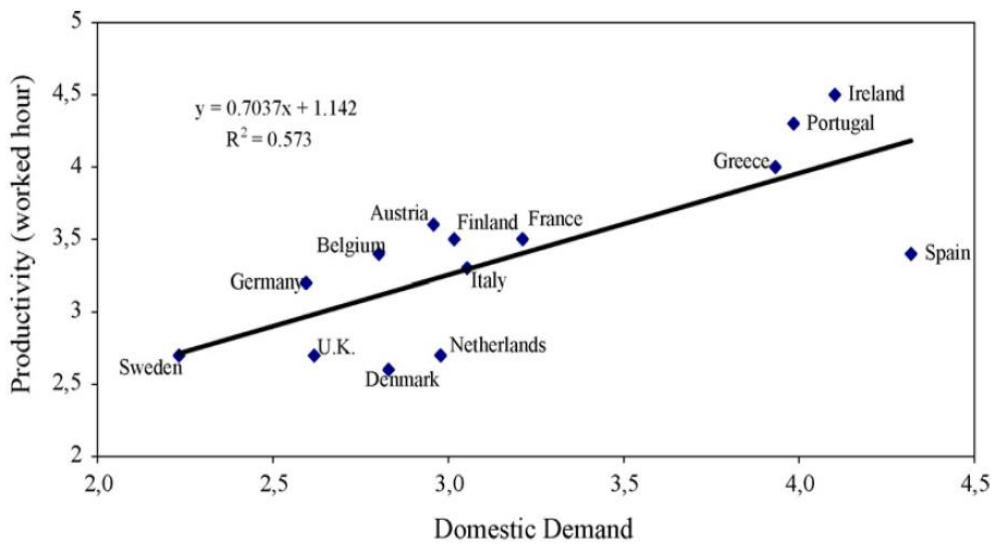
However, the hypotheses that come from Keynesian and Kaleckian economics can play an important role in understanding this tendency. According to these approaches (Naastepad and Kleinknecht, 2004; Setterfield, 2002; Cornwall and Cornwall, 2002), the level of effective production compared to potential production is determined by the size of aggregate demand, and this general level of aggregate demand determines productivity growth. This influence occurs mainly through three channels (Palazuelos and Fernández, 2009):

- I. Scale effect: An increase in any of the components of aggregate demand will allow greater use of installed capacity that remains idle in corporations.
- II. Capitalization effect: if aggregate demand grows through non-residential investment, this increase will lead to an increase in the capital-labor ratio and, thus, in productivity.
- III. Modernization effect: increases in the capital-labor ratio never occur, particularly in relatively long periods of time, with a stable composition of technology. On the contrary, the expansion of the capital stock is always accompanied by new technical innovations.

If we accept that labor productivity is conditioned by the level of aggregate demand, we can better explain the evolution of productivity during the last decades in EU countries. Between 1960 and 2007, there was a significant reduction of the internal demand of the Eurozone economies, while the growth of exports and imports remained high and stable. From the 1980s onwards we see how the Eurozone economies have experienced a significant and sustained restriction of their domestic demand (private consumption, public spending and, in particular, business investment). This reduction in the growth of domestic demand would have led to a parallel reduction in the growth rate of labor productivity

The greater the slowdown experienced by domestic demand in Eurozone countries, the greater the slowdown in productivity, as we can see in Figure 9. This weakness of domestic demand has conditioned the fact that, even in a decade in which information and communication technologies have spread -the 1990s-, productivity growth has remained very modest.

**Fig.9. Evolution of domestic demand and productivity, 1960–2004
(average rates of annual variation)**



Source: Palazuelos and Fernández (2009)

As stated by Cornwall and Cornwall (2002): “a prime benefit of strong aggregate demand is its stimulation of investment and technological change, leading to the adoption of new technology”³. This positive relationship between the level of aggregate demand and the evolution of productivity points to a positive relationship between wage growth and productivity. Since capital deepening – crucial for any recovery of productivity growth– is driven by investment decisions, wage growth will probably be followed by an increase in productivity growth (as long as wage growth does not entail a profit-squeeze effect, significantly damaging profitability).

There are several cross-country and international studies that show this causal relationship, from wages to productivity (Hellwig and Irmen, 2001; Bivens, 2017; Naastepad and Kleinknecht, 2004; Vergeer and Kleinknecht, 2010). Figure 10 presents, as done by Bivens (2017), a straightforward scatterplot of annual productivity growth versus annual growth in real wages (lagged one year) for 21 OECD countries across the 1980–2015 period. The slope of the regression is positive.

Different theoretical approaches point to various channels through which a wage growth constraint may slow down labour productivity growth. This causal link is pointed-out not only by demand side approaches. Neoclassical economics considers also the possibility of substitution between capital and labor at company level (Chennells and Van Reenen, 1997; Hellwig and Irmen, 2001; Bester and Petrakis; 2003): a fall in the price of labor relative to the price of capital induces firms to substitute the latter with the former, reducing therefore the ratio K/L of production and thus productivity growth. Therefore, a significant increase in wages increases the stock of productivity-augmenting capital.

³ For a more detailed analysis see Palazuelos and Fernández (2009). According to these authors, the dynamics of demand “structurally conditions” the performance of productivity and therefore the capacity for growth. Nevertheless, there is no direct and mono-causal relationship between the two variables, since labor productivity has a margin of variation that is not determined by demand. This entails, according to these authors, that in a context of weak domestic demand there is a trade-off between employment and productivity, since productivity also varies depending on the rate of employment (conditioned by demographic and supply side factors such as the labour force participation rate and the willingness of persons of working age to become active).

Fig. 10. Relationship between annual growth in productivity and lagged annual growth in real wages, 1980–2015



Source: Bivens (2007: pag. 12)

Furthermore, according to this approach the growth of salaries not only encourages many companies to substitute labor for capital, but also to renew obsolete equipment and machinery. Obsolete equipment is renewed in these cases with labor-saving technologies, thus contributing to increased productivity (what we previously called the 'modernisation effect').

From the demand-led growth approach the Verdoorn-Kaldor Law refers to the importance of effective demand as a determinant of productivity (Geroski and Walters, 1995; Naastepad and Kleinknecht, 2004; Vergeer and Kleinknecht, 2010): faster output growth increases labour productivity, since investment and innovation are favored by high demand expectations. The loss of effective demand resulting from a wage restraint would entail a slowdown in corporate investment and technological innovation.

These approaches do not refute the possibility of a "classic-orthodox" causal relationship between labor productivity and wage growth (determining the first variable to the second). But they insist on the complexity of this relationship and on the double causality: in the long run, productivity growth sets a certain benchmark for wage increases, while in the short and medium term the demand impulse resulting from wage growth reinforces investment and productivity.

Making an economy function below its potential level of production over a long period of time -as a result of a shortfall in aggregate demand- entails insufficient investment to sustain faster productivity growth. According to the estimates of Bivens (2007), a 1 percentage-point increase in the growth rate of real wages in the US economy would boost growth rate of non-residential fixed investment by 0.67 percent, and in the long run the increase in investment would rise to nearly 2 percent.

Vergeer and Kleinknecht (2010) study how wage growth determines labor productivity growth, with a panel data analysis of 19 OECD countries (1960-2004). They show how a 1-percentage point change in growth rates of real wages corresponds to 0.3 - 0.4 percentage points change in labor productivity growth. Indeed, according to these authors, between 1960 and 2004 the 'flexible' Anglo-Saxon countries presented more limited productivity growth than the 'rigid' European economies (with wages growing more rapidly in the latter).

These analyzes are fully consistent with Bhaduri and Marglin's (1990) approach previously mentioned, as has been pointed out by Hein and Tarassow (2010): a positive impact of real wage growth on the wage share in wage-led economies tends to reinforce GDP growth, since the marginal propensity to consume out of wage income is greater than the marginal propensity to consume out of capital income, and private investment is particularly influenced by the accelerating effect of demand. As long as the increase in the wage share does not lead to a profit-squeeze and to a sharp fall in corporate profitability, it will expand the level of aggregate demand, increase investment in capital goods and thereby productivity (due to the aforementioned 'scale effect', 'capitalization effect' and 'modernization effect').

The estimations made by Hein and Tarassow (2010) for six OECD countries (Austria, France, Germany, the Netherlands, the UK and the USA) for the period of 1960 to 2007 confirm the predominance of the Verdoorn-Kaldor Law: a positive impact of GDP growth on productivity growth. Therefore, redistribution towards labor can strengthen aggregate demand and GDP growth in wage-led economies, reinforcing by this means productivity growth. In the six cases analyzed by these authors, a positive effect of real wage growth on productivity growth is confirmed: a 1 percentage point increase in the wage share increases labor productivity in a range from 0.3 points (Netherlands, USA) to 0.9 points (Germany).

All this literature would therefore call into question the trend towards rapid flexibilization of labor markets in Europe, with the resulting slowing in wage growth. On the contrary, a wage policy that begins to reverse the falling tendency of the wage share and the chronic shortfall of aggregate demand, would increase productivity as business would gain more incentives to invest in capital equipment.

2.4- Functional distribution of income and financial stability

Economic inequality, in addition to having important macroeconomic effects on aggregate demand, investment and productivity, also has important effects on economic and financial stability. In general terms, we can say that rising income inequality has contributed to the private debt accumulation and financial imbalances that led to Great Recession of 2008 (Rajan, 2011).

The regime of weak aggregate demand in the EU has led to two types of growth models, particularly in the Eurozone, which have tried to by-pass the problem of insufficient internal demand in two different but complementary ways: with recourse to excessive private debt, or to an unsustainable neomercantilist export strategy.

This way of overcoming the problem of insufficient domestic demand created an unbalanced economic development between core and peripheral countries within the Eurozone for the period 1995-2008, set around two poles: on the one hand, a group of economies (particularly Germany) characterized by wage restraint and very weak domestic demand, with economic growth mainly driven by a strategy of increasing exports (*export-led growth*). On the other hand, the second pole (of which Spain is a good example) based its expansion in an internal demand financed by external debt (*debt-led growth*), thereby allowing the recycling of trade surpluses of the first group of countries.

Both strategies were in fact interdependent: growth in core countries was (in part) based on the external demand exerted by the peripheral economies and, simultaneously, the latter needed the surplus countries to finance their current account deficits. A common monetary policy and the existence of the single currency have played an important role in the development of this model, ensuring the same interest rate to all economies and reducing the credit risk of peripheral government bond yields.

This link between inequality and debt was made possible to a great extent by the growing weight of the financial sector in the economy (the *financialization* process). Deregulation of the sector and

the lack of vigilance by the authorities, relatively low interest rates, new products to promote access to credit for households and lower banking standards to access credit were combined with stagnant growth of real wages. In this context, the use of the debt allowed to maintain consumption standards for millions of households, while higher-income households recycled their dividends and capital gains on financial markets.

It is a feedback mechanism. The use of credit not only reinforces wage stagnation, by delaying the effects that would arise from the lack of demand, but also intensifies the credit bubble, which is very profitable for the lenders. In a context of relatively low interest rates, banks need to give increasing amounts of credit to increase their profit rates. In addition, the loans were converted into financial assets that opened up an additional source of income for banks (securitization and portfolio management), financial operators and real estate developers.

The intense use of credit postpones the limitations to economic growth derived from wage stagnation, but it does not solve those limitation. Since the model is based on a continuous growth of private debt, it is finally unsustainable. This financialization process contributed greatly to the global fragility of the European economies.

This intense use of credit was not only used to finance higher household expenditure, or corporate investment, but also allowed a large increase in speculation on different assets.

The results were those predicted by Minsky in his financial instability hypothesis: credit growth well above the evolution of GDP, increases in debt-to-income ratios and the emergence of Ponzi schemes and huge credit bubbles in various European economies. The consequence of this growing divorce between the financial and productive spheres is well known: the Great Recession.

3.- Policy implications. A high-road strategy for promoting inclusive growth.

In order to address the challenges of inequality and to promote inclusive growth, we think it is necessary to place functional income distribution –and the need to revert the falling tendency of the wage share– at the center of a new policy agenda. And since this primary distribution of income takes place in the labor market, we think that it is essential to address its relationship with collective bargaining institutions.

Some years before the crisis emerged a renewed interest of economic literature and international institutions in the determinants of the distribution of income, and particularly in the fall of the wage share (IMF, 2007; European Commission, 2007; OECD 2008 and 2011). This research has intensified during the last years, and has focused on the causes of the fall of the wage share, as well as on the consequences of this tendency. However, the role that industrial relations play in this tendency, and how they can help to tackle this challenge, continues to be a blind spot in economic research.

The main findings of international institutions and mainstream literature (IMF, 2007 and European Commission, 2007) are that technological as well as globalization are the main drivers of the decline experienced by the wage share since the 1980s, since the benefits of productivity increases and international trade tend to be captured by capital and favors high-skilled workers, against low-skilled workers.

Post-Keynesian authors and others institutional economists have given more importance to other factors when explaining the fall of the wage share, particularly to financialization and to labor market institutions.

The financialization process has resulted in more power for company ownership, allowing financial investors to impose higher dividend payments. This shareholder value orientation came at the

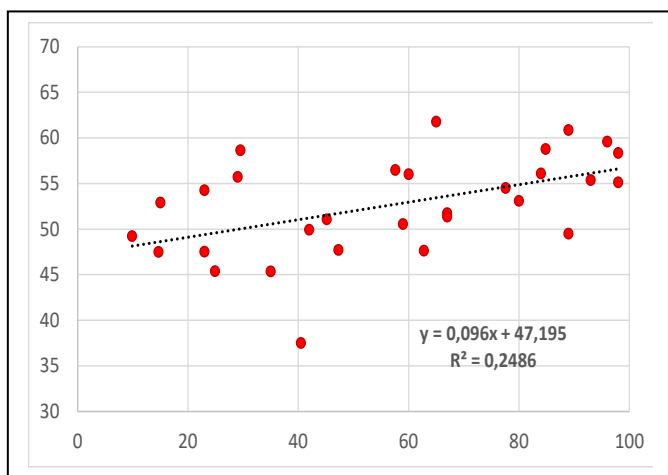
expense of the wage share, since rentier income has structurally reduced the rate of investment, job creation and wage growth (Dünhaup, 2013).

Presumably, greater bargaining power of workers will lead to an increase in wages and to an increase in the wage share, if the demand for labor is relatively inelastic. Recent empirical research use different proxy variables related to labor market institutions in order to approximate the bargaining power of workers (employment protection legislation, unemployment benefits, strike activity, union coverage or union density).

When analyzing the causes of the fall in the wage share, Hein (2009) finds that these two dimensions –financialization (foreign assets and liabilities as a ratio of GDP) and labor market institutions (union density)– are two significant key variables, more important than technological change or globalization. Financialization has a negative effect and union density has a positive effect on the evolution of the wage share, reflecting the changes in the bargaining power between capital and labor during last decades. Denk (2015) reports how financial sector income benefit the better-off: “Two-thirds of financial sector wage premia go to financial sector employees who belong to the 10% of all workers with the highest earnings”. Finnof and Jayadev (2006), Jaumotte and Osorio Bruitron (2015), Fichtenbaum (2009) and Kristal (2010) report a significant positive effect of labour market institutions –particularily union density– on the bargaining power of unions and on the wage share.

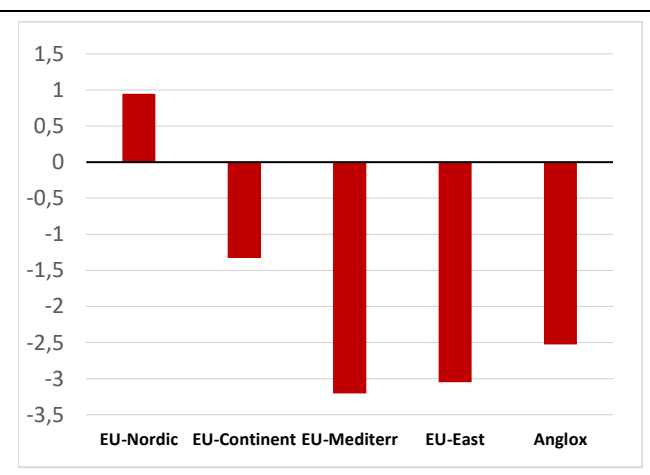
Trade union density is a variable that can however skew the results, underestimating the bargaining power of workers (union density is very low in some countries where collective bargaining extension mechanisms reach a much higher percentage of workers). If instead of considering union density, as most of these studies do, we consider the coverage of collective bargaining we can better capture the relationship between labor market institutions and wage share. In Figure 11 we can see this relationship, and in figure 12 we can see how the fall in wage share has been markedly lower during the crisis in those economies -such as the Nordic economies or EU core economies- where there are more developed collective bargaining systems.

Fig. 11: Coverage of collective bargaining and wage share (EU27, 2016)



Source: AMECO and AIAS database

Fig. 12: % change in the labor share 1996-2016



Source: Own calculations with AMECO

From what has been said so far a clear implication for economic policy derives: it is necessary to stabilize the fall of the wage share, and later try to reverse this trend. This would allow the development of a new pattern of income distribution that acts as a vector of a new, more inclusive,

sustainable and efficient growth model. Recommendations in this sense would include (Dünhaup, 2013; Onaran and Stockhammer, 2016):

- A new salary policy, the main objectives of which are: 1) to overcome the lack of domestic demand of EU economies (especially in core economies) 2) Reduce economic inequalities 3) Boost private investment and productivity 4) Facilitate greater economic and financial stability and 5) Reduce external imbalances within the Eurozone. This new wage policy should require real wages to grow as much as productivity (nominal wages should grow equal to productivity, plus the rate of inflation target). Or, what is the same, the ULC should grow by 2% annually. Nevertheless, a temporary period where real wages grow faster than productivity must be taken into account, to recover the tendency experienced by the wage share.
- In order to implement this wage norm, labor market institutions and wage-setting mechanisms must be restored (particularly where there have been more intense labor market reforms, such as peripheral countries). In particular, the mechanisms for the extension of the agreements as well as sectoral and national bargaining (instead of decentralized bargaining) play a key role in some of these economies, and must be recovered. Widening the coverage of collective bargaining is of crucial importance. From there, a new legislative framework favorable to trade unions should be promoted, since empirical evidence show how countries with better collective bargaining frameworks experience smaller wage share declines.
- Minimum wages are essential instruments for securing workers' incomes, avoiding wage poverty, reducing wage dispersion and stabilizing the income share of low-skilled workers.
- It is necessary to regulate atypical work, particularly temporary work that is not used to cover temporary tasks in corporations, and unwanted part-time employment. This type of employment entails an entry, mainly of young people and women, in precarious conditions to the labor market.
- Strengthening the Welfare State should also help to build a stronger framework for collective bargaining. In particular, it is necessary to develop guarantee income programs for those households that are unemployed, and decent unemployment benefits.
- The determinants that explain the fall in wage share are not limited to the evolution of labor market institutions, however important this may be. The rest of the factors must also be taken into account, among them financialization: it is necessary to truly regulate the financial sector, and to move to a progressive "euthanasia of the rentier", rethinking the actual full mobility of financial capital. In addition, it is key to replace the shareholder value orientation in corporations for a new system of corporate governance that involves all stakeholders and considers aims other than short-term financial objectives.
- Establishing taxes on the wealth accumulated by top incomes is nowadays fundamental to modify the growth of the capital share, since much of this growth is concentrated in the wealthiest 1%. Therefore, the progressivity of the EU tax systems must be strengthened, and we should move towards new taxation figures on wealth.

References

- Álvarez, I., Uxó, J. and Eladio, F. (2017): "Internal devaluation in a wage-led economy. The case of Spain", Working Paper series, WP05/17, Instituto Complutense de Estudios Internacionales (ICEI).
- Bentolila, S. and Saint-Paul, G. (2003) "Explaining Movements in the Labor Share", *Contributions to Macroeconomics*, Vol. 3, No. 1.
- Bester H and Petrakis E (2003), 'Wages and productivity growth in a competitive industry', *Journal of Economic Theory*, 109 (1), 52-69
- Bhaduri, A. and Marglin, S. 1990. 'Unemployment and the real wage - The Economic-Basis for contesting political ideologies', *Cambridge Journal of Economics*, vol. 14 (4).
- Bivens, J. (2017) A 'high-pressure economy' can help boost productivity and provide even more 'room to run' for the recovery, Economic Policy Institute, Washington, DC.
- Blecker, R. 2016. 'Wage-led versus profit-led demand regimes: the long and the short of it', *Review of Keynesian Economics*, Volume 4 (4).
- Calmfors L and Driffill J (1988), 'Bargaining Structure, Corporatism and Macroeconomic Performance', *Economic Policy*, 6, 14-47
- Chennells L and Van Reenen J (1997), 'Technical Change and Earnings in British Establishments', *Economica*, 64, 587-604
- Cornwall, J. and Cornwall, W. (2002). 'Supply analysis of productivity growth', *Structural Change and Economic Dynamics*, 13 (2), 203–229.
- Denk, O. (2015), "Financial Sector Pay and Labour Income Inequality: Evidence from Europe", OECD Economics Department Working Papers, No. 1225, OECD, Paris.
- Dühaupt. P. (2013): 'Determinants of Functional Income Distribution –Theory and Empirical Evidence', Working Paper No. 18, Global Labour University ILO, November 2013.
- Ederer, S. and Stockhammer, E. 2007. 'Wages and aggregate demand in France: An empirical investigation' in Hein, E. and Truger, A. (eds), *Money, Distribution, and Economic Policy – Alternatives to Orthodox Macroeconomics*, Cheltenham: Edward Elgar.
- European Commission (2007). The labour income share in the European Union. Chapter 5 of: Employment in Europe
- Fichtenbaum, R. (2009): The impact of unions on labor's share of income: a timeseries analysis, in: *Review of Political Economy*, 21(4), 567-88
- Finnoff, K. and Jayadev, A. (2006): 'Feminization and the Labor Share of Income,' GEMIWG Working Paper 06-4.
- Geroski, P. and Walters, C. (1995). Innovative Activity over the Business Cycle, *Economic Journal*, 1995, vol. 105, issue 431, 916-28
- Griffith, R. ; Redding, S. and Van Reenen, J. (2004). 'Mapping The Two Faces Of R&D: Productivity Growth In A Panel Of OECD Industries', *The Review of Economics and Statistics*, November 2004, 86(4): 883–895
- Hein, E. (2009). 'Determinants of functional income distribution in OECD countries', Studies 5/2009, Macroeconomic Policy Institute (IMK), Hans-Böckler Foundation.
- Hein, E. and Tarassow, A. (2010). "Distribution, Aggregate Demand and Productivity Growth: Theory and Empirical Results for Six OECD Countries Based On a Post-Kaleckian Model" *Cambridge Journal of Economics*, vol. 34, 727–754.ç
- Hein, E. and Vogel, L. 2008. 'Distribution and growth reconsidered: empirical results for six OECD Countries', *Cambridge Journal of Economics*, vol. 32 (3).
- Hellwig M and Irmen A (2001), 'Wage Growth, Productivity Growth, and the Evolution of Employment', *CEPR Discussion Paper 2927*, CEPR
- IMF (2007). The globalization of labor. Chapter 5 of World Economics Outlook April 2007. Washington: IMF
- Jacobson, M. and Occhino, F. (2012) "Labor's Declining Share of Income and Rising Inequality", *Economic Commentary*, Number 2012-13, September 25, 2012, Federal Reserve Bank of Cleveland.
- Jaumotte, F. and Osorio Buitron, C. (2015). Inequality and Labor Market Institutions, IMF Staff Discussion Note, SDN/15/14, July 2015, IMF, Washington, DC.
- Jorgenson, D., (2002). *Economic Growth in the Information Age: Econometrics*, vol. 3. The MIT Press, Cambridge, MA.
- Karagounis, K.; Syrrakos, D. and Simister, J. (2015): "The Stability and Growth Pact, and Balanced Budget Fiscal Stimulus: Evidence from Germany and Italy", *Intereconomics. Review of European Economic Policy*, 50 (1), January/February 2015.

- Kristal, T. (2010): 'Good times, bad times: postwar labor's share of national income in capitalist democracies', *American Sociological Review*, 75 (5), 729-63.
- Lavoie, M. and Stockhammer, E. 2013. *Wage-led Growth. An Equitable Strategy for Economic Recovery*, Palgrave Macmillan and ILO.
- Naastepad, C.W. and Storm, S. 2006. 'OECD demand regimes (1960-2000) ', *Journal of Post Keynesian Economics*, vol. 29 (2).
- Naastepad, C.W.M. & Kleinknecht, A. (2004): 'The Dutch productivity slowdown: the culprit at last?' in *Structural Change and Economic Dynamics*, Vol. 15: 137-163.
- Nishi, H. 2012. Structural VAR analysis of debt, capital accumulation, and income distribution in the Japanese economy: a Post Keynesian perspective. *Journal of Post Keynesian Economics*, 34(4).
- Obst, T. Onaran, O. and Nikolaidi, M. (2017) 'The effects of income distribution and fiscal policy on growth. Investment and budget balance: the case of Europe', Greenwich Papers in Political Economy No. 43, Greenwich Political Economy Research Centre.
- OECD (2008) *Growing unequal? Income distribution and poverty in OECD countries*, OECD, Paris.
- OECD (2011) *Divided We Stand: Why Inequality Keeps Rising*, OECD, Paris.
- OECD (2012) *Employment Outlook 2012*. Paris
- OECD (2015) *All on Board: Making Inclusive Growth Happen*, OECD, Paris.
- OECD and ILO (2015) *The Labour Share in G20*, OECD and ILO, Report prepared for the G20 Employment Working Group Antalya, Turkey, 26-27 February 2015.
- Onaran, O and Obst, T. 2016. 'Wage-led growth in the EU15 member-states: the effects of income distribution on growth, investment, trade balance and inflation', *Cambridge Journal of Economics*, Vol 40 (6).
- Onaran, O. and Galanis, G. 2012. 'Is aggregate demand wage-led or profit-led? National and global effects', Conditions of Work and Employment Series N.40, International Labour Organization.
- Onaran, O. and Stockhammer, E. 2005. 'Two different export-oriented growth strategies –Accumulation and distribution in Turkey and South Korea', *Emerging Markets Finance and Trade*, vol. 41 (1)
- Onaran, O. and Stockhammer, E. 2016. 'Policies for Wage-Led Growth in Europe', FEPS Policy Report February 2016, Foundation for European Progressive Studies.
- Onaran, O., Stockhammer, E. and Grafl, L. 2011. 'Financialisation, income distribution and aggregate demand in the USA', *Cambridge Journal of Economics*, vol. 35 (4)
- Palazuelos, E. and Fernández, R. (2009): 'Demand, employment, and labour productivity in the European economies', *Structural Change and Economic Dynamics* 20 (2009) 1–15
- Piketty, T. (2014) *Capital In The Twenty-first Century*, Harvard University Press.
- Piketty, T. *Capital in the Twenty-First Century*. Paris and Cambridge, M.A.: Harvard University Press, 2013.
- Rajan, R. (2011): *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton University Press
- Setterfield, M. (Ed.), 2002. *The Economics of the Demand-led Growth: Challenging the Supply-side Vision of the Long Run*. Edward Elgar, Cheltenham.
- Stockhammer, E. 2015. 'Wage-led versus Profit-led Demand: What Have we Learned? A Kalecki-Minsky View', Post Keynesian Economics Study Group Working Paper 1512, December 2015.
- Stockhammer, E. and Onaran, O. 2012. 'Wage-Led Growth: Theory, Evidence, Policy', PERI Working Paper Series 300, Political Economy Research Institute.
- Stockhammer, E. and Wildauer, R. 2016. 'Debt-driven growth? Wealth, distribution and demand in OECD countries', *Cambridge Journal of Economics*, Vol 40 (6).
- Stockhammer, E., and Stehrer, R., 2011. 'Goodwin or Kalecki in demand? Functional income distribution and aggregate demand in the short run'. *Review of Radical Political Economics* 43(4)
- Stockhammer, E., Onaran, O. and Ederer, S. 2009. 'Functional Income Distribution and Aggregate Demand in the Euro Area', *Cambridge Journal of Economics*, vol. 33 (1)
- Stockhammer, E., Hein, E. and Grafl, L. 2011. 'Globalization and the effects of changes in functional income distribution on aggregate demand in Germany', *International Review of Applied Economics*, vol. 25 (1)
- Uxó, J. and Álvarez, I. (2017): "Is the end of fiscal austerity feasible in Spain? An alternative plan to the current Stability Programme (2015-2018)", *Cambridge Journal of Economics*, Volume 41 Issue 4, July 2017.
- Vergeer, R. and Kleinknecht, A. (2010). "Jobs versus Productivity: The Causal Link from Wages to Labour Productivity Growth." TU Delft Working Paper.
- WEF (2017) *The Inclusive Growth and Development Report 2017*, World Economic Forum.
- Wolff, E. (Ed.), 1997. *The Economics of Productivity*. Edward Elgar, Cheltenham.
- Wren-Lewis, S. (2011): "Lessons from failure: fiscal policy, indulgence and ideology", *National Institute Economic Review*, No. 217 July 2011.