Income Distribution and Accumulation Regime. The Case of Italy

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Abstract

Since the 1980s, there has been a significant decline in the wage share in developed and developing countrie sThe growing inequality in the distribution of income has been particularly significant in Italy. The paper inv estigates the effects of a change in the wage share on aggregate demand in Italy. It allows identifying the accumulation regime of the Italian economy, assessing the relevance of taking into account income distribution an d aggregate demand to push the country toward a path of sustainable and balanced economic growth.

Keywords: demand-led regimes; income distribution; economic growth; wage share; Italy.

JEL Classifications: E01, E12, E20, E25, E64, C22

1. Introduction

During the last decades, inequality has increased significantly in developed and developing countries, which have experienced a simultaneous reduction in the share of labour income in national income and a rise in top income shares (Barba and Pivetti, 2009; Galbraith, 2011; IMF, 2007; OECD, 2011; Krueger et al., 2010; Stirati, 2010; Stockhammer, 2017).

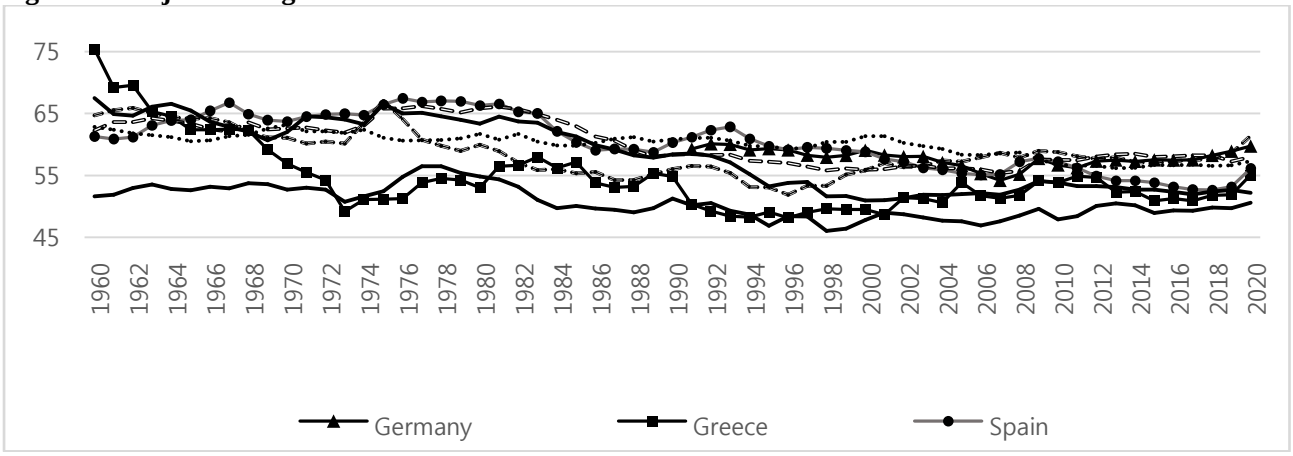
A number of empirical investigations has analysed the effects produced by inequality on economic growth, highligh ting a general downward trend in the share of wages, especially in the years preceding the global financial cr isis (GFC) of 2007.

These negative consequences of inequality have been recognised by both supply side growth approaches (e.g. Barro , 2000; Daudey and Garcia Penalosa, 2007; Berg et al., 2012) and post Keynesian demand led growth approaches (e .g. Naastepad and Storm, 2006; Hein and Vogel, 2008; Stockhammer et al., 2009; Obst et al., 2017; Oyvat et al., 20 20; Jetin and Reyes Ortiz, 2020).

The debate on the causes of the reduction in wage share and, in general, of the increase in inequality is still open. Several phenomena - such as globalisation, technological innovations, changes in the labour market, and the financialisation process -have played a crucial role in contributing to the fall in the share of wages on GDP, with a different impact on developing and developed countries, depending on the skills of workers and on the specific features of the economic system (Hein and Shoder, 2011; ILO, 2011, 2020; IMF, 2007; Stock hammer, 2012).

Figure 1 shows the adjusted wage share trend experienced by some economies belonging to the OECD area.

Figure 1: Adjusted wage share – Selected countries



Source: Author's elaboration - AMECO

More specifically, Figure 2 shows that the adjusted wage share in Italy decreased by 15 percentage points between 1960 and 2006, experiencing a negative peak in 2001 – without recording any notable improvement in its economic performance. In fact, real GDP growth has been feeble. After a notably increase in 2017 and 2018, economic activity remains weak. In 2020, the covid-19 pandemic has triggered an unprecedented economic shock, with negative impacts on both aggregate demand and aggregate supply. Italy registered the biggest GDP drop since World War II, with a contraction of 9.1 percentage. The detrimental effects of lockdown measures on employment and labour market were significant, in terms of job losses, reduction in working hours, and revenue of businesses. In contrast to the GFC, the European Union (EU) has implemented a set of expansionary policies, trying to mitigate the negative economic impacts of the pandemic crisis. Among the adopted policies, relevant were the temporary intervention measures aimed at safeguarding jobs and subsiding wages during the crisis (ILO, 2020). Despite these measures, the consequences produced by the Covid-19 pandemic crisis are likely to exert a downward pressure on labour market and wages.

Figure 2: Adjusted wage share and GDP growth in Italy

Note: Adjusted wage share (left scale) and GDP growth (right scale)
Source: Author's elaboration - AMECO

The aim of this paper is to analyse the accumulation regime of the Italian economy and to assess the importance of taking into account income distribution and aggregate demand to push the country toward a path of sustainable and balanced economic growth. The work develops an open-economy model inspired by the Bhaduri and Marglin (1990) approach, which allowsidentifying both wage and profit-led demand regime by estimating the effects of a change in income shares on growth.

The post Keynesian and post Kaleckian literature gives a prominent role to the income distribution issues in influencing aggregate demand and shaping economic growth (Kaldor, 1956; Kalecki 1938; Onaranat al., 2011; Sawyer, 1985; Stockhammer, 2009). Wages have a double meaning: they represent a cost for firms but also an essential source of demand for the economic system. Indeed, an increase in wages prompts effective demand, which spills over into consumption. On the contrary, a cut in wages depresses consumption, since marginal propensity to consume out of wage income is greater than the marginal propensity to consume out of profits (Kaldor, 1956; Sawyer, 1985). More specifically, the increase in wage share compresses profits, which are an indicator for expected profitability and for having available internal finance, and therefore reduces investments. At the same time, the increase in wage share, by increasing the production costs of firms, reduces the degree of competitiveness in international markets and, consequently, causes a fall in exports and a possible increase in imports. Depending on the reaction of the single components of aggregate demand to changes in the wage share, the model allows identifying the accumulation regime of the Italian economic system, which is classified as wage-led or profit- led, namely driven by wages or profits, respectively. Therefore, phases of expansion or recession experienced by an economic system might also be emphasised by the share of income distributed to the labour factor and/or capital factor.

The paper is structured as follows. Section 2 presents the theoretical framework of the investigation. Section 3 desc ribes the methodology and discusses the results, explaining the effects of income distribution on the single compon ents of aggregate demand, namely consumption, investment and net exports. Section 4 concludes.

2. Theoretical background

This section presents a model based on Bhaduri and Marglin (1990) aimed at assessing the effects produced by changes in functional income distribution on aggregate demand and economic growth.

Following Stockhammer et al. (2011), in turn inspired by Bhaduri and Marglin (1990), the model used in this paper allows identifying the wage-led or profit-led accumulation regime in Italy. It assesses the effects gener ated by a change in income distribution on the growth process of the Italian economic system. The model ex amines the main components of private aggregate demand (Y), namely consumption (C), investments (I), and net exports (NX). They enter the analysis in real terms as a function of wage share (Ω), income (Y) and som e control variables (z) - assumed to be independent of output and distribution:

$$Y = C(Y, \Omega) + I(Y, \Omega, z_1) + NX(Y, \Omega, z_{NX})$$

Adopting a single-equation estimation approach for each components ofaggregate demand (Bowles and Boyer, 1995), the paper develops an open-economy model, excluding the economic activity performed by the State. The model takes distribution as the exogenousvariable in determining growth as the endogenous variable.

By analysing the single components, the model recognises and later empirically verifies that a redistribution o f income in favour of wages determines an increase in consumption. This is in line with the Kaleckian princi ple according to which wage incomes and profit incomes are associated with different propensities to consum e. The assumption is that marginal propensity to consume out of wages is greater than the marginal propensit y to consume out of profits. Put it differently, the decrease in the average wage per worker might determine a fall in the domestic demand. However, this latter effect might be offset if the reduction in domestic prices – brought about a decline in wages - improves the competitiveness of domestic products and produces an incr ease in foreign demand.

After a redistribution in favour of wages, investment is expected to reduce, following a change in the opposit e direction of profits and internal finance. Moreover, net exports are expected to decrease, due to the increase in production costs and the loss of competitiveness in international markets. Net exports are negatively correl ated to unit labour costs (ULC), which in turn is a measure of competitiveness and is associated with wage s hare.

In this theoretical framework, the identification of the accumulation regime is made considering the marginal effects of the aggregate demand components, namely consumption, investment and net exports, with respect t o the labour share. The total effect of the change in income distribution on aggregate demand is given by the following equation, namely differentiating Y with respect to Ω:

$$\frac{\partial Y}{\partial \Omega} = \frac{h_2}{1 - h_1}$$

Where $h_1 = \frac{\partial C}{\partial Y} + \frac{\partial I}{\partial Y} + \frac{\partial NX}{\partial Y}$ and $h_2 = \frac{\partial C}{\partial \Omega} + \frac{\partial I}{\partial \Omega} + \frac{\partial NX}{\partial \Omega}$.

More specifically, h_1 is the sum of the partial derivatives of each components with respect to domestic deman d while h_2 represents the sum of the partial derivatives with respect to the distribution of income. The denom inator $1/(1 - h_1)$ represents the standard multiplier.

Nevertheless, the definition of the accumulation regime represents an empirical matter, as it is based on the st ructural features of the economy and on the reaction of each component of GDP to changes in income distrib ution. In fact, the sign of h_2 cannot be identified *a priori*. In a nutshell, a redistribution of income in favour of labour will identify a wage-led regime whether ($\partial Y/\partial \Omega$) is greater than zero. This means that the economi c system under investigation experiences positive effects after an increase in the wage share. Conversely, if th e sign of ($\partial Y/\partial \Omega$) is less than zero, the accumulation regime is defined as profit-led.It has to be noticed that the model allows distinguishing between domestic and open economy. Domestic sector is identified consideri ng the effects of consumption and investment while open economy accounts for the effects of the foreign sect or. Therefore, if the effects of consumption following an increase in wage share are greater than investment, domestic sector will be defined as wage-led. Including net exports allows identifying the total effects in an o pen economy. The approach used by Bhaduri and Marglin (1990) is a post Kaleckian macroeconomic model, extensively adopted by the post Keynesian andpost Kaleckian literature, that has inspired a flourishing body o f empirical studies. Note that the behavioural functions also enclose standard Keynesian models (e.g. Blanchar d, 2006).

Lavoie (2017) provides an analysis on the origin and evolution of the debate on wage-led and profit-led regi me. All the empirical contributions inspired to the Bhaduri-Marglin model can be broadly divided into two gr oups, according to the estimation strategy they follow (Stockhammer et al., 2011). More specifically, the first group estimate the goods market equilibrium and a distribution function (e.g. Stockhammer and Onaran, 2004, 2005). The second group explores the goods market, estimating single equations for consumption, investment , and net exports (e.g. Bowles and Boyer, 1995; Hein and Vogel, 2008; Onaran and Galanis, 2014; Onaran an d Obst, 2016; Obst et al. 2017; Jetin and Reyes, 2020; Stockhammer et al. 2009). The present paper builds o n the second group of studies, recognising the advantage of detecting the precise dynamics, which shape the r elationships between demand and changes in income distribution, and of identifying the regime of accumulati on, clearly distinguishing the domestic and open economy regime.

3. Methodology and Findings

The model builds on six standard equations that estimate single components of aggregate demand, namely co nsumption, investments, and net exports, as widely used in the literature (e.g. Hein and Vogel, 2008; Naastep ad and Storm, 2007; Onaran et al, 2011; Stockhammer et al, 2009). More specifically, the methodology allow s estimating the partial effects deriving from the change in the distribution of income in Italy, namely the con tribution provided by each component of aggregate demand to economic growth. Partial effects are then adde d up, in order to classify the country as wage-led or profit-led. The analysis focuses on time series from 196 0 to 2020. The dataset was built by drawing on the Ameco database of the European Commission (download ed in February 2021).

Variables are given by consumption (C), investments (I), imports (M), exports (X), GDP (Y), wages (w) and profits (π). All the variables are expressed in real terms and are listed in Table A, in Appendix. Wages and p rofits were deflated by GDP deflator. The variables have been tested for unit roots. The augmented Dickey-F uller test (ADF) indicates that time series in log are not stationary, integrated of order one, *I*(1).Since no evid ence of a long-run relationship between the variables were found, equations were estimated using first differe nces of the variables in order to avoids purious regressions (Hein and Vogel, 2008). The methodof ordinary le ast squares was applied (e.g. Bowls and Boyer, 1995; Naastepad and Storm, 2007; Stockhammer et al., 2007; Ederer and Stockhammer, 2007). Coefficients were found to be significant, with high values of the adjusted R-squared, showing the equations to be robust. The estimations were tested for autocorrelation in the residual s and heteroskedasticity by applying the Durbin-Watson statistic and the White test, respectively.

3.1 Consumption

Consumption (C) is estimated as a function of income. To include the distributional effects, it is estimated as function of wages (*w)* and profits (π).

$$C = f(w, \pi)$$

Table 1: Consumptions

Country	$\Delta ln\, w\ (a_1)$	$\Delta ln\, \pi\ (a_2)$	Adjusted R^2	Durbin Watson
Italy	0.607***	0.318***	0.814	1.45

***, ** and * denote significant at 1%, 5%, and 10%, respectively

Since all the variables enter the regression in logarithms, the parameters - $a_1$and a_2 - represent the elasticity of consumption to wages and profits. Table 1 shows that they are equal to 0.607 and 0.318, respectively. In o rder to calculate the contribution of consumption to GDP growth - determined by a change in the wage share -, the estimated parameters (elasticities) are converted into marginal effects according to the following equati on:

$$\partial\left(\frac{C}{Y}\right)\Big/_{\partial\Omega} = a_1\frac{C}{w} - a_2\frac{C}{\pi}$$

In detail, parameters$a_1$and $a_2$are multiplied by mean values of the sample (C/w) and (C/π), respectively. Th is is nothing but the marginal propensity to consume (MPC) out of wages and profits. The difference between the aforementioned values quantifies the effect of the redistribution of income on consumption. Data suggest that the marginal propensity to consume of wage earners (∂C / ∂W) is equal to 0.877, and marginal propensit y to consume out of profits ($\partial C/\partial\pi$) is 0.38. The difference between the two latter values ($\partial C/\partial\Omega$) is equal t o 0.495. Thus, a 1-percentage point increase in wages translates into a0.495 increase in consumption, as a rati o to GDP.

Table 2 shows the results and confirms that marginal propensity to consume out of wages is greater than the marginal propensity to consume out of profits. The effects of an increase in wage on consumptions are consid erably positive.

Table 2: Effects on consumptions

Country	C/W	C/π	$\partial C/\partial W$	$\partial C/\partial \pi$	$\partial(C/Y)/\partial \Omega$
Italy	1.445	1.199	0.877	0.381	0.495

3.2 Investment

Investment is determined as function of output (Y), profits (π) and real interest rate (i). It is presented in the following form:

I = f(Y, π, i)

Profits and output parameters are expected to be positive. On the contrary, real interest rate parameter is assu med to be negative. An increase of this latter variable (in level) produces a reduction in the growth rate of in vestment, as the former represents a cost factor. Following an increase in wage share, investment is then expe cted to reduce because future profits are expected to decrease. Moreover, retained earnings represent an intern al source of finance, producing an impact on investment expenditures (Kalecki, 1954). A critique on the speci fic form of the investment function used by the approach *a là* Marglin-Bhaduri, namely on an independent lo ng-run influence of profit share on investment is raised in several similar models (e.g. Lavoie, 2016; Pariboni, 2016).

Table 3: Investment

Country	$\Delta ln\, Y\ (b_1)$	$\Delta ln\, \pi\ (b_2)$	$\Delta i\ (b_3)$	Adjusted R^2
Italy	1.431	-0.076	0.001	0.72

***, ** and * denote significant at 1%, 5% and 10%, respectively.

Table 3 shows the estimation coefficients (b_1, b_2, b_3) which represent the elasticities of investments to output, profits, and the real interest rate, respectively. It can be noticed that the coefficient relating to GDP (b_1) is st atistically significant and shows a considerably positive contribution, while the results relating to profits (b_2) and the interest rate (b_3) do not confirm theoretical conjectures. In fact, the effects of profits on investments are not statistically significant as well as present an inverse sign compared to traditional theoretical hypothese s.

Similarly, real interest rate parameter is not statistically significant, showing a positive sign. Following the me thodology used in previous studies (Hein and Vogel, 2008; Onaran and Obst, 2016; Onaran and Galanis, 2014 ; Stockhammer et al., 2009, 2011), negative or no statistically significant parameters are excluded from the as sessment of the contribution of investments to growth. However, these results are not surprising.

The increase of profits does not always produce an increase in investments. The so-called profits-investments puzzle explains that a rise in profits determines a rise in capitalist class consumptions (Forges Davanzati and Pacella, 2013).

It follows that the domestic sector of the Italian economy clearly follows a wage-led regime, i.e. driven by w ages. Table 4 shows the computation of the ratio between investments and profits (I / π) and the contribution of investments to growth, ($\partial I/\partial \pi = b_2 * I/\pi$), following a change in profits.

Table 4: Investment

Country	I/π	$\partial I/\partial \pi$
Italy	0.424	-0.032

3.3 Prices

Prices equations play a relevant role in the analysis, especially for the effects on net exports.Throughout a ste pwise approach, the model highlights how imports and exports highly depend on the level of domestic prices relative to international prices, assuming as stable the nominal exchange rate.

Domestic prices (P) and export prices (PX) are estimated as function of import prices (PM) and unit labour c osts (ULC). It is relevant to note that this represents the mechanism through which foreign prices are transmit ted into domestic prices. Tables 5 and 6 shows the results of the regression analysis.

$P = f\ (ULC,\ PM)$
$PX = f\ (ULC,\ PM)$

Table 5: Domestic prices

Country	$\Delta ln\ ULC\ (c_1)$	$\Delta ln\ PM\ (c_2)$	Adjusted R^2	Durbin Watson
Italy	0.778***	0.097***	0.92	1.23

***, ** and * denote significant at 1%, 5% and 10%, respectively

Table 6: Export prices

Country	$\Delta ln\ ULC\ (d_1)$	$\Delta ln\ PM\ (d_2)$	Adjusted R^2	Durbin Watson
Italy	0.399***	0.528***	0.95	2.21

***, ** and * denote significant at 1%, 5% and 10%, respectively

The parameters are used to compute the marginal effects of a change in the wage share on nets exports.

3.4 Net exports

Net exports are given by the difference between exports (X) and imports (M).Exports (X) are estimated as fu nction of GDP of the rest of the word (Y_w) and relative prices (PX/PM), i.e. export prices (PX) relative to i mport prices (PM):

$X = f(Y_w, PX/PM)$.

Table 7 summarizes the results of the regression analysis, showing statistically significant coefficients, in line with theoretical hypotheses.

Table 7: Exports

Country	$\Delta ln\ Y_w\ (f_1)$	$\Delta ln\ {PX}/{PM}\ (f_2)$	Adjusted R^2	Durbin Watson
Italy	0.033***	-0.493***	0.25	1.34

***, ** and * denote significant at 1%, 5% and 10%, respectively

Imports (M) are instead estimated as a function of domestic demand, proxied by the volume of GDP (Y), and relative prices of exports relative to imports (PX/PM). Table 8 shows the parameters of the estimation.

$$M = f(Y, P/PM)$$

Table 8: Imports

Country	$\Delta ln\ Y\ (g_1)$	$\Delta ln\ {PX}/{PM}\ (g_2)$	Adjusted R^2	Durbin Watson
Italy	1.996	0.198	0.65	2.0

***, ** and * denote significant at 1%, 5% and 10%, respectively

The marginal effect of a change in the wage share on net exports/GDP, $\frac{\partial M/Y}{\partial \Omega}$, is computed through a mechani sm that incorporates the elasticities obtained from previous estimates. In details, it accounts for the effect of a percentage increase in the wage share on exports compared to GDP, through the following equation:

$$\frac{\partial X/Y}{\partial \Omega} = e_{XPX}\, e_{PX\ ULC}\, e_{ULC\ \Omega} \frac{Y_f}{Y} \frac{X}{Y} \frac{1}{\Omega}$$

The same logic applies to imports, $\frac{\partial M/Y}{\partial \Omega}$. The difference between the two components, i.e. exports and imports , quantifies the contribution of net exports to growth, $\frac{\partial NX/Y}{\partial \Omega}$. Table 9 summarizes the values of each compone nt and allows explaining the mechanism to identify$\frac{\partial NX/Y}{\partial \Omega}$.

More specifically,$e_{ULC\ \Omega}$is the elasticity of unit cost of labour towage share, calculated as $1/1 - e_{P\ ULC}$(where $e_{P\ ULC}$ is the parameter of prices, shown in Table 5). The second column shows the price elasticity of exports to unit labour costs, as shown in Table 6. Column 3 presents the elasticities of exports to price of exports (e_{XPX}), as shown in table 7. Column 3* is the elasticity of import to prices of import (table 8). Column 4 (4*) identifies$e_{X\ \Omega}$($e_{M\ \Omega}$) given multiplying columns 1, 2, and 3 (3*). They represent the elasticity of exports and imports relative to wage share, respectively. Column 5 shows the inverse of the wage share ($1/\Omega$). Notice th at the wage share is equal to real unit labour cost ($rulc$) which is given by ULC/P. Columns 6 and 6* show the share of exports and imports on GDP (X/Y and M/Y, respectively). They allow converting elasticities int o marginal effects. Column 7 presents the relationship between GDP at factor cost and GDP at market prices (Y_f/Y). These steps allow calibrating the total effect to the degree of openness towards international trade and to the size of the domestic sector. Columns 8 and 8* allow computing the effects deriving from the change i n wage share on exports $(\partial X/Y)/\partial\Omega$ and imports $(\partial M/Y)/\partial\Omega$, respectively. Finally, the effects on net export

s are shown in column 9.
It follows that a redistribution of income in favour of labour determines a reduction in exports equal to -0.06 7 and an increase in imports equal to 0.026, as a percentage of GDP. The marginal effect of a change of wa ge share on net exports amounts to - 0.093% of GDP.

Table 9: Marginal effect of a change in wage share on net exports

1	2	3	3*	4	4*	5	6	6*	7	8	8*	9
$e_{ULC\,\Omega}$	$e_{PX\,ULC}$	e_{XPX}	e_{MPX}	$e_{X\,\Omega}$	$e_{M\,\Omega}$	$1/\Omega$	X/Y	M/Y	Yf/Y	$(\partial X/Y)/\partial \Omega$	$\partial M/Y)/\partial \Omega$	$(\partial NX/Y)/\partial \Omega$
4.504	0.399	-0.49 3	0.198	-0.888	0.357	0.92 8	0.184	0.17 6	0.44 3	-0.067	0.026	-0.093

3.5 Findings and discussion

The empirical analysis carried out over the period 1960-2020 highlights the following results. A 1% increase in wage share determines positive effect on consumption $[(\partial C/Y)/\partial\Omega]$ equals to 0.50% of GDP. The investm ent specification effects of wage share on investments are not statistically significant. In line with previous st udies (e.g. Stockhammer et al., 2001), these results was excluded by the computation of the accumulation reg ime.

Adding up the marginal effects of an increase in the wage share by one percentage point for consumption an d investment allows identifying the domestic accumulation regime. The paper finds that domestic demand is c learly wage-led in Italy.
By introducing the foreign sector into the analysis, the wage-led accumulation regime seems to be confirmed. A 1% increase in the wage share leads to a reduction in net exports. However, these negative effects are lo wer than the positive effects of the change in wage share on consumption. This showsthat Italy has a clear w age-led accumulation regime, as the ratio $(\partial Y/\partial\Omega) > 0$ and equals to 0.40% of GDP. Table 10 summarises t he results, showing the final effects of a 1% redistribution of income in favour of wage on growth.

Table 10: Sum of marginal effects on consumptions, investment and net exports on GDP

Country	*Consumption*	*Investment*	*Net exports*	*Total effects*
Italy	0.495	-	-0.093	0.402

3.5 Comparison with the literature

The results of the present paper are in line with previous studies on the Italian economic system which have so far underlined the wage-led nature of the accumulation regime. The comparison with the literature account s for empirical investigations that applied a single equation approach. Naastepad and Storm (2007) show that

Italy is wage-led, finding that total effect of a wage growth increase on demand is positive and equals to 0.1 2. Obst, Onaran, and Nikolaidi (2017) find that Italy exhibit a wage-led demand regime, showing the effect o f a 1-percentage point decrease in profit share on aggregate demand in Italy and the impact of a decrease in t he share of profit in all the EU15 countries simultaneously. In the first case the value is 0.07 while in the se cond case it is equal to 0.56. Obst and Onaran (2016) confirm the wage-led nature of the Italian regime, stati ng that the effect of a 1-percentage point increase in profit share at national level on a percentage change in aggregate demand is -0.12; whereas, if the profit share increase at the European level, the effect is equal to - 0.24. Similarly, Onaran and Galanis (2014) find that an increase of 1.-percent point in the share of profit pro duces a reduction of 0.17% in aggregate demand, reiterating the wage-led accumulation regime. Finally, the r esults are also in line with the analysis carried out by Canelli and Realfonzo (2018), which highlights that a (1-percent) redistribution of income in favour of wages gives rise to a positive effect on the Italian economic system, by increasing domestic and aggregate demand by 0.51% and 0.45%, respectively.

Overall, the results of the paper confirm the findings of previous investigations that both domestic and aggreg ate demand tends to be wage-led. Different outcomes, in quantitative terms, could be due to a number of asp ects, such as: the time horizon used in the regression analyses, which usually do not account for the post-cris is period; the specification of the model, the econometric techniques, the variables and the data based used.

4. Conclusions

The paper developed an open-economy model based on the Bhaduri and Marglin (1990) analysis. By applyin g a single-equation estimation approach for the components of aggregate demand, the paper estimated the effe cts of a change in income distribution on economic growth in Italy. The analysis found that domestic demand is clearly wage-led. By including the foreign sector, the results confirm thewage-led nature of the Italian acc umulation regime. A 1-percentage increase in the wage share leads to a fall in net exports. The negative effec ts are lower than the positive effects produced by the change in wage share on consumption. This implies tha t the final effects of a 1-percentage redistribution of income in favour of wage will boost economic growth.

The model used in this paper presents some limitations. In order to keep the model simple, it considers the r ole of income distribution on aggregate demand, treating the variable as exogenous. In reality,income distribut ion is instead endogenous. The model primarily analyses private sector, not accounting for the role of the Stat e, as in Bhaduri and Marglin (1990). Future extensions will take into account these limitations and a more co mplex specification.

However, the results show an interesting trend, allowing questioning the economic policies implemented in re cent years. Since the GFC broke out, austerity policies and wage moderation have been the predominant resp onse adopted by European countries. These policies have produced negative effects on growth and private inv estment, contributing to stagnation in Europe.

The wage-led nature of the Italian economic system - as well as of the Eurozone (Hein and Vogel, 2008; On aran and Galanis, 2014; Stockhammer et al., 2009) - suggests that the implementation of a pro-labour policy strategy will stimulate growth, reducing unemployment and inequality, leading to a significant rise in GDP.

The global Covid-19 pandemic stressed the relevance of these studies, highlighting the opportunity to re-evaluate the adequacy of wages in most countries. In order to tackle the negative effects produced by the current Co vid-
19 crisis, governments have put forward unprecedented expansionary policies to keep businesses afloat and to supp ort households (e.g. temporary wage subsidies and extending social protection). Despite those policy intervention m easures, the economic and employment consequences produced by the Covid-
19 crisis seem to trigger further downward pressure on wages. To bring economies toward a path of sustainable an d balanced economic growth, income inequality issue has to become the top priority of policy agendas, as increasin g wages is not an obstacle to growth.

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Appendix

Table A: Variables definition

Variable	AMECO	Description
C	*OCPH*	Private final consumption expenditure, real
R	*UOGD*	Gross operating surplus, real, deflated by GDP deflator
W	*UWCD*	Compensation of employees real, deflated by GDP deflator
I	*OIGT*	Private investment, real
Y	*OVGD*	GDP, real
i	*ILRV*	Long-term real interest rate, deflated by GDP deflator
P	*PVGD*	GDP deflator
PX	*PXGS*	Export price deflator
PM	*PMGS*	Import price deflator
ULC	*PLCD*	Nominal unit labour costs
X	*OXGS*	Exports of goods and services
M	*OMGS*	Imports of goods and services
Y_w	-	GDP of main trading partners minus own GDP, real
Y_f	*UYGD*	Gross domestic product at factor cost