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Italian economic trends and labor market reforms: a 50-years overview

Abstract

This paper aims to investigate the Italian economic development from 1960 to the present day, performing an analysis of meaningful economic trends and relating them to the implementation of major labor market reforms.

For this purpose, we observe the dynamics of main macroeconomic variables related to growth, income distribution and employment. Especially, we focus on different theoretical approaches explaining labor productivity trend, and on Classical theory of distribution.

Keywords : economic growth, productivity, real wages, labor share, market labour, Italian economy.

JEL classification: E24, O47



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1. Introduction: from post-war period to the economic miracle

At the end of World War II, Italy was a country to be reconstructed. Although the economy was not merely agricultural or subsistence, a significant part of the production system had been destroyed by the conflict. Half a century later, the same country ranks among top global economies.

A great array of factors - distributed in time - drove this change. The starting point of this transformation was the signing of Marshall Plan (1948) and the following "economic miracle", which can be dated between the fifties and the sixties. The economic boom took place as a consequence of such recovery program (allowing means of production and know-how flows), of economic policies based on State participation, and of export-oriented strategies - exploiting the low cost of labor due to high unemployment levels (10% in 1953-54). As a result, from 1950 to 1963 real GDP average growth rate was about 6% per year, while unemployment rate reached its historic lowest bound in 1963 (3.7%). Furthermore, an increase in labor productivity - combined with low bargaining power of workers, experienced after the split of the unitary trade union (1948) - was observed in all regional areas: this led to a rise in profits greater than wages growth.

Based on these starting points, the aim of this paper is to provide an overview of Italian economic trends, and to relate them - where possible - to the implementation of labor market reforms. To this purpose, we organised this essay as follows. In Section 2, the paper aims to analyse economic growth, focusing on links with productivity indicators, and providing a comparison between two different economic theoretical approaches. In Section 3 we explore the income wage share, and we connect it to employment trends, in order to assess the Marxian theory of distribution. Section 4 shows some empirical evidence about "gap" between labor productivity and real wages, related to main labor market reforms. Finally, Section 5 presents our conclusions.

2. The doubtful link between productivity and growth

In this section we focus on the analysis of macroeconomic indicators such as GDP at 2005 constant prices¹, per capita GDP and labor productivity from 1960 until 2012. After a brief description of Italian economic development, we try to link these indicators to labor productivity issue, stressing this puzzling point through two distinct approaches.

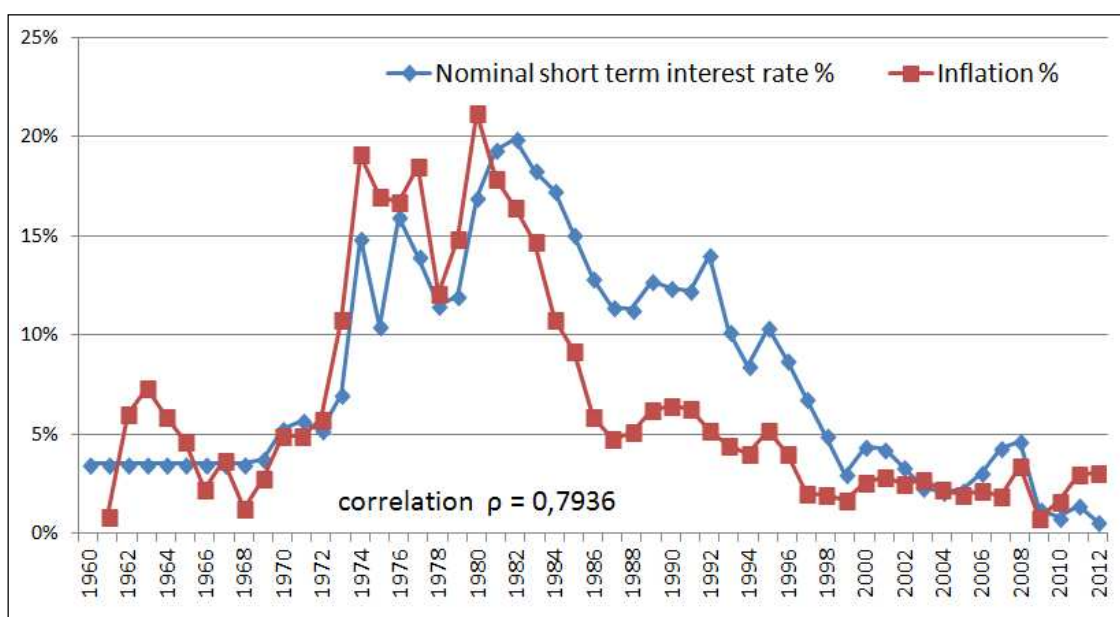
Annual average growth rate	1960-73	1974-83	1984-93	1994-07	2008-12
GDP	5,37%	2,82%	2,32%	1,67%	-1,40%
GDP per employee (GDP/Lt)	5,65%	2,16%	1,95%	0,78%	-0,99%
GDP per capita (GDP/pop)	4,67%	2,48%	2,27%	1,47%	-1,76%

Table_1 – Source: Ameco time series, authors' elaborations on 2005 constant prices data

¹ In regard to this indicator, see methodological annex.

As you can see in Table_1, we divide our analysis into five sub-periods. As a matter of fact, the average annual GDP growth rate is constantly decreasing: during the sixties, output was growing at an average annual rate greater than 6%, while in the following terms data show a lower dynamic - halved growth rates in the following decade. Indeed, in the last five-year period real growth became negative, partially due to the financial crash (started in 2007). According to these indicators, we can argue Italian economy experienced significant changes in recent decades, and they were not achieved in the willing direction: per capita real income (in absolute terms) is even reduced in the last years. To these matters are related all economic issues about the long-term effects of the crisis on variables such as income, aggregate demand and employment. The slowdown in GDP dynamic is worth considering in order to avoid the decline both in absolute and relative terms of Italian economy. However, some reasons of this phenomenon don't seem to be only recent: observing real output trend we can easily conclude that weak national income growth takes particular evidence during the seventies.

First of all, we consider this trend as the result of a double issue. On one hand, it is attributable to restrictive monetary policies, carried out in order to stem inflation; on the other hand, it is due to measures limiting exchange rates fluctuation through the introduction of the “currency snake” (1972) - a prelude to the European Monetary System - as a result of Bretton Woods system collapse (occurred in 1971). The decay of these agreements provided for the abolition of fixed exchange rates regime between European currencies and US dollar, as well as the dollar-peg to gold. In order to amend the “currency mayhem” created by the US monetary system, in 1972 European countries signed the Basel Accords, instituting a 2.25% fluctuation range between each national currency, and keeping a swinging band against dollar at 4.5% [Gauthier, 1998]. With respect to Italy, exchange rate stability with Europe meant levelling inflation dynamics compared to foreign countries through restrictive monetary policies (see Graph_1).



Graph_1 – Source: Ameco time series (authors' elaborations)

However, inflationary pressure on Western economies caused by the first oil crisis (1973) overwhelmed this monetary stability system. Imported inflation - due to the increase of crude oil price – caused large instability in exchange rates, which led many European currencies to leave the “currency snake” - including Italy, gone out in 1973, then directly joined European Monetary System in 1979. In order to contain high inflation, Italian central bank implemented restrictive monetary policies by raising nominal short-term interest rates. As you can see in Graph_1, during the 70’s and the ‘80s interest rates were kept exceptionally high in order to limit money demand: these monetary measures (together with worsening growth expectations) led to a slowdown in investment and consumption². Indeed, the average growth rates of investment and consumption (see Table_2) are strictly decreasing compared to the 60’s: negative investments growth rates³ were experienced in 1975, from 1981 to 1983 and in 1992-93 biennium. Furthermore, in Table_3 you can see as investments per worker show a decreasing growth rate overtime.

Annual average growth rates	1960-73	1974-83	1984-93	1994-07	2008-12
Households consumption	5,94%	2,87%	2,50%	1,57%	-1,05%
Gross investments	5,03%	0,86%	1,71%	2,77%	-5,07%
Government’s expenditure	4,07%	3,40%	1,97%	1,06%	-0,58%
Export	10,31%	5,11%	5,20%	4,63%	-0,15%

Table_2 – Source: Ameco time series, authors’ elaborations on 2005 constant prices data

A second factor of growth delay can be found in weak labor productivity increases. Especially during the 80’s, a fervent debate emerged about growth differential between Europe and USA [Birolo, 2010], owing to the old continent was recording low growth rates in income and employment, while USA were experiencing high economic prosperity. Economic literature explains these gaps along two distinct approaches: the first one focuses on the so-called *supply factors*, while the second one refers to the *Verdoorn law* [1949], providing a stable positive relationship between labor productivity and output growth rate, hence insisting on *demand factors*.

Following the “first theoretical approach”, this differential is often explained by human and social capital low endowments, by the lack of R&D investments⁴, and by markets framework, rigidity and distortion [Ofria, 2009]. Moreover, the burden of low economic growth is attributable to weak productivity dynamics, mainly due to alleged problems of labor market flexibility [Parascandolo & Sgarra, 2005]. Especially, it is argued that regulation of economic activity negatively affects the level of productivity, and therefore output level. In essence, in case of strong economic regulation productivity

² Between nominal short-term interest rate and real GDP growth rate (1970-1993) there is a -0.55 Pearson correlation.

³ Following an alternative approach, if investments are financed through creation of endogenous money supply, such a decrease could be ascribed to the lack of credit demand by enterprises, or else to banking credit crunch; referring to these years, data show negative real interest rates (i.e. nominal interest rate less inflation rate): according to this line of reasoning, we can argue banks didn’t grant credit because of such a similar operation could led to actual losses. Moreover, since 1973 administrative credit controls were established, and since 1976 - after a currency crisis - ceilings on lending were raised; credit restrictions were intended to increase the effectiveness of restrictive measures already implemented after the oil shocks (for further details: www.bancaditalia.it/bancaditalia/storia/anni50/la_turbolenza).

⁴ In this framework, it is useful to mention that technological change could foster investment demand, and that investments themselves have a direct/prompt effect on aggregate demand [Cesaratto & al., 2003].

will decrease; conversely, the action of weak restrictions leads to an increase of productivity growth rate - and therefore to increases in GDP. In this framework, such a tightened regulation results in shifting upwards enterprises cost function and downwards production boundary, limiting *de facto* economy growth rate [North, 1990; Aghion & al., 2001]. In these analyses, labor market plays a key role since a strict regulatory framework may adversely affect productivity dynamic [Scarpetta & al., 2002]. In particular, it is asserted that labor market is based on general economic equilibrium laws, than any misalignment will be eliminated by adjustments in real wage. Indeed, in a perfectly competitive market, unemployment - intended as an excess in labor supply compared to its demand - is automatically absorbed through reduction in actual wages. In this framework, labor market liberalisation would push down real wages and therefore total costs function. In the meanwhile, more flexibility would lead to an increase in efficiency of each worker, who perceiving less legal protections would be more productive⁵, therefore shifting upwards the production frontier. In a nutshell, this approach claims that an increase in labor productivity would led to an increase in GDP growth rate. In other words, this argument follows a clear-cut logical chain: *supply-side* investments in social and human capital - combined with a greater labor market flexibility - lead to lower costs and greater efficiency, which in turn result in a deeper productivity growth rate, and therefore in a greater (whole) economy rate of growth. However, it appears immediately obvious that analysing (and modelling) growth under this theoretical standpoint, several economists completely ignore the key role of aggregate demand.

In the light of the foregoing, we can draw the “second theoretical approach” guidelines observing labor productivity from a *demand-side* perspective. Supporting this line of thought means that low productivity levels are due to low aggregate demand growth [Soro, 2006], caused by a low growth of its components (i.e. households consumption, private investments, exports and government expenditure): this effect takes place through an increase in the whole production, which leads to an increase in labor productivity. In this framework, in contrast with the “first theoretical approach”, logical chain is overturned: it is total output dynamic - depending on aggregate demand [Keynes, 1936] - that positively affects labor productivity growth. However, an increase in total production (induced by greater aggregate demand) should decrease the level of unemployment by increasing employees. Especially, the increase in actual workers combined with a growing demand could show an indeterminate result on labor productivity: if the increase of employees is greater than the increase in total output, labor productivity will decrease; if aggregate demand grows as fast as employment, productivity will remain steady; finally, labor productivity will rise in case of aggregate demand grows more than total employees. Following this argument, only high capital intensity goods (i.e. given technical conditions of production, goods characterised by an high level of means of production per worker) will lead to an increase in productivity through aggregate demand expansion. Notwithstanding under a theoretical standpoint results on labor productivity could be indeterminate, an empirical evidence - well-known as *Okun law*

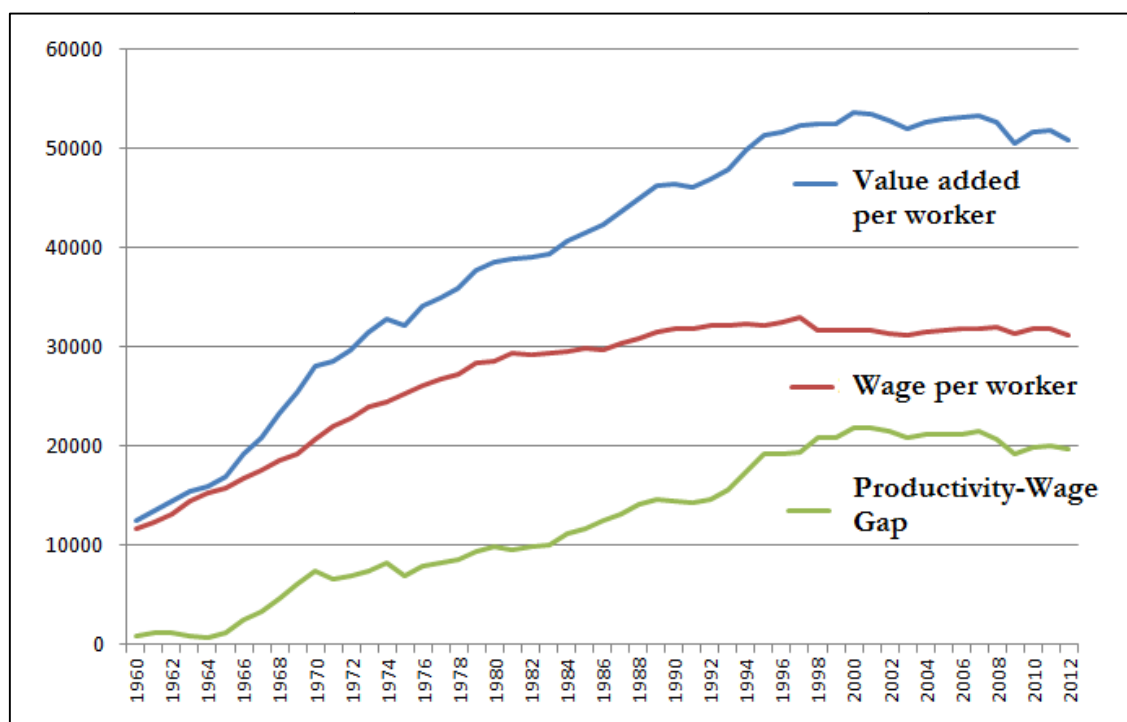
⁵ However, we are not defining an accurate causal relationship: we consider it as a “mere link”, often referred in order to “implying that countries with lower employment protections (...) would record a deepening labor productivity dynamic”. Based on these arguments, policy choices are aimed to “reducing employment protections, increasing labor flexibility, focusing on wage flexibility, in order to achieve higher labor productivity and thus higher competitiveness of enterprises in the markets” [Pini, 2013, our translation].

[1962] - assesses the hypothesis whereby increases in aggregate demand lead to increases in labor productivity. According to this empirical proof, GDP growth is always greater than employment growth rate: this issue would imply an elasticity of employment with respect to output less than one.

Annual average growth rates	1960-73	1974-83	1984-93	1994-07	2008-12
Value added per employee	7,43%	2,30%	1,98%	0,78%	-0,91%
Investment per employee	5,28%	0,22%	1,31%	1,87%	-4,68%
Wage per employee	5,70%	2,05%	0,95%	-0,09%	-0,33%
Unemployment rate	5,04%	6,72%	8,99%	9,35%	8,40%

Table_3 – Source: Ameco time series, authors' elaborations on 2005 constant prices data

The analysis carried out on macroeconomic aggregates and labor productivity underlines some useful suggestions about real issues affecting Italian slack growth. As you can see in Table_3, labor productivity (value added per worker) has been growing at 7% average annual rate during the sixties and the early seventies, thanks to high consumption, investment, public expenditure and exports growth rates (see Table_3). As already mentioned, increasing interest rate experienced during the seventies and most of the eighties (see Graph_1) led to an initial slowdown in growth. Especially, in this period investments have been growing at 0.86% average annual rate, while consumption at 2.87%; therefore, also exogenous components of aggregate demand (i.e. exports and government expenditure) showed much lower growth than in previous years.

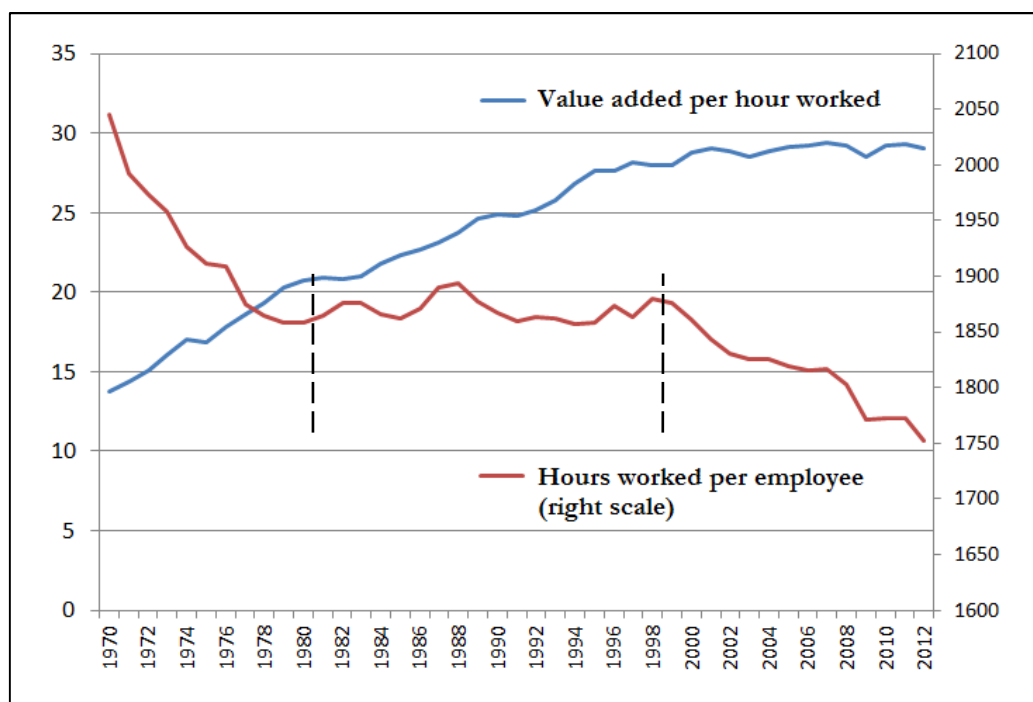


Graph_2 – Source: Ameco time series, authors' elaborations on 2005 constant prices data (Euro-ITL)

Specific attention should be paid to real wage dynamics (see Table_3): as a result of liberal labor market policies, since the mid-80s wages growth rate has slowed down compared to the productivity

path (see Graph_2). Such institutional changes enhanced the slowing growth started in the seventies. In detail, we can argue low productivity growth is determined by four main factors: I) a decline in investments during the 70's, as a result of restrictive monetary policies; II) a decrease in consumption growth rate, due to real wages stagnation⁶; III) a weak public expenditure growth, as a result of Italian path towards monetary union⁷; IV) a slowdown in export, partially due to an exchange rate appreciation after the Euro inception.

Referring to this “second theoretical approach”, we should enforce our thesis providing other consistent data. In fact, as you can see in Graph_3, it is possible to understand that such decrease in output growth rate (started in the 70's) has affected the average annual hours worked.



Graph_3 – Source: Ameco time series, authors’ elaborations on 2005 constant prices data (Euro-ITL)

In this regard, in order to investigate productivity dynamic from a *demand-side* standpoint, value added per employee could be split as follows:

$$\frac{\text{Gross value added}}{\text{Employees}} = \frac{\text{Gross value added}}{\text{annual hours worked}} \times \frac{\text{annual hours worked}}{\text{Employees}}$$

⁶ In order to better investigate households consumption trend, the analysis of propensity to consume dynamic could be useful. On aggregate, data underline a substantial - and quite constant - upwards trend of private consumption share on GDP. However, this is not enough to assert that propensity to consume has changed overtime, because of it doesn't consider any change in autonomous consumption. In addition to this, also consumption dynamics within different income groups aren't be evaluated.

⁷ In addition to Italian central bank “divorce” by the Treasury (1981), we have to point out this process anticipated the signing of Maastricht Treaty, which imposed tight restrictions on each country budget deficit.

We should like to emphasise that the level of productivity (expressed as gross value added per employee) can be seen as the result from different combinations of two factors. Referring to this factorisation, efficiency increases achieved through *strictu sensu* productivity gains (value added per hour worked) tend to be more stable than increases obtained through increasing hours worked per employee. This happens because of capacity utilisation - considered as annual hours worked per employee - can grow quickly during cyclical expansions, as well as it sharply decreases during recessions. The empirical evidence suggests that Italy may have experienced such a similar phenomenon during last two decades: labor market reforms have been introduced in order to increase employment flexibility, leading companies to increase the number of employees, although "without commitments in favor of investment and technological innovation" [Travaglini, 2013, our translation]. As well as a reduced working time - due to a greater labor market flexibility - at the outbreak of financial crisis (2007) companies chose to dismiss most recent employees (mainly temporary workers), with an evident impact on unemployment. In addition to these issues, the analysis of annual hours worked per employee allows further considerations about the *degree of capacity utilisation* [Garegnani, 1992; Trezzini, 1995]. In particular, the fall in GDP growth rate - from 1970 to 1979 on 4% average per year - or alternatively in value added, produced a reduction in hours worked per employee. From 1980 to 1999 (plotted in Graph_3 between dashed lines) average GDP growth rate is about 2%, while annual hours worked per employee remain fairly stable. Subsequently, since 2000 GDP has been growing on average by 0.4% per year, with an important reduction in hours worked per employee. This process allows us to understand firms behaviour: during cyclical phases of falling aggregate demand growth rate, firms do not decrease proportionally employment, but they reduce capacity utilisation degree. In this way, firms *de facto* reduce voluntarily hours worked per employees, keeping in their disposal additional production capacity in order to react quickly in case of increasing aggregate demand. The willingness of enterprises to face enhanced aggregate demand in a timely manner makes labor market less flexible than other markets.

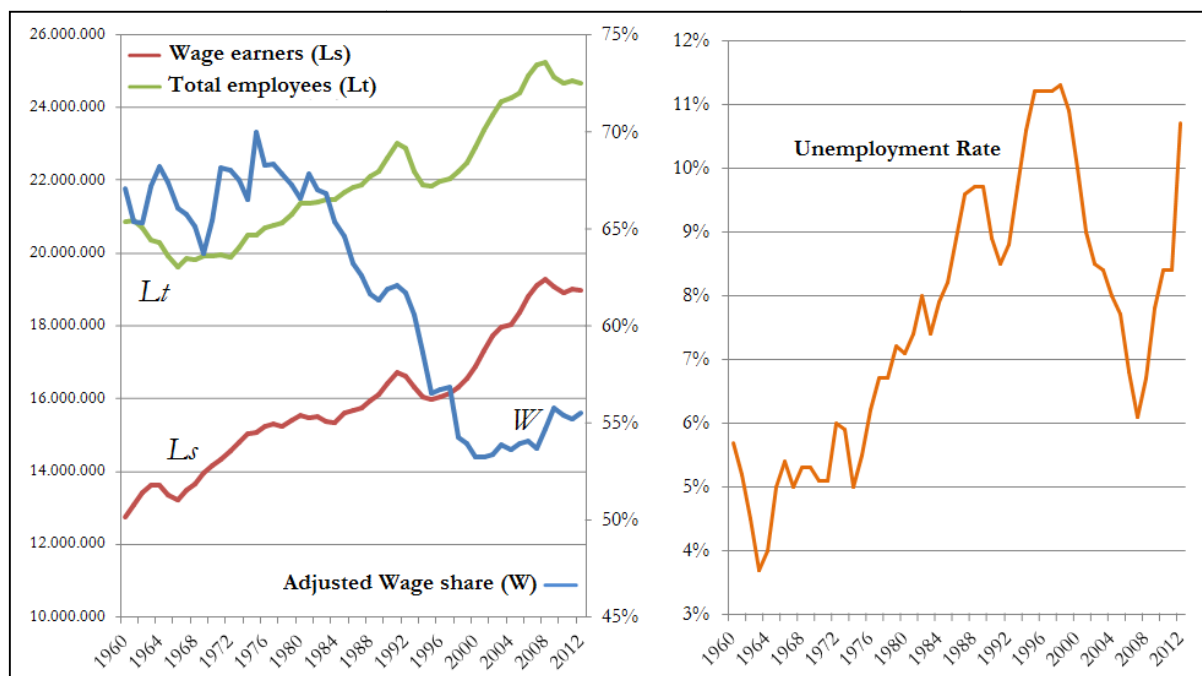
3. Distributive shares, wages and employment trends

As argued, wages and productivity dynamics played a key role in determining Italian economic trend. However, we claim these issues are not merely related to labour market reforms. Especially, also actual unemployment could affect wage dynamic. To this purpose - and in order to verify the Marxian theory of distribution for the Italian case - in this section we analyse distributive shares and real wages. In a nutshell, we aim to estimate the relationship between changes in wages (or distributive shares) and unemployment.

As a matter of fact, distributive shares - amount of national income up to workers, entrepreneurs and rentiers - show wide fluctuations across countries. These changes call into question the stylized fact [Kaldor, 1957] of stable distributive shares over time, through adjustments occurred as result of changes

in factors relative prices⁸. From a theoretical standpoint, determinants of change in distributive shares can be sum up into four categories: I) exogenous changes in production techniques, affecting social product distribution in wages and profits; II) changes in factors relative prices [Levrero & Stirati, 2005]; III) institutional framework, such as public or private companies ownership, as well as trade unions influence; IV) cyclical economic fluctuations.

In this regard, in addition to total employees and wage earners, Graph_4 shows unemployment rate and adjusted wage share⁹. A preliminary analysis clearly indicates as the wage share has experienced rapid growth during the seventies, followed by a progressive decrease - reaching far below its initial level since the early nineties. Wage share growth occurred during the seventies can be attributed to earning increases. These latter were due to both *Workers' Statute* introduction and to a greater bargaining power of the working class because of low unemployment rates (see Graph_4).



Graph_4 – Source: Ameco time series, authors' elaborations

Since the end of the 70's - and especially since the beginning of the 80's - GDP growth rates were low (see Table_1), while hours worked per employee show a stable trend (see Graph_3). At the same time we can observe a steadily decreasing wage share: in 1960 this indicator reached 65% of GDP, while it achieved 54% in 1999¹⁰ - since it analyses the “adjusted” share, this fall is not due to the decrease in total

⁸ A brief “substitutability pattern” could be described as follows. When the relative cost of a factor (e.g. labor) compared to another one (e.g. capital) decreases, its utilization in production will increase (in relative terms). If this change in utilisation moves in proportion to the change in relative prices, the share of the first factor (labor) will remain constant over time.

⁹ In order to assess labor share (on GDP) trend, it is better analyse adjusted wage share, “to consider also self-employment and to avoid that its greater - or lesser - incidence will create distortions in comparing (...) different periods in the same country” [Stirati, 2010, our translation].

¹⁰ According to Zenezini [2004, our translation], some “local peaks” largely reflect “the collapse of aggregate production”. This explanation seems consistent with the modest recovery of labor share experienced after the financial crisis of 2007, which caused a decline in real GDP.

employees, also considering increasing wage earners (see Table_4). This change, combined with a low economic growth, bring about a low growth rate in total employment, and consequently an increase in unemployment rate, which experienced a 9% average rate from 1984 to 2007.

Some authors argue this significant decline in labor income share could be referred to a couple of factors. The first one (occurred during the '80s) is related to a feasible adjustment mechanism towards equilibrium. The second one (occurred during the '90s) is explainable as the *result of changes in the goods and labor market* [Torrini, 2010, our translation], which encouraged rents and profits growth - only since the 2000s labor share recorded a poor recovery. Following this theoretical framework, total wages grew - at the expense of profits - as a result of an exogenous acceleration (experienced during the 70's), followed by a contraction in labor demand. Nevertheless, wage share didn't stop its decrease after it completed such hypothetical adjustment process. Contrariwise, wage share fell beyond the level achieved at the end of the sixties. Some authors [Blanchard & Giavazzi, 2003] explain this phenomenon through changes in institutional dispositions, arguing that labor market reforms (negatively affecting wages) and privatization processes (positively affecting profits and rents) produced a *counter-shock* on wages, eroding labor share¹¹.

Annual average growth rates	1960-73	1974-83	1984-93	1994-07	2008-12
Labor force ¹²	-0,24%	0,79%	0,62%	0,61%	0,59%
Total employees (Lt)	-0,26%	0,63%	0,37%	0,89%	-0,42%
Wage earners (Ls)	1,18%	0,38%	0,59%	1,15%	-0,16%
Profit Earners ¹³	-3,13%	1,29%	-0,22%	0,15%	-1,24%
Unemployment Rate	5,04%	6,72%	8,99%	9,35%	8,40%

Table_4 – Source: Ameco time series, authors' elaborations

As argued, from 1981 to 1983 Italian economic growth rate experienced a drastic reduction, recording an annual average GDP expansion less than 1%. At the same time, unemployment rate was growing, reaching in that 3-year period an average 7.6% (one and half point more than previous five years average). According to *mainstream* theory, such weak economic performance was due to a low labor productivity, related to low labor market flexibility. Following this approach, policy-makers decided to reform labor market (1983-84) focusing on liberalisation measures in order to restore previous productivity growth rates. In particular, two measures were taken: a preliminary reduction of wage indexation (*Scala Mobile* system) and the introduction of atypical/temporary kinds of work. Besides, these reforms will appear rather limited than other measures taken in the following decade. These changes resulted in real wages stagnation: during the eighties - and in early nineties - real wages grew at

¹¹ From 1984 to 1993, average annual GDP growth rate was 2,3%, while average annual real wage growth rate was 0,95%, with a consequential impact on labor income share.

¹² These data refer to a "full employment workforce", computed as the sum of employed and unemployed, referring to unemployment rate available data.

¹³ To be more precise, these workers should be called "income earners apart from wage earners". Referring to adjusted wage share, profit earners are computed as total employees less wage earners (Lt-Ls).

0,95% average annual rate; then they settle on negative average growth rates during 1994-2012 (see Table_3).

However, considering real wages stagnation as only dependent on labor market, reforms should seem quite confined. In fact, positioning in a classical perspective and referring to the Marxian theory of real wage determination, it can be stated that unemployment level will affect wage dynamics. Especially, the rise of the industrial reserve army [Marx, 1964] led to a reduction in working class bargaining power, pushing down real wage until its subsistence level. From 1980 to 2000, collapse in wage share was due to the stagnation of real wages, as a result of a constant unemployment rate combined with a 2% average annual GDP growth rate (see Table_1). During last decade, labor share on national income has remained flat, owing to both a slight decline in real wages and a weak increase in employment (the average unemployment rate from 2000 to 2012 is 8%). Analysing this data¹⁴ and considering a decreasing profit share experienced during the same period, a strong increase in rents share is clearly demonstrated [Torrini, 2010].

In order to investigate wage dynamics, we decided to apply available data to the model suggested by Anwar Shaikh¹⁵ [2013]. According to the Marxian theory of unemployment, this approach argue that workers and firms contend for social product through the class conflict. In this framework, the level of unemployment affects changes in real wage, and therefore labor share. Since higher unemployment would lead to a worsening workers bargaining power (i.e. ability to advance wage claims) due to the increase of the reserve army, from data analysis we expect a negative relationship between wages growth rate - or distributive shares - and unemployment rate.

This model could be represented through the following equations. Firstly, it is argued that wage per worker ($w = W/Ls$) is a share of labor productivity ($x = GVA/Lt$):

$$w = \beta x \quad (1)$$

where β represents the "strength" of the working class. In turn, this latter is considered as a negative function of unemployment rate

$$\Delta\beta = f(u) + \varepsilon \quad (2).$$

Expressing equation (1) in growth rates, we have

$$\Delta w = \Delta\beta + \Delta x \quad (3)$$

and the wage share

$$\omega = \frac{w}{x} \quad (4).$$

Replacing equation (1) into (4) and calculating wage share growth rate, we obtain:

¹⁴ Adjusted wage share: average value 54,27% (2000/2012) – Max 55,73% (2009) – Min 53,23% (2001).

¹⁵ This paper was presented at “*Centro di ricerche e documentazioni Piero Sraffa*” (Università degli Studi Roma Tre) on November, 29th, 2013.

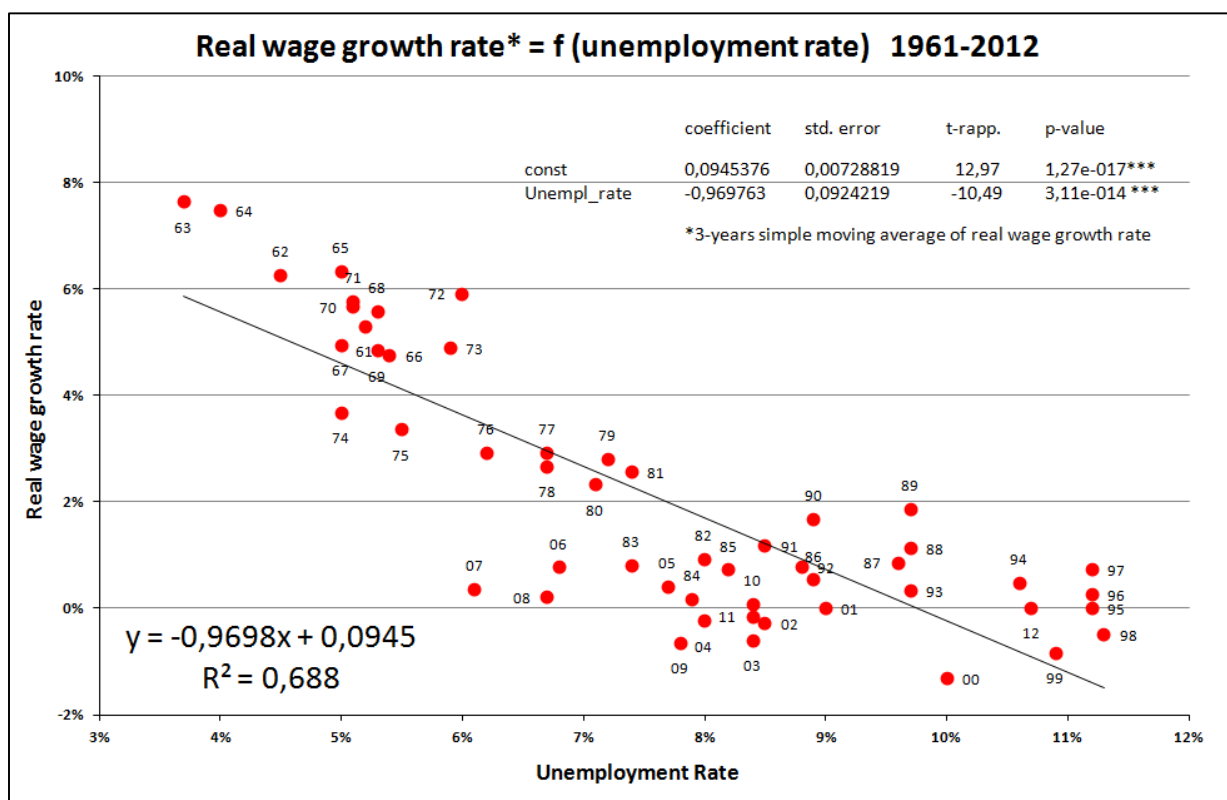
$$\Delta\omega = f(u) + \varepsilon \quad (5).$$

In addition, assuming constant growth rates of productivity and of labor supply¹⁶ [Goodwin, 1967] we can obtain - by equations (4) and (5) - the following relationship:

$$\Delta w = f(u) + \varepsilon \quad (6),$$

showing as changes in real wage depend on unemployment rate¹⁷.

In detail, Graph_5 plots relationship represented by equation (6), suggesting a negative relationship between real wage growth rate and unemployment rate.



Graph_5 – Source: Ameco time series, authors' elaborations (1961-2012)

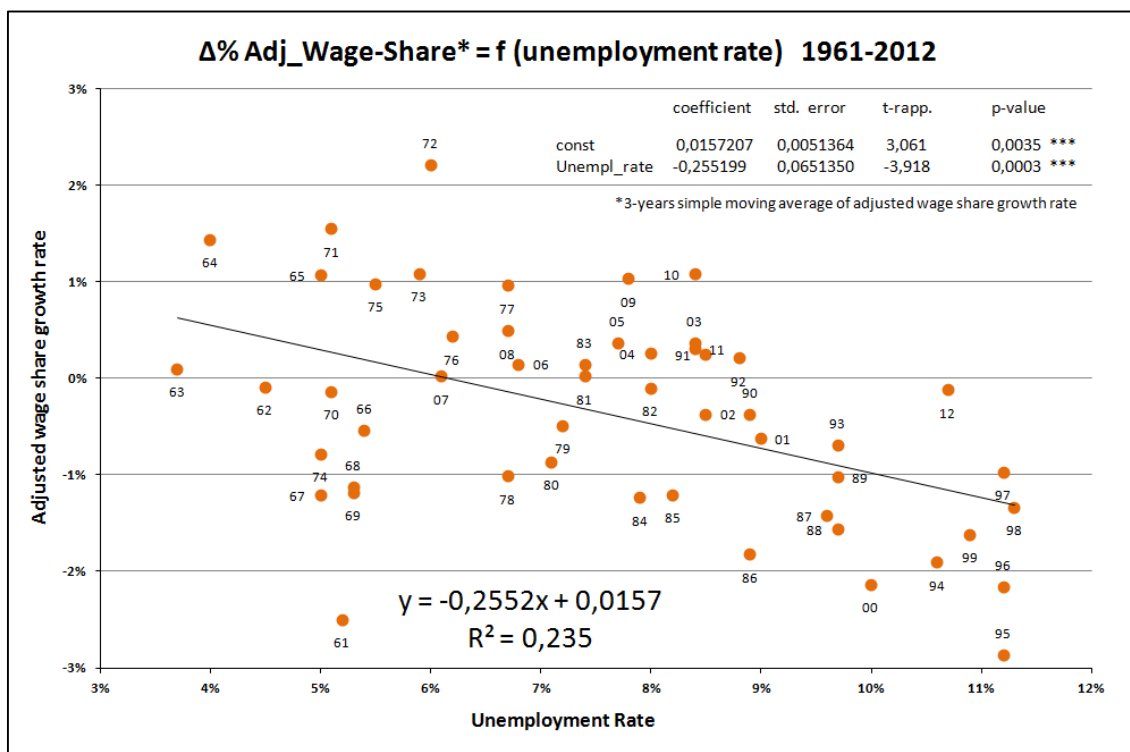
As regards the analysis of equation (5), we observe a relationship consistent with the previous one. In Graph_6 we show the relationship between wage share dynamics and unemployment rate from 1961 to 2012; in addition, in Graph_7 we analyse the same relationship on a shorter period (1970-2012).

Such a similar change in the slope of the regression line - observable in Graph_6 and Graph_7 - could be due to the introduction of *Workers' Statute* (1970), which improved bargaining power of the working class. Feeling "more protected" than during the previous decade, workers were able to "claim" a greater

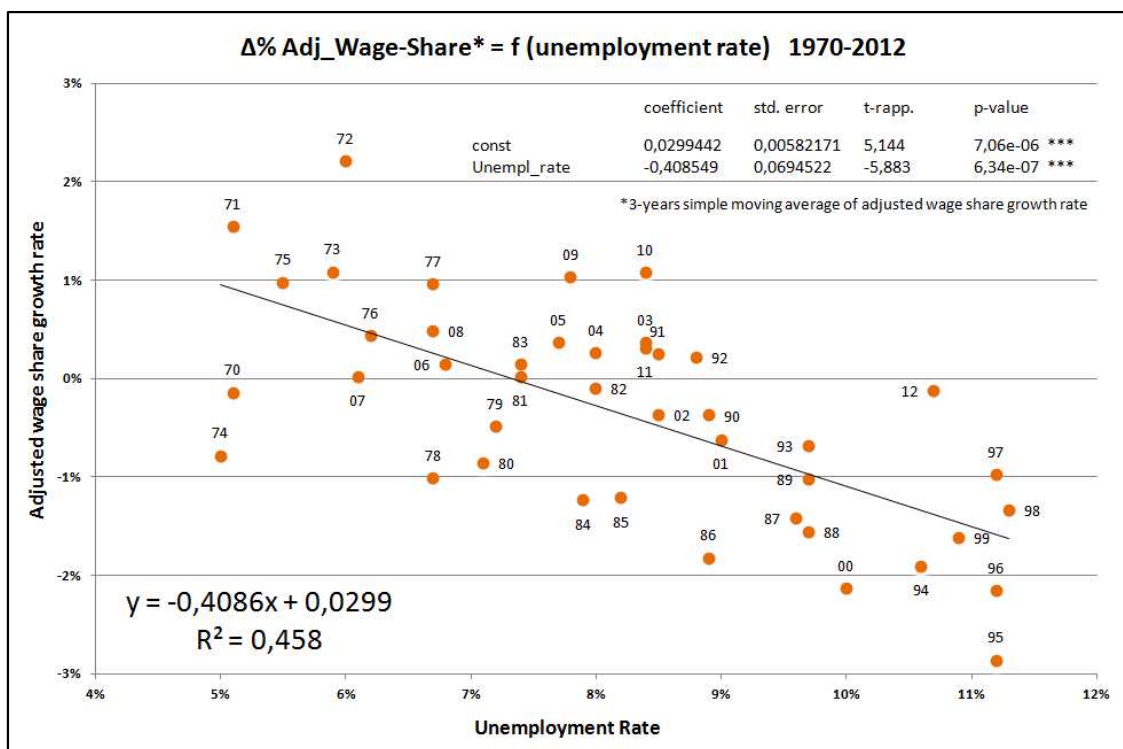
¹⁶ To be more precise, we are considering data about actual employment (i.e. number of workers annually employed). In this regard, referring to "labour demand" could appear more appropriate; anyway, we are complying to Goodwin [1967], whose essay is commonly identified as "*Real Wage Phillips Curve*" approach.

¹⁷ In order to adjust data from economic cycle effects, in all regressions we use a 3-years simple moving average for dependent variables.

share of the social product. In fact, while during the 60's the average annual labor share growth rate was -0.55%, in the 70's it settled on 0.57%, despite an actual slowdown in the whole Italian economy (see Table_1).



Graph_6 – Source: Ameco time series, authors' elaborations (1961-2012)



Graph_7 – Source: Ameco time series, authors' elaborations (1970-2012)

4. Labor market reforms: empirical evidences

In addition to unemployment trend, also institutional factors could affect wage dynamic (to be fair, reforms could also directly affect unemployment). In this last section, the following ten measures and/or historical events will be considered in order to peruse the impact of labor market reforms on real wages and labor productivity trends.

I) Law 741/1959 (also known as Vigorelli's Law): given the rigidity of Article N.39 of *Italian Constitution* – limiting legislative power, avoiding application of collective agreements to workers not joining unions that signed a specific agreement – this law aims to assume (as an exception) general effectiveness to collective agreements, which would have been applied to all workers of a particular profession.

II) “Hot Autumn” (1969): after the expiry of the three-year labor agreements (especially for metalworkers category) workers' trade union claims developed, as a consequence of 1968 social-political environment. In terms of labor law, Hot Autumn claims and pressures forced the government to get out from the abstention legislative phase - characterising the post-war period as a whole - adopting Law 300/1970, also known as *Workers' Statute*.

III) Law 300/1970 (*Regulations on protection of workers freedom and dignity, freedom of association and trade union activities in the workplace and on employment*): the introduction of the *Workers' Statute* was intended to change both working conditions and relationship among companies, workers and trade unions. The statute, in addition to entitle to employees a set of fundamental rights (freedom of opinion, trade union association, strike, protection in case of injury/illness), introduced job stability guarantees, arranging protections afforded to workers in case of illegitimate dismissal (Art. 18).

IV) Wage indexation “Scala Mobile” introduction (1975): the *contingency allowance* was a wage-policy instrument, which aims to automatically peg wages to inflation according to consumer price index. It was negotiated in 1975 by trade unions and companies (*Confindustria*), in order to protect real wages (adjusting nominal wages to cost of living) and to maintain the purchasing power of earnings in case of price fluctuations.

V) “Scotti Protocol” (1983): this treaty was the result of a triangular agreement on labor costs, signed by government, trade unions and *Confindustria* - after a year and a half of negotiations - in order to contain inflation. Trade unions pledged to suspend the supplementary bargaining, while *Confindustria* unlocked the renewal of contracts whose negotiations were suspended.

VI) Wage indexation “Scala Mobile” abolition (1984-1992): a first 4 percentage points curtailment in wage indexation took place after Valentine's agreement (February, 14th, 1984). This measure was confirmed by a referendum (promoted by Italian Communist Party in order to revoke wage indexation abolition). *Scala Mobile* system was finally abolished (on July, 31st, 1992) with a triangular agreement signed by government and social partners, abolishing permanently the *contingency allowance*, since this instrument was considered the main cause of price-wage spiral.

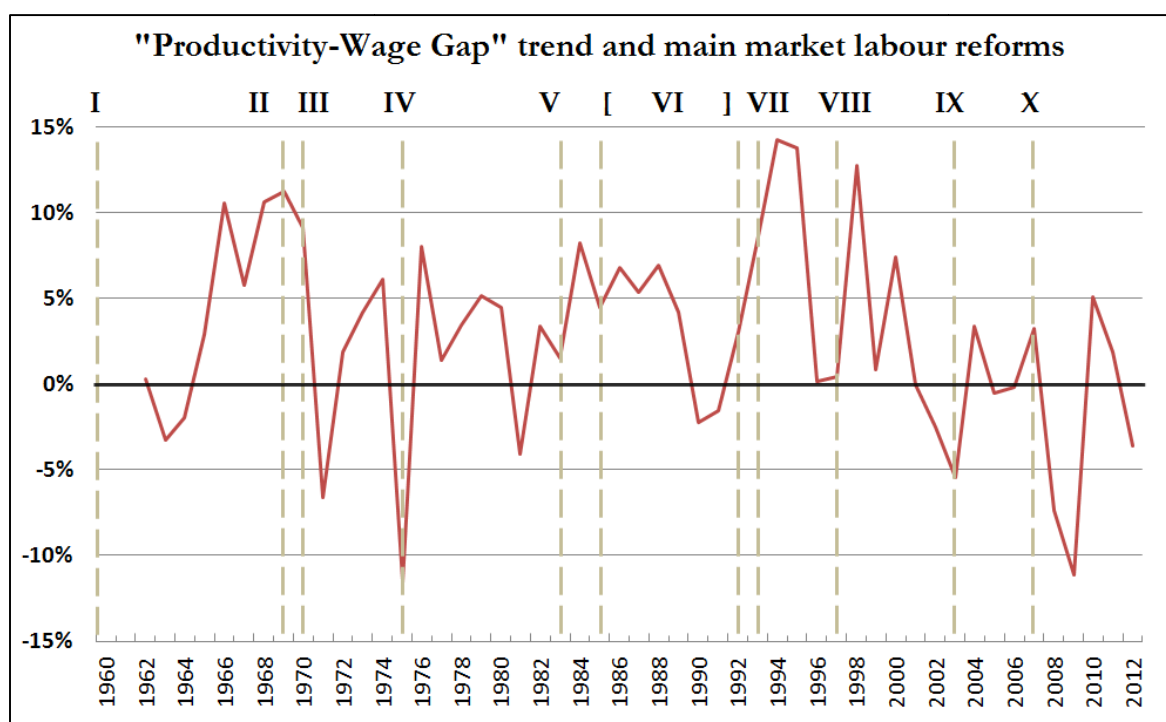
VII) “Labor cost agreement” (1993): with the approval of the Government, trade unions and *Confindustria* signed the "*Protocol on incomes and employment policy, on contractual arrangements, on labor policies and support to the productive system*". In a nutshell, it stated: 1) a two-years term for collective agreements; 2) any contract renewal had to take account of scheduled inflation, fixed by the government in the budget document (national agreements were aimed to preserve purchasing power of wages); 3) at the time of agreement renewals, it was necessary to evaluate the gap between planned and actual inflation - experienced during previous two years.

VIII) “Pacchetto Treu” (1997): this term refers to a set of measures “against unemployment” issued by Law 196/1997. Recognising an already existing reality in Italy, these measures contained dispositions directly regulating internship and temporary employment (including the introduction of the apprenticeship contract). Thus, temporary work - previously prohibited by law 1369/1960 - became part of the Italian's legal order.

IX) “Biagi Reform” (2003): it refers to Law 30/2003 (*Delegation to the Government in matters of employment and the labor market*), which introduced a set of innovations widely reforming labor market. According to the legislature, flexibility in labor market entry was the best way to facilitate new jobs creation, asserting that system rigidity would create high rates of unemployment. This law introduced (and modified) a set of atypical job contracts (e.g. apprenticeships, job sharing and intermittent contract, accessory/occasional work, project contract), *de facto* replacing temporary - or agency - work.

X) “Welfare Protocol” (2007): this document included arrangements on labor market about the improvement of employment in a modern and flexible labor market. Furthermore, the protocol reviewed rules governing discontinuous labor relations required by Biagi law in order to counteract atypical work. The most important measures concerned the regulation of temporary contracts, setting in 36 months the limit of partnership contracts (including extensions and renewals), then new contracts may be signed only according to *Labor Provincial Directorates* and with the assistance of trade unions.

In Graph_8 we analyse the "gap" growth rate¹⁸ between labor productivity and real wages (showed in Graph_2 in their absolute values); in parallel with this trend, we point out - in a chronological order - labor markets reforms, itemised in the previous paragraph and labelled from I to X. It is immediate to note - except for a limited number of periods analysed - this "gap" is always positive¹⁹.



Graph_8 – Source: authors’ elaborations (for further details, see methodological annex)

First of all, we have not data on wages and productivity in order to verify the effects of the first measure on collective bargaining (I, 1959). Instead, the impact on "gap" of *Hot Autumn* (II, 1969) and of *Workers’ Statute* (III, 1970) appears significant, highlighting a drop during 1969-70, although only in 1971

¹⁸ Graph_8 is based on labor productivity and real wages time series, whence in Graph_2 we calculated their “gap” (productivity-wages). Here, we equal to 100 gross value added per employee and real wage per worker on 1960 – i.e. initial gap is zero – and then we calculate gap growth rates.

¹⁹ In order to facilitate its interpretation, we remind that real wage growth rate is greater than productivity growth rate when this indicator is negative (i.e. below the bold black line), and *vice versa*.

data show an increase in wages higher than productivity growth rate (5.9% vs. 1.8%). Afterwards, productivity grew at a higher rate than real wages until 1975, when *Scala Mobile* (IV) was established: data show a fell in productivity (-2%) and an increase in real wages of three percentage points. During the 80's - except for 1981 and for biennium 1989-90 - productivity gains were greater than wage increases, as a result of two prominent events: the *Scotti Protocol* (V) and the *Valentine's agreement* (VI). The latter was a prelude to the final abolition of wage indexation system (*Scala Mobile*) occurred in 1992, after a couple of years (1990/91) characterised by a negative "gap" (for the first time in ten years).

Average annual growth rates	1960-73	1974-83	1984-93	1994-07	2008-12
Labor productivity (GVA/Lt)	7,43%	2,30%	1,98%	0,78%	-0,91%
Real wages (W/Ls)	5,70%	2,05%	0,95%	-0,09%	-0,33%
Gap (Productivity-Wages)	1,72%	0,25%	1,03%	0,87%	-0,59%

Table_5 – Source: Ameco time series, authors' elaborations

Policy-choices fostering labor market flexibility continued to be implemented during the '90s. Especially, the "gap" remained widely positive during the period 1993/95 as a consequence of the *Labor cost agreement* (VII, 1993), followed by an additional deregulation measure (VIII, 1997). As a direct result of *Pacchetto Treu* implementation, "gap" recorded a substantial increase, driven by the collapse of real wages (-4 % in 1998) compared to a productivity stagnation – experienced from 1994 to 2008. At a later stage, the *Biagi Reform* (IX , 2003) was presented as a supplementary measure against labor market rigidity, in order to stimulate productivity and employment. Effectively, the *Index of Employment Protection* (EPL) fell steadily in absolute terms for Italy²⁰, and with greater intensity than other European countries. These reforms lead to a reduction in annual hours worked per employee – corroborating the effects of *Pacchetto Treu* (see Graph_3). In addition, these measures fostered the "gap" limiting real wage growth rate (+0.5% per year from 2004 to 2007), although earnings dynamics was in line with productivity growth rates.

As for the last decade, data are strongly affected by the financial crash began in 2007: productivity fell by 4 percentage points in 2009, while decline in real wages was restrained (-2.2%) thanks to the effects of *Welfare Protocol* (X, 2007). In the last three years of the analysis, the "gap" does not show a regular path: however, despite a substantial recovery in 2010 (see Table_5), during the last five years real wages and productivity decreased with similar intensity.

²⁰ If we consider version Ept_v1 (incorporating temporary work), this index fell from 5,25 (1985) to 2,00 (2012).

5. Conclusions

The Italian economy has been characterised by strong expansion during the 60's and the early 70's, with a 5.5% average annual GDP growth rate. During the mid-seventies, restrictive policies aimed to contain imported inflation - in addition to lead Italy to the European Monetary System - bring about an initial slowdown in output dynamic. From 1973 to 1984, national income grew at 2.8% average annual rate, while labor productivity at 2.3%. This decline could be related to the fall of investments and export growth rates: the former achieved a 0.9% average annual (1974-83) - with an average investment per worker growth rate settled on 0.22% - while the latter reached an average rate of 5.10%, halved if compared to the previous decade.

At the beginning of the 80's, *mainstream* economists argued that slowdown in GDP growth was mainly due to low dynamics in labor productivity. At that time, policy makers attributed this deceleration to low labor market flexibility. As a consequence, in order to encourage productivity and to decrease unemployment, they suggested a permanent liberalisation process of labor market. However, from the beginning of the 80's our survey show these processes led to a slowdown in real wage growth rate, and then in labor productivity developments. Furthermore, these policies have not endorsed economic activity, as labor productivity has been growing at an ever lower rate.

From labor market we can also ascertain a persistent unemployment rate, which from 1984 to 2012 reached an average 9.1% (about 2.5 percentage points more than during the 70's). Moreover, real wages grew at an average annual rate of 1% during the 80's, and by the mid-90s they showed negative growth rates - while labor productivity grew by 2%. In our opinion, the reasons for such performances have to be found on theoretical arguments leading policy-makers to consider the productivity issues only related to *supply-side* factors, such as labor market flexibility. Instead, adopting a perspective that takes into account the key-role of aggregate demand – as suggested by Kaldor-Verdoorn approach – labor productivity is not only determined by *supply-side* factors (e.g. social capital, human capital, labor market flexibility), but by output dynamics. Endorsing this approach, the causation link between labor productivity and GDP is reversed: assuming this view, the low productivity growth rate (experienced during the 80's) is caused by a low growth of consumption and public expenditure. The former is due to a low wage growth rate reducing GDP expansion (and therefore productivity), while the latter is related to tight stability constraints required by the European Union, culminating in the recent austerity policies. From 1984 to 2007, households consumption growth rate showed an average annual value of 2%, while it become negative after 2008. Moreover, during the 80's - joining to the European Monetary System, and especially since 1993 with the signing of the Maastricht Treaty - data show a decreasing public expenditure growth rate, developed at an average annual rate of 1,50 % since the mid-eighties.

To sum up, while productivity dynamics and wage growth are exposed by the “orthodox theory” as two related phenomena - considering wage increases possible only in case of productivity growth - following arguments proposed in previous paragraphs, the causal relation is the opposite: through

demand expansion (i.e. GDP growth), wage growth can cause productivity gains. In addition to this, higher labor market flexibility has not led to a definitive increase in employment, whose trend appears still more related to economic cycle. However, the most significant effect of flexibility is to be found elsewhere: companies faced with a new growth opportunity – the so-called "low road" – characterised by a reduced cost of labor (also compared to the cost of capital). This materialised in a particular corporate choice: production was performed “*minimising research investment and heavily using executive work, which can be exploited through precarious forms of contract*” [Tronti, 2011, our translation]. For these reasons, labor-intensive techniques were privileged, with a lack of innovation and technological investments that would allow our economy to cope with a demand for upgraded products. This pattern could have enable Italian economy to hold together productivity improvements and employment growth – pursuing the so-called “high road”²¹. Contrariwise, this approach led to low productivity growth rates, since firms used cheap labor instead of implementing investments and innovations that - in addition to impact positively aggregate demand²² - would allow product quality increases. These choices reflect the actual Italian growth path, characterised by low productivity and a weak competition on product quality, and therefore forced to rely on price competition strategies based on wage restraints.

Finally, the analysis carried out on distributive shares and wage trends appears consistent with proposed theoretical arguments. The fall in wage growth rate - compared to productivity - has often been attributed only to policies aimed labor market liberalisation, combined with changes in institutional framework (i.e. privatisation processes). However, our survey shows that real wage growth rate is linked both to the flexibility measures and to unemployment trend. The estimation of the *Real Wage Phillips Curve* allows us to understand that higher unemployment lead to lower wage growth rate, owing to the reduction in the bargaining power of working class.

²¹ «...even in a more globalized economy, there may be alternative paths to successful performance in the international economy - a “low road” that emphasizes cost-cutting, conflictual labor relations and a narrow set of social programs, and a “high road” that requires rapid productivity growth and innovation based on cooperative labor relations and generally stronger and more centralized labor unions, high quality production and higher wages, as well as greater state-supported social protection. (...) The high road/low road terminology is borrowed from Gordon (1996), but the distinction is common in the industrial relations literature. Soskice (1990) distinguishes the strategies of “cost cutting” and “value added”, and Visser (1996) contrasts the “quality scenario” and the “efficiency scenario”» [Milberg & Houston, 1999].

²² In this framework, in addition to a direct effect on aggregate demand, we must point out that investments have a positive impact on productivity *strictu sensu* (in terms of higher efficiency) from a supply-side standpoint, as it is assumed that process innovation will shift technical condition on the production boundary.

METHODOLOGICAL ANNEX

1) The whole survey is based on GDP – and per capita GDP – at constant prices time series (1960-2012) provided by *Ameco* database, where we also exploited adjusted wage share and gross value added data, as well as total employees, wage earners and the unemployment rate. Although we focused on a “real” analysis, studying growth we also referred to monetary variables, such as interest rates and inflation rate (provided by *Ameco*).

In this regard, footnote_1 refers to this annex. Choosing a real growth index as constant prices GDP (i.e. "adjusted" by the effect of inflation) we faced a substantial trouble: referring to R&D investments it could be argued that a quality/technology improvement of goods – or by extension product innovations – we may actually justify *ceteris paribus* an increase in price, because such good could be considered upgraded. In addition to this, some authors believe that using constant prices labor productivity (on aggregate) could be tricky too, because it depends on deflators selection and computation. For example, new millennium trend in productivity was brought down by the choice of deflators, which *de facto* would hide the structural change in the Italian economy towards higher quality goods, therefore less exposed to price-competitiveness [Birolo, 2010, p.60; Palumbo, 2013]. Furthermore, choosing productivity we did a quite strong hypothesis: we suppose that final goods – and their means of production – should be regarded as all homogeneous goods [Birolo, 2010, p.50], or which may be deemed by discounting price effects [Ginzburg, 2012, p.77].

Despite these concerns, we decided to use labor productivity for the following reasons: I) obtaining disaggregated production values for all considered years could be very difficult, end needing other theoretical assessments; II) we didn't make comparative analysis with other countries, where product composition was critical to rate different performances; III) labor productivity is easily comparable with trend in real wages; IV) the analysis of productivity is only part of our research, which has as its main target the analysis of the labor market.

2) Labor productivity is expressed as:

$$Productivity = \frac{GVA}{L_t}$$

where:

GVA = gross value added

Lt = total employees

However, in order to better clarify *demand-factors* influencing labor productivity, we decided to analyse it in the following way:

$$\frac{Gross\ value\ added}{Employees} = \frac{Gross\ value\ added}{annual\ hours\ worked} \times \frac{annual\ hours\ worked}{Employees}$$

3) In order to calculate wages (for construction, to be considered as gross wages²³) we solved the following equation:

$$W = w_{sh} \times GDP \times \frac{L_s}{L_t}$$

where:

W = total wages

w-sh = adjusted wage share

Ls = wage earners

Lt = total employees

GDP = gross domestic product at 2005 constant prices

4) Referring to *Ameco* database we used time series about GDP - expenditure approach - shares (consumption, investment, government expenditure and trade balance); in particular, we calculated gross investment and gross investment per employee. Further elaborations result from simple ratios, differential growth rates or Pearson's correlations (ρ) between the other variables.

²³ Gross wages do not consider changes in the “tax wedge” and then you cannot make further considerations about net wages and about the influence of fiscal policy on income distribution.

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