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Unemployment in retrospect.
Economic thought on unemployment in some crucial phases of the history of economics

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UNEMPLOYMENT IN RETROSPECT. ECONOMIC THOUGHT ON UNEMPLOYMENT IN SOME CRUCIAL PHASES OF THE HISTORY OF ECONOMICS

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ABSTRACT

The unemployment issue has long been discussed under the influence of different economic thoughts.
Our journey moves from the classical economists as Ricardo, passing through Karl Marx and his reserve army of labour in the 19th century, moving on to Keynes's General Theory (Keynes 1936) in the 20th century, where a solution has been searched for the issue of unemployment.
After Keynes, some economists left behind the conception related to the solving of the unemployment issue and instead gave life to an analysis related to the cohabitation with the issue. A cohabitation that has been initially interpretated by Alban William Phillips and furtherly explained by the Nobel prize Milton Friedman.
In this paper we discuss how concerns on unemployment and simultaneously inflation, act as main characters in any period of crisis, out setting from the Great Recession in 1930 and reaching the 2022 analysis of unemployment related to the Russian-Ukrainian conflict.
Our last steps will be then moved toward the future of the issue which must necessarily be intended as a continuous question mark, inevitably affected by the always moving economical and historical contest, even if theorized by some studious as Goodhart and Pradhan (2017).

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I. INTRODUCTION

Unemployment is a term referring to those individuals who are actively looking for a job but are unable to find one.
In macroeconomic terms, unemployment is usually measured in terms of unemployment rate, given by the ratio between the number of employed people and the total number of people in the working force.
This paper is intended to generate a thread running through the years and permitting an investigation on that thoughts and those historical, political and economic events that permits us to understand unemployment as we do today.
This work is determined to enable a comprehension on those main historical phases in which unemployment has performed as a leading actor, since the classical economics era until more recent events that invested the 20th and the 21st century.
In part II we try to understand certain factors that gravitates around the issue of unemployment. Then we move to economists as Jean-Baptiste Say, David Ricardo, J.S. Mill and others, who affected all the subsequent steps toward Keynes's ideas and toward the knowledge, the resolution and the cohabitation with the unemployment problem.
In part III we discuss Karl Heinrich Marx, a philosopher, an economist, an historian, a sociologist, a journalist and a politician. In this regard we will pose our attention on his system as a whole and particularly on the concepts of the reserve army of labour and of pauperism which will prove as central during the 20th century.

In part IV we argue how John Maynard Keynes became one of the most revolutionary figures of the 20th century through his General Theory.
In part V, we look to the interesting idea of secular stagnation which, on the basis of Keynes' studies, has been firstly developed by Hansen and then recently re-discovered on the wave of the Great Recession. More in general we will pose our attention on secular stagnation as it is a topic that come back in vogue nearly after every crisis.
In part VI we investigate the comparison between Keynes and Marx, and the inevitable criticism and approvals that the former received from his successors.
In part VII we explore the relevance of Keynes ideas in some crucial events of the 20th century, from the Great Depression to the Second World War.
In part VIII we discuss that part of the post-Keynesian era characterized by the Phillips curve and re-interpretated from the 1976 Nobel prize Milton Friedman.
In part IX we pose our attention on the phases of crisis faced world-wide all along the 21st century. We do this analyzing how unemployment reacted and how it is to these days reacting to the Great Recession crisis, the COVID-19 pandemics and the most recent Russian-Ukrainian conflict.
In part X we move our last steps toward a possible comprehension about the future of unemployment. We do this tracing one of the most interesting analyses proposed on the matter by Charles Goodhart and Manoj Pradhan.

II. THE RISE OF THE UNEMPLOYMENT ISSUE

A. What is the issue

"The unemployment rate is calculated by expressing the number of unemployed persons as a percentage of the total number of persons in the labour force. The labour force (formerly known as the economically active population) is the sum of the number of persons employed and the number of persons unemployed."[1]
Unemployment has been historically considered by policy makers just as a matching problem between unemployed people and vacant works. A recent and well-known example in this sense, has been, in 2018, a verbal exchange between President Emmanuel Macron and a young unemployed horticulturist. Mister Macron suggested to the horticulturist to just cross the road and consider those economic activities with more job opportunities such as those in food and accommodation sectors.
However, it is also important to understand where unemployment comes from, as "unemployment may also stem from a shortfall between the aggregate volume of work desired by workers and the desired volume sought by employers, i.e. 'cyclical unemployment'" (Leythienne 2022).
With regard to unemployment measurement, we know that the most widely used measure is that of the unemployment rate, which remains questionable, especially in developing countries,

[1] Resolution concerning statistics of work, employment and labour underutilization, adopted by the 19th International Conference of Labour Statisticians, Geneva, October 2013.

where, in absence of insurances or safety nets, people often must consider inadequate economic activities on the quest for a job.
Indeed, the unemployment rate encounters some limitations in its conception, limitations given in the light of the fact that it is used just as a measure of utilization of labour. Anyway, it remains fundamental to understand this rate, particularly if related to inflation matters.
Inflation is an essential factor in reaching price stability and so preserving the purchasing power of a currency. The BCE assesses the inflation needed for these purposes at 2% and consider any deviation from this target as undesirable.[2]
Interactions between inflation and unemployment represent a crucial issue in economics: "In the past several decades, professional views on the relation between inflation and unemployment have gone through two stages and are now entering a third. The first was the acceptance of a stable trade-off (a stable Phillips curve). The second was the introduction of inflation expectations, as a variable shifting the short-run Phillips curve and of the natural rate of unemployment, as determining the location of a vertical long-run Phillips curve. The third is occasioned by the empirical phenomenon of an apparent positive relation between inflation and unemployment" (Friedman 1977, p. 451-72).
Related to this above-mentioned relationship, we need to introduce the NAIRU, a forecasting tool, "When unemployment is below the NAIRU, inflation can be expected to rise, and when it is above the NAIRU, inflation can be expected to fall" (Ball and Mankiw 2002, p. 115-136).
In this regard, we know that, considering as a major example the USA, the unemployment rate has been at 3.6% for four months in a row[3], so lower than its NAIRU level and not enough to keep the desired level of inflation[4].

B. A look at Say and Ricardo on machinery and unemployment

Jean-Baptiste Say derived his political economic thinking from both the utility theory of demand and the Adam Smith theory of supply. Say will be considered as the initiator of the French Liberal School and as the precursor of the Marginalist Revolution (Bernstein 2003).
We will match his figure with that of David Ricardo, who is remembered as one of the greatest exponents of the classical economy. To do so, it is fundamental to introduce Say's law of market, and we do this directly from Say's words: "It is production which creates markets for goods. A product is no sooner created than it, from that instant, affords a market for other products to the full extent of its own value. Nothing is more favorable to the demand of one product, than the supply of another" (Say 1834, pp. 136-144). This law implies "1. Full Employment in the Economy…Increase in production means more employment to the factors of production. Production continues to increase until the level of full employment is reached. Under such a situation, the level of production will be maximum. 2. Proper Utilization of Resources...3. Perfect Competition…4. Laissez-faire Policy… 5. Saving as a Social Virtue" (Sanchay 2022).

[2] See https://www.ecb.europa.eu/mopo/strategy/pricestab/html/index.en.html
[3] See https://www.bls.gov/news.release/pdf/empsit.pdf, The employment situation June 2022.
[4] See fred.stlouisfed.org, from U.S. Bureau of Labor Statistics.

Both Ricardo and Say discussed the introduction of machinery in the context of unemployment, as the former held some different positions during his studies: “In his is original position, Ricardo, had assumed that all classes would benefit from the higher productivity and thus reduced prices allowed by use of machinery, including labourers... In testimony before Parliament on December 16, 1819, Ricardo responded to a claim made regarding “the rapid inroad which machinery had made upon manual labour within only a few years. …[which] had thrown a great many hands out of employment” by stating unequivocally that “machinery did not lessen the demand for labour” (Hollander 2019). His ideas progressed in 1821 when he mentioned that the use of machinery would be detrimental to the labour, and progressed again in 1823 when he stated in the House of Commons, in May 30, that “ It was evident, that the extensive use of machinery, by throwing a large portion of labour into the market, while, on the other hand, there might not be a corresponding increase of demand for it, must, in some degree, operate prejudicially to the working classes” (Ricardo 1951-1973, p. 303).
In this respect we know how Ricardo developed his critical thinking on the matter of machinery, noting, in his ‘On the Principles of Political Economy and Taxation’ (Ricardo, 1817), how innovation and subsequent reduction in wages generate a decline in employment, as

“with every increase of capital he (the capitalist) would employ more labourers; and, therefore, a portion of the people thrown out of work in the first instance, would be subsequently employed; and if the increased production, in consequence of the employment of the machine, was so great as to afford, in the shape of net produce, as great a quantity of food and necessaries as existed before in the form of gross produce, there would be the same ability to employ the whole population, and, therefore, there would not necessarily be any redundancy of people.
All I wish to prove is, that the discovery and use of machinery may be attended with a diminution of gross produce; and whenever that is the case, it will be injurious to the labouring class, as some of their number will be thrown out of employment, and population will become redundant, compared with the funds which are to employ it” (Ricardo, 1817).

J-B Say shared the same concerns of the English economist regarding machinery, as he recognized the possibilities of machines depressing earning. However, Say

“believed that innovation was beneficial to society as a whole and that opposition to it was ultimately self-defeating, he was convinced that any labor-saving innovation must necessarily throw workers ‘out of employ’ in the short run. Moreover, Say stressed the seriousness of the problem, concluding that "the distress of a capitalist deprived of profitable investment opportunities …. is nothing to that of an industrious population deprived of the means of subsistence. Say went a significant step further, arguing that a virtuous government should seek to alleviate the problem and, like a good Keynesian, proposed public works as a suitable remedy” (W.J. Baumol 1997, p. 219-30).

In this context we must make clear, for the prosecution of our thesis how Keynes explicitly rejected the positions of Ricardo, Say and Mill, who did not saw as possible a stable equilibrium with unemployment (Keynes 1936).

C. Marshall on unemployment

"Keynes was very clear in the General Theory that he was no longer a Marshallian economist. He was rejecting the Marshallian approach to economics, except at the microeconomic level as regards the theory of the firm, because it is based on utilitarianism" (Brady 2018).
In fact Keynes wrote that "myself held with conviction for many years the theories which I now attack, and I am not, I think, ignorant of their strong points… When I began to write my *Treatise on Money* I was still moving along the traditional lines of regarding the influence of money as something so to speak separate from the general theory of supply and demand… We are thus led to a more general theory, which includes the classical theory with which we are familiar, as a special case." (Keynes,1936,pp.9-11).
In the General Theory, Keynes eventually rejected Marshall's theory of the rate of interest, developing instead the function of liquidity preference, so replacing L=M(Y) with L=M(r).
Related to Marshall, this is not the only Keynes's refusal as, also,

"Keynes rejected Marshall's labor market analysis, which considered that unemployment of resources had to be analyzed in this market. Given the correct theory of the rate of interest, Involuntary Unemployment was due to a deficiency in I in the aggregate(macro) output market and had nothing to do with a partial equilibrium analysis of the labor market under conditions of ceteris paribus. This deficient aggregate investment then led to a fall in the price of investment goods, so that the real wage,(w/p), would rise. This rise in the real wage was then mistakenly attributed, not to low investment good prices, but to high money wages, w, by classical, neoclassical, and modern economists" (Brady 2018).

In part D of this second section, we pursue our travel through certain phases of the economic thought on the unemployment issue. To do so, it is fundamental to specify how Keynes acknowledged the assumptions of Say's law.
At this regard, Keynes recognized the existence, before him, of a competitive labour market, with prices flexible enough to make impossible a permanent excess in the labour's offer and an efficient capital market, where interest rates always manage to balance demand and offer of funds for any level of production and savings, which make an excess offering impossible.
These assumptions will be better understood in the next part.

D. The path of Say's law toward Marx and Keynes

To understand the importance of the Say's law, we can assert that, economic theory from the classical period to the Keynesian era, substantially shifted from a state in which Say's law held to one it did not.
In fact, at the basis of Keynes' work we can find a vigorous confutation of the two fundamental pillars of classical economy, meaning the quantity theory of money and Say's law.
Indeed, the Say's law confutation is explicitly expressed in chapter 3 of Keynes General Theory, as he writes "that the aggregate demand price of output as a whole is equal to its aggregate supply price for all volumes of output, is equivalent to the proposition that there is no obstacle to full employment" (Keynes 1971-89, vol. VII, p. 26).

Furthermore, in this refutation of the Say's law concept, "Keynes lumped together genuine classical economists such as Ricardo with passages from Marshall and orthodox neoclassical contemporaries where Pigou figures prominently. Explicitly (and indirectly) quoting John Stuart Mill with a statement which evidently emphasizes the means-of-payment function of money so that all sellers are inevitably buyers, Keynes comes to the questionable conclusion that the doctrine of Say's Law 'still underlines the whole classical theory, which would collapse without it'" (Hagemann 2022 and Keynes 1971-89, vol. VII, p.19).

In retrospect some studies, as that of Hagemann, assumed how Keynes undervalued the meaning of Say's law, interpretating it just as an implication that investments equal full-employment savings, while classical economists decipher the law as an achievement of full-employment equilibrium, with the equality between savings and investments secured by changes in adjustment mechanism, particularly in interest rates (Hagemann 2022).

To Ricardo, Say's law is not given adjusting savings or investments but by "the result of the lack of any such analysis" (Garegnani 1978, p. 340), and to John Stuart Mill every saving imply an equal investment and "Capital is the result of Saving" (Mill 1872, p.68).

To Keynes instead, "the act of individual saving is entirely distinct from the act of individual investment. The two acts are generally performed….by different persons, and there exists no mechanism to establish a necessary or automatic link between them" (Keynes 1971-89, vol. XXIX, 1979, p.103)

The discussion about Say's law reached its peak with the debate between Ricardo and Malthus "on the (im)possibility of general gluts at the end of the Napoleonic wars (Hagemann 2015). Ricardo, who rejected the occurrence of a general glut and emphasized that demand does not constitute a decisive barrier to economic growth, concluded "that there is no amount of capital which may not be employed in a country, because demand is only limited by production". (Ricardo 1817, p. 290). Whereas over-production may exist in certain sectors of the economy, it can never exist for all sectors simultaneously" (Hagemann 2022).

Keynes will commentate on this debate attributing to Malthus a "complete comprehension of the effects of excessive saving on output via its effects on profit" (Keynes 1971-89, vol. X, p.99), stating also that the effacement of Malthus idea in favor of Ricardo's one could be considered as a "disaster to the progress of economics" (Keynes 1971-89, vol. X, p.98).

To Keynes, the landmark to Say's law confutation is the abovementioned John Stuart Mill who emphasized that during commercial crisis "there is really an excess of all commodities above the money demand: in other words, there is an under-supply of money… Almost everybody is a seller, and there are scarcely any buyers; so that there may really be, though only while the crisis lasts, an extreme depression of general prices, from what may be indiscriminately called a glut of commodities or a dearth of money" (Mill 1848 [1871, 1965], p.561), so Mill recognized "there is a motive for holding money beyond the immediate need for transaction purposes he is keen to confine the general glut as a temporary and not as a permanent problem" (Hagemann 2022).

Mill was also the first to discuss the difference between a monetary and a barter economy in the sense of money as a store of value[5], an argument subsequently developed by Wilhelm Roscher, who individuated "general crises where, with the exception of money, there is a lack of sales for all commodities at the same time" (Roscher 1849 [1861], p.293).

[5] "See Mill (1844 [1874, 1974], pp. 69-71). "Is this the voice of a classical economist, or … the voice of Keynes ?" asks John Hicks (1983, p.62) who considered this essay as "perhaps the freshest of Mill's economic writings" (Hicks 1983, p.60)" (Dimand and Hagemann 2019, p. 222).

Roscher also brought a strong critique to those who considered money only as a medium of exchange, underlining the differences between barter and monetary economies and referring directly to Say's work, "Say's rigorous theory as it were is thwarted by the mere introduction of monetary transactions. When the original raw barter still dominated, supply and demand were directly confronted. But the mediation of money enables the seller to buy only after some time, i.e. to delay the second half of the exchange as much as he likes. Herewith on markets of reality, the supply will not always carry along an equivalent demand with it" (Roscher 1849 [1861], p. 297). So Roscher approached to a separation of the act of sale and that of purchase, with sellers not becoming automatically buyers as it happened in Ricardo's monetary economy (Hagemann 2022) implying that money is only given as a medium of exchange.
This last interpretation will be a gravitational point to all Say's law critiques, in fact, the Mill and Roscher argument allows the separation of buying and selling and the possibility for a general glut, taken up by both Marx and Keynes (Kenway 1980 and Sardoni 1987).
Marx evidently strongly relied on Mill and Roscher , and particularly, as he states in chapter 17 of Volume II of his Theories of Surplus Value (Marx 1863), to Mill. On this reliance Keynes will find a rare accordance to the Marxian theorbased on combined the impossibility of a permanent crisis and the impossibility of an under-utilization of capital, marking a great difference with Keynes "whose reasoning is more directed against the neo-classical explanation of a tendency to a full-employment equilibrium" (Hagemann 2022).

III. MARX AND CAPITALISM NECESSITY FOR UNEMPLOYMENT

A. A brief mathematical introduction

It is fundamental to understand the system behind the complexity of the idea before analyzing Marx behavior toward the concept of unemployment.
In Marx's system the price of commodities in general is given as C + V + S where C represents constant capital, fixed capital plus raw material; V represents variable capital, intended as wages; S is the surplus value, given as profits and interests.
Considering that C and S are calculated per unit of employment but in the short run they can be calculated per unit of output, the price of all commodities on average is (C + V + S)/ OUTPUT.
A key concept in this system is given by the rate of exploitation, S/V and to get to it, we assume a closed system where C is depreciation and gross profit per unit of output is (S+C)/ V.
The rate of profit on capital is instead given as S/ (C+V), as Marx distinguishes between capital employed and capital consumed using a rate of turnover governed by technical conditions (Robinson 1941).

B. The reserve army of labour

The accumulation of capital generates the ground for the survival of the capitalistic system and necessarily initiate the composition of the reserve army of labour.
The main concern of the capitalist will be that of generating as much capital as possible, so on his perspective, the hiring of a worker is interpretated as part of the accumulation, as "every individual capital is a larger or smaller concentration of means of production, with a corresponding command over a larger or smaller labour-army. Every accumulation becomes the means of new accumulation. With the increasing mass of wealth which functions as capital, accumulation increases the concentration of that wealth in the hands of individual capitalists, and thereby widens the basis of production on a large scale and of the specific methods of capitalist production" (Marx 1867).
Furthermore, a replacement of variable capital (V) intended as substitution of labour with fixed capital (C), so machinery, is pushed by the natural competition, intended as the search of cost-saving innovative technologies, between capitalists. This means workers are taken out of work by machines.
It will be the surplus production the one generating the reserve army "a mass of human material always ready for exploitation by capital in the interests of capital's own changing valorization requirements" (Marx 1867).
It will be the capitalist the one determining at which extent the reserve army will intervein in the context of generation of surplus value and the capital accumulation will inevitably generate and expand the surplus population. In fact, we know that this generation of the surplus population is a necessity for capital accumulation as this is the case in the modern industry, as stated by H. Merivale, an English economist cited by Marx in 'Das Kapital' at page 460,

"suppose that, on the occasion of some of these crises, the nation were to rouse itself to the effort of getting rid by emigration of some hundreds of thousands of superfluous arms, what would be the consequence? That, at the first returning demand for labour, there would be a deficiency. However rapid reproduction may be, it takes, at all events, the space of a generation to replace the loss of adult labour. Now, the profits of our manufacturers depend mainly on the power of making use of the prosperous moment when demand is brisk, and thus compensating themselves for the interval during which it is slack. This power is secured to them only by the command of machinery and of manual labour. They must have hands ready by them, they must be able to increase the activity of their operations when required, and to slacken it again, according to the state of the market, or they cannot possibly maintain that pre-eminence in the race of competition on which the wealth of the country is founded"(Merivale 1841, p. 146).

But also, as stated by Malthus

"rudential habits with regard to marriage, carried to a considerable extent among the labouring class of a country mainly depending upon manufactures and commerce, might injure it.... From the nature of a population, an increase of labourers cannot be brought into market in consequence of a particular demand till after the lapse of 16 or 18 years, and the conversion of revenue into capital, by saving, may take place

much more rapidly: a country is always liable to an increase in the quantity of the funds for the maintenance of labour faster than the increase of population" (Malthus 1820, p. 215,319,320). [6]

These statements are intended to generate a better understand of Marx main concern when talking about unemployment: technology innovation which is necessary for capital accumulation, produce a continuously expanding mass of unemployed individuals.
Another important factor that must be cited when discussing the surplus population is given by business cycles, as "during the periods of average prosperity, [the surplus army] weighs down the active army of workers; during the periods of over-production, it puts a curb on their pretentions (ibid., p. 792). Thus, the reserve army "contains within itself a mechanism for regulating the wage level and hence for maintaining profits. (Sweezy, 1942, p. 91). This is the 'class function' of unemployment, by which the reserve army ensures the dominance of the capitalist class" (Heubusch 2018).

C. The factions of the surplus population

The surplus population can be categorized in to three factions: the floating, the latent and the stagnant one.
Talking about the floating one we have that

"In the centres of modern industry — factories, manufactures, ironworks, mines, &c. — the labourers are sometimes repelled, sometimes attracted again in greater masses, the number of those employed increasing on the whole, although in a constantly decreasing proportion to the scale of production. Here the surplus population exists in the floating form.
In the automatic factories, as in all the great workshops, where machinery enters as a factor, or where only the modern division of labour is carried out, large numbers of boys are employed up to the age of maturity. When this term is once reached, only a very small number continue to find employment in the same branches of industry, whilst the majority are regularly discharged. This majority forms an element of the floating surplus population, growing with the extension of those branches of industry"(Marx 1859).

This concept of floating surplus population is still a principal figure in today economy as it has been the case in the mortgage crises, when unemployment rose past 10% and reemployment was characterized by more precarious working conditions.
The latent population instead, is intended as the agricultural population, "as soon as capitalist production takes possession of agriculture, and in proportion to the extent to which it does so, the demand for an agricultural labouring population falls absolutely, while the accumulation of the capital employed in agriculture advances, without this repulsion being, as in non-agricultural industries, compensated by a greater attraction. Part of the agricultural population is therefore constantly on the point of passing over into an urban or manufacturing proletariat, and on the look-out for circumstances favourable to this transformation" (Marx 1859). This phenomenon

[6] "Principles of Political Economy". In this work, Malthus finally discovers, with the help of Sismondi, the beautiful Trinity of capitalistic production: over-production, over-population, over-consumption — three very delicate monsters, indeed. Cf. F. Engels, "Umrisse zu einer Kritik der Nationalökonomie," l. c., p, 107, et seq.

characterized by agricultural purposes has seen an important reduction nowadays, but still exists with regard to other sectors, in fact "the globalization of production by the imperialist powers via multinational corporations moves industry to the developing world, where small farmers are displaced, providing a new pool of laborers available for exploitation by capital" (Heubusch 2018).
Moving to the stagnant faction, we know that it is recruited from the surplus in the latent and in the floating population and it is a self-reproducing and self-perpetuated element of the working class. The stagnant reserve army is in fact the one introducing the concept of pauperism, which is the lowest sediment of the surplus population, consisting of three categories: those able to work, the orphans and the pauper children, the demoralized and ragged and those not able to work.

"Pauperism is the hospital of the active labour-army and the dead weight of the industrial reserve army. Its production is included in that of the relative surplus population, its necessity in theirs; along with the surplus population, pauperism forms a condition of capitalist production, and of the capitalist development of wealth. It enters into the *faux frais* of capitalist production; but capital knows how to throw these, for the most part, from its own shoulders on to those of the working class and the lower middle class… the greater this reserve army in proportion to the active labour army, the greater is the mass of a consolidated surplus population, whose misery is in inverse ratio to its torment of labour. The more extensive, finally, the lazarus layers of the working class, and the industrial reserve army, the greater is official pauperism. *This is the absolute general law of capitalist accumulation*" (Schlesinger 1967)[7].

In modern society pauperism represents part-time jobs, and those with no job benefits or security, and in general all those people who do not appear on official records as unemployed but are intended as being outside the labour force. So, analyzing the different factions and their presence in modern society we can state that the problem of unemployment from Marx 'Das Capital' to our modern economies did not change by much.

D. Pauperism today

In 21st century pauperism is still a leading factor in our economy.
In 2017 Bill Gates, one of the richest persons in the world and his now ex-wife Melinda Ann French Gates, issued a public letter, affirming that the fight against global poverty was won, as the number of people living on less than 1.25$ per day, the benchmark of extreme poverty provided by the United Nations, reduced by an half with respect to the 1990.[8]
The benchmark for extreme poverty has been longly debated, as the US department of Agriculture recently concluded that the threshold for poverty should be at 5$ per day, for people to maintain homeostasis (Peter 2006, p. 377-93). Five dollars in 2006, which adjusted for inflation would signify that nowadays 4.2 billion of people in the world are living in poverty, so more than 60% of humanity, a percentage that is continuously increasing.

[7] See Schlesinger interpretation at https://www.marxists.org/archive/marx/works/1867-c1/ch25.htm
[8] Gates, Bill., Gates, Melinda. February 14th, 2017. *Warren Buffet's Best Investment.* https://www.gatesnotes.com/2017-Annual-Letter?WT.mc_id=02_14_2017_02_AL2017GFO_GF-GFO_&WT.tsrc=GFGFO

Other numbers confirm a possible pattern toward pauperism, at this extent, Oxfam in 2010 showed how the richest 388 individuals owned more wealth than the poorest half of the world put together, a circle restricting to the 62 richest individual in 2015, than to the 42 in 2018 and to the 26 richest in 2019 (Elliot 2019).
The proof of our overcited possible pattern continues through other statistics, provided again by an Oxfam report which showed how "Seven out of 10 people live in a country that has seen a rise in inequality in the last 30 years. Between 1988 and 2011 the incomes of the poorest 10 percent increased by just $65 per person, while the incomes of the richest 1 percent grew by $11,800 per person – 182 times as much."[9]
More data help us in the understanding of pauperism through the 21st century as in 2016 a study found how the richest 1% held more than the remaining 99% of humanity in terms of wealth (Grey 2016), or as that every year the world waste enough food to feed 3.48 billion of people[10] and as that it would cost just 30 billions dollar each year to eliminate hunger forever[11].
All this numbers are needed to assert how the Marxian theory of pauperism is coming into a view in the last decades and to complete this view, we need to introduce the variable of productivity and growth rate. Productivity has been stagnating over all the arch of the 21st century as it is hypothesized that high inequality is bad for productivity growth[12].
While with regard to the annual growth rate of gross world product, we know that this component tells us about the rate at which global economy is expanding, and scrutinizing it we detect how

"In the 19th century global growth is estimated to have risen from 0.62% annually in 1800 to 2.69% annually by 1900. During the first half of the 20th century the compound growth rate wavered at around 2.75% per annum, resulting in a quadrupling of global GDP so that by 1960 gross world product was $1.4 trillion. In the latter half of the 20th century the compound growth rate was around 4.75% per annum, resulting in gross world product multiplying by a figure of 25 between 1960 and 2000 so that the world economy was annually producing roughly $33.5 trillion at the end of the 20th century. Since the 21st century began, the compound growth rate has averaged 2.88% and the gross world product now stands at $74.3 trillion, a doubling of annual world economic output in just 16 years. In 2016 the growth rate finally rose above 3% for the first time in 5 years. Global output has accelerated in the last 60 years due to the population explosion from 3 billion in 1960 to 7.5 billion as of April 24th, 2017, and the average increase in productivity per worker."[13]

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[9] January 18th, 2016. *An Economy for the 1%.* Oxfam. Boston, Massachusetts: Oxfam America. (https://www.oxfam.org/sites/www.oxfam.org/files/fileattachments/bp210-economy-one-percent-tax-havens-180116-summ-en_0.pdf).
[10] United Nations. Food and Agricultural Organization. *Key facts on food loss and waste you should know!*, SAVE FOOD: Global Initiative on Food Loss and Waste Reduction
[11] February 15th, 2015. *The Cost to End World Hunger*. The Borgen Project. Seattle, Washington. (https://borgenproject.org/the-cost-to-end-world-hunger/)
[12] 2017. *The Global Competitiveness Report 2016-2017.* World Economic Forum. (http://reports.weforum.org/global-competitiveness-index/box-2-the-global-productivity-slowdown-five-hypotheses/)
[13] https://regenerationmag.org/the-actuality-of-marxs-immiseration-thesis-in-the-21st-century/ and see http://delong.typepad.com/print/20061012_LRWGDP.pdf, The World Bank. 2017. "GDP growth (annual %)"(http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZGend=2015&locations=EG1W&name_desc=true&start=2000), Landon, Thomas Jr. 2017. "IMF raises 2017 Outlook for Global Economic Growth."*NYTimes*, April 18th WorldOmeters. 2017. "Current World Population."(http://www.worldometers.info/world-population/)

Our analysis on pauperism in the 21st century advances with the report of some OECD, Organization for Economic Co-operation and Development, data.
From this data it emerges how from 2000 to 2015 the average worker in OECD countries went from producing 86.7$ to producing 104.2$ in revenue per hour[14], so, reaching a production of 184,017.20$ per year, meaning that real wages in the considered period represented less than ¼ of what a worker averagely produce.
Time must be cited as a central variable in our analysis of today's Marx pauperism, it is considered in OECD data as hours worked, and is linked together with average wages and labour productivity. At this regard we apprehend that

"In 2000 average worker productivity in OECD countries was $86.7/hr., the average worker was working 1,883 hrs./year, or 36.2 hrs./week, and was making $33,530/year. The calculations show that the average worker was producing (1,883 hrs. x $86.7) $163,256/year. Their rate of exploitation was ($163,256 / $33,530) 487%. As of 2015 the rate of exploitation had decreased by (487% – 446%) 41% over 15 years. Productivity had risen, but not as fast as the increase in average wages and the decrease in the average work week. But this does not disprove the thesis of immiseration, which is, after all, predicated on the economic conditions of the working masses vis-a-vis that of the economic elite by way of increased productivity."[15]

Our induction can be directly asserted from a last analysis of OECD statistics, as we find how "the share of income based on increased production is being funneled into the pockets of the top decile of income earners and even more so the top 1% across almost all developed countries since the neoliberal project began. The conclusion is obvious: the economic conditions of the working class have increased very modestly, but much less in comparison to that of the wealthy sectors of society, who have absorbed most of the gains from the rise in overall productivity. Marx's thesis is true on a global scale" (Palcic 2019).
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IV. KEYNES AND HIS GENERAL THEORY

A. The General Theory

[14] OECD. 2017. GDP per hour worked. (https://data.oecd.org/lprdty/gdp-per-hour-worked.htm), OECD. 2017. Average wages. (https://data.oecd.org/earnwage /average-wages.htm)
[15] https://regenerationmag.org/the-actuality-of-marxs-immiseration-thesis-in-the-21st-century/ and see OECD. 2017. Hours worked. (https://data.oecd.org/emp/hours-worked.htm), OECD. 2017. GDP per hour worked. (https://data.oecd.org/ lprdty/gdp-per-hour-worked.htm), OECD. 2017. Average wages. (https://data.oecd.org/earnwage/average-wages.htm)

Marx and Keynes have been often interwoven and depicted as the main authors explaining the limits of the market economy but also as those authors who could still nowadays explain actual economic crisis (Lunghini 2012).
John Maynard Keynes' General Theory of Employment, Interest and Miney (Keynes 1936) is absolutely one of those books which can be labeled as revolutionary given that it marked some of the most important changes on the thinking of macroeconomic issues in 20th century.
Keynes is generally credited with the creation of the macroeconomic matter in its totality, as he is labelled by the universal culture as the father of macroeconomics, in fact, Keynes is the first one substituting the concept of separation in different parts of the economy with the one of its aggregations.
This complete separation from the past (see Ferguson 2013) is expressed by the British economist in the first chapter of his General Theory of Employment, Interest and Money as he states

"I have called this book the General Theory of Employment, Interest and Money, placing the emphasis on the prefix general. The object of such a title is to contrast the character of my arguments and conclusions with those of the classical theory of the subject, upon which I was brought up and which dominates the economic thought, both practical and theoretical, of the governing and academic classes of this generation, as it has for a hundred years past. I shall argue that the postulates of the classical theory are applicable to a special case only and not to the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium. Moreover, the characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience. 'The classical economists' was a name invented by Marx to cover Ricardo and James Mill and their predecessors, that is to say for the founders of the theory which culminated in the Ricardian economics. I have become accustomed, perhaps perpetrating a solecism, to include in 'the classical school' the followers of Ricardo, those, that is to say, who adopted and perfected the theory of the Ricardian economics, including (for example) J. S. Mill, Marshall, Edgeworth and Prof. Pigou" (Keynes, 1936).

In order to understand this separation and the meaning of this writing, we need to understand the historical context in which Keynes worked, a context delineated by the 1930's England, as

"The book was written during the worldwide Great Depression following 1929, when idle men, idle machines, and unmet demand coexisted on a large scale for years on end and produced widespread poverty, misery, and deprivation. For Britain, it followed a near-decade of economic stagnation, high unemployment, and long-term dependence of many families on a government dole. The key problem of the time was how to explain the apparent paradox, and, more urgently, how to resolve it. Ups and downs in economic activity involving occasional periods of widespread unemployment had long occurrwage, (had engaged the attention of numerous economists under the rubric of 'business fluctuations' or 'business cycles'" (Friedman, 1997).

The colossal and seemingly timeless magnitude of the unemployment issue present in the 1930s United Kingdom, after and during the Great Depression, generated a refusal of that system naturally tending toward self-adjustment and a full employment situation of both men and machines. Keynes is not the first to hypothesize this refusal but is the first one formally elaborating it as we know it today.
In fact, as Milton Friedman put it,

"without government intervention, a private-enterprise capitalist system using a non-commodity money would tend toward a position characterized by a high level of involuntary unemployment of persons who would willingly be employed at the current wage rate but could not find jobs. The classical remedy for idle men, according to Keynes, was a decline in the real wage rate, which would reduce the number of persons seeking jobs and increase the number of persons employers wanted to hire. The classical remedy for idle machines was a reduction in the cost to enterprises of using and producing such machines, and that was expected to occur via a reduction in the real interest rate. In the 1920s and 1930s in Britain, these classical remedies seemed either inoperative or ineffective. Keynes set himself the task of explaining why, of constructing an alternative theory that would both explain what was happening and justify alternative policies—such as the large public works programs he had been recommending since the mid-1920s. In one sense, his approach was strictly Marshallian: in terms of demand and supply" (Friedman 1997, p. 12).

The main differences with Marshall are given in key variables determining equilibrium between demand and supply, shifting the attention from changes in prices to changes in output and so in aggregate supply.

In the Keynesian system, assuming a closed economy with no government spending and no taxes, aggregate demand is the sum of expenditure on consumption goods and expenditure in investment goods. Expenditure of consumption depends on income and so introduce one of the most important concepts in the system, the propensity to consume as "men are disposed . . . to increase their consumption as their income increases, but not by as much as the increase in their income" (Keynes 1936).

Another key concept is introduced by the dependence of investments on "marginal efficiency of capital…that rate of discount which would make the present value of the series of annuities given by the returns expected from the capital-asset during its life just equal to its supply price" (Keynes 1936), this is the concept that relates investments to the interest rates.

One more core notion is given by the interest rate determination provided by the liquidity preference, as "An individual's liquidity-preference is given by a schedule of the amounts of his resources, valued in terms of money or of wage-units, which he will wish to retain in the form of money in different sets of circumstances" (Keynes 1936).

All this underlying concepts can be more easily understood by the mathematical interpretation of the system, where Y represents the output, C the consumption, I the investments, L the liquidity preference, M the quantity of money and r the interest rate, so we have aggregate demand as $Y=C(Y)+I(r)$ and the demand for money as $M=L(Y,r)$. Keynes regard aggregate supply as passive and as simply given by aggregate demand as $Yd=Ys$, with both affecting the employment.

We can conclude that according to the General theory, simply looking for equilibrium and accurately moving autonomous spending and propensity to consume could solve the unemployment problem, as "for consumers, spend more out of your income, and your income will rise; for governments, spend more, and aggregate income will rise by a multiple of your additional spending; tax less, and consumers will spend more with the same result" (Friedman 1997).

B. The money multiplier

Of the Keynesian multiplier we can say that for every dollar inserted into the economy, the economic activity will expand by a multiple of that dollar, so, expanding by more than the initial dollar injection.
The basic multiplier could be written as follow: M = 1/(1-c) where M is the multiplier and c the propensity to consume, two factors that are combined in chapter 10, 'The Marginal Propensity to consume and the Multiplier', of 'the General Theory' (Keynes 1936, pp. 113-131).
In order to increase the economic activity, there would be a need to inject more cash into the economy, increasing the money multiplier, this would happen consuming more and spending less. What Orthodox stated at this regard and what Keynes agreed on, as stated on his chapter 8 (Keynes 1936, p. 89-106) and on the first page of his chapter 10 (Keynes 1936, p. 113), is that employment can increase only with an increase in investments.
On page 113 Keynes states that the multiplier was firstly introduced in 1931 by R.F. Kahn (Kahn 1931), one of Keynes' favorite pupils, according to the 'International Encyclopedia of the Social Sciences' (2008). This could be interpreted as a debatable assertion given that a similar concept was previously discussed by Bastiat in 'Ce Qu'on Voit et Ce Qu'on Voit Pas' (1850).
Anyway, the collaboration between Kahn and Keynes on the multiplier has been strongly argumentized by different economists and biographers as for Hansen (1953, p. 86-90, 97) or Shumpeter (1954, p. 1172), who went so far as to refer to the Kahn-Keynes multiplier. While others author as Kent (2007) or Dimand (1997) disputed the Khan's attribution of the multiplier.
The Keynes multiplier has however been subject to different levels of critics, in fact, Hanseen found on it some 'leakages' (Hansen 1953, p. 86-105), while other as Hazlitt (1946, 1959, 1960, 1979), Hutt (1963) and Skousen (1992) defined the multiplier as structurally deficient, because of the lack of the long run factors.
One of the strongest criticisms about the multiplier is the one related to the Keynes' paradox of thrift which assessed that savings were bad for the economy, but the main conception that Keynes ignored was that what is saved by some is often spent by others, so, savings do not necessarily take money out of circulation and so do not necessarily reduce demand (Skousen 1991, pp. 64-66).

V. AN INTERESTING DEVELOPMENT OF KEYNES' IDEAS: SECULAR STAGNATION

A. Keynes as the precursor of secular stagnation

"If we consider Keynes's overall expectations for the long-term tendencies of developed economies, falling into stagnation appears unavoidable for him. According to Keynes, a downward spiral can lead to the establishing of a new equilibrium of saving and investment at a level of production at which there is no full employment. In his view, this level of production can persist over a long period of time" (Von Weizsacker and Kramer 2021).
In this sense we know that even if Keynes never used the term 'secular stagnation', his description of the overcited condition get really close to what Hansen will attribute as a definition of the term, as Keynes wrote "In particular, it is an outstanding characteristic of the economic system in which we live that, whilst it is subject to severe fluctuations in respect of output and employment, it is not violently unstable. Indeed, it seems capable of remaining in a chronic condition of sub-normal activity for a considerable period without any marked tendency either towards recovery or towards complete collapse" (Keynes 1936, p. 249).
Supposing that the employment problem could be solved in a stagnating economy, Keynes saw stagnation as a threat and in his essay 'Economic Possibilities for Our Grandchildren' (1930),

"he gave expression to the idea that a highly developed economy that is no longer growing could be seen as one that has solved humanity's economic problem. In such a society, it would be possible to live a comfortable life and work only a few hours per week, for example. Despite this optimistic assessment, Keynes repeatedly pointed out the risks for prosperity and employment that are inherent to the expected tendencies toward stagnation. He took the view, however, that it is possible actively to counter these tendencies. To this extent, Keynes was not a stagnation pessimist like Marx, for example, who regarded the decline into stagnation and, ultimately, the collapse of the capitalist economic system as inevitable" (Von Weizsacker and Kramer 2021).

Keynes' view on long-term perspectives of economic development will pose strong basis to the work of Alvin H. Hansen. Hansen was in fact referred by Samuelson as 'the American Keynes' (1976, p. 25).

B. Hansen stagnation theory

The concept of secular stagnation was first introduced by Alvin Hansen's 1938 AEA presidential address, according to which government deficit is necessary in order to guarantee prosperity. Hansen made this concept clearer affirming that "This is the essence of secular stagnation—sick recoveries which die in their infancy and depressions which feed on themselves and leave a hard and seemingly immovable core of unemployment" (1939, p. 4).
A hypothesis clearly affected by Keynes' analysis of equilibrium with underemployment, as, according to Hansen, the problem was "a lack of planned investment as compared to desired saving at the full-employment level of output" (Hansen 1966, p. 7).
To Hansen the main cause for arising stagnation tendencies was given by the deficient investment demand of the firms.

"Constant or growing savings volume, but lack of investment opportunities are key features of what he called a mature "high-savings economy" (Hansen 1941, pp. 306–309). This interpretation is supported by the observation that Hansen discussed the possible causes of reduced investment at length, but only went into the determinants of saving more or less in passing. One hardly finds any remarks in Hansen on why the problem of a growing divergence between saving and investment could be exacerbated precisely by more saving. The main focus of his interest was clearly a lack of investment demand: For it is an indisputable fact that the prevailing economic system has never been able to reach reasonably full employment or the attainment of its currently realizable real income without making large investment expenditures. (Hansen 1939, p. 5)" (Von Weizsacker and Kramer 2021).

Hansen expected a lack of profitable investment opportunities in the future, in order to understand this assertion, we must underline the key determinants of investment demand as Hansen puts them "(1) The availability and discovery of new land and new resources, (2) population growth and (3) technical progress." (Von Weizsacker and Kramer 2021).
These three factors are exogenous and stimulate investment demand, but given Hansen social and economic development expectations in the USA, he also grew skepticism about the preliminary conditions for the continued force of this factors as

"Population growth rates would not always be able to remain as high as they were at the time when the USA was the most important magnet for immigration in the world. As regards technical progress, Hansen noted that its rate is negatively affected by the decline of the first two factors. He concluded that there is hence a risk of investment activity weakening in the long run. Consequently, Hansen spoke of a coming 'period of investment stagnation' (Hansen 1939, p. 5). It can thus be seen that for Alvin Hansen, secular stagnation is primarily caused by a *stagnation of investment*" (Von Weizsacker and Kramer 2021).

Hansen was also convinced that too much importance was posed on interest rates as determinants of investments, following the new Keynesian point of view as "yet all in all, I venture to assert that the role of the rate of interest as a determinant of investment has occupied a place larger than it deserves in our thinking" (Hansen 1939, p. 5).
Hansen saw as only possible replacement for the diminishing force of labour and population factors, an expansion of debt-financed public investments, detaching from the Keynes' solution of an expansionary monetary policy.

"Hansen's address also includes a remark on the consequences of an aging population. It makes clear that Hansen considered private household demand as significant too, but that he connected this factor to investment as well: A stationary population with its larger proportion of old people may perhaps demand more personal services; and the composition of consumer demand will have an important influence on the quantity of capital required. (Hansen 1939, p. 7)
According to Hansen, an aging population also contributes to investment demand lagging behind the desired saving of households. We can thus observe that Alvin Hansen expected highly developed economies to move toward secular stagnation due, above all, to diminishing investment opportunities. It is important to stress here that Hansen did not see the decline into stagnation as inevitable" (Von Weizsacker and Kramer 2021).

On this matter Von Weizsacker and Kramer concluded that

"Keynes's and Hansen's predictions of stagnation, which originated in the 1930s and 1940s, did not come true in the further course of the twentieth century. On the contrary, starting in the 1950s, there was a

historically unprecedented boom, which persisted into the 1970s. Ever since, theories of stagnation have often been dismissed as refuted by these developments. Defenders of stagnation theories counter with the argument that after Keynes and Hansen, several special factors came into play, which suspended the tendencies to stagnation or more than compensated for them. These included, in particular, the phase of rebuilding after the Second World War. Keynes had already alluded to the effect of wars, and Hansen had made it clear that his expectation of stagnation would only be fulfilled in the absence of countervailing forces. For many economies, the process of catching-up to the USA also created a growth impetus. Since many of these effects have, in the meanwhile, run their course and significantly weaker growth can be observed in most OECD countries for several decades now, it could be useful to have another look at the growth determinants identified by Keynes and Hansen. Even if Hansen's *prediction* of stagnation has turned out to be false, the course of empirical economic development after the Second World War cannot serve as proof that the theory is invalid, since Hansen always stressed that stagnation only occurs if there are no counteracting forces" (Von Weizsacker and Kramer 2021, pp. 201-223).

On this latter point, Von Weizsacker and Kramer quoted from (Anselmann 2020, p. 57), who argued that "In the aftermath of the Second World War, however, such counteracting forces did exist", and included a large backlog of demand in the first post-war years, massive government spending…, and the post-war baby boom". But the same authors also noticed that "the effects of such forces are not apparent today. In the recent past, it is rather exactly the opposite that can be observed" (Von Weizsacker and Kramer 2021, pp. 201-223).

C. Stagnation, from Hansen to Summers

Hansen did not only look at Keynes in maturing his idea of secular stagnation. Another source of his thought was from Frederick Jackson Turner, who affirmed that "its continuous recession, and the advance of American settlement western, explain American development" (Turner 1921, p. 1). Hansen interpretated these words as that "unlike European frontiers—boundaries between dense populations—it marked the edge of free land" (Backhouse and Boianovsky, 2015).
Many other thinkers will be topics of Hansen's studies and so contributed to the development of his idea, as "from Aftalion he took the idea that the price level is determined by level of money income in relation to the quantity of goods and services being produced. The other element was the idea, taken from Spiethoff, there were certain investment opportunities available and once these were taken up, investment would fall off, causing a downturn" (Backhouse and Boianovsky, 2015).
A last cardinal notion was implemented to Hansen's idea, the one of a declining population, before his theory culminated together in 1939 when he stated: "We are…rapidly entering a world in which we must fall back upon a more rapid advance of technology than in the past if we are to find private investment opportunities adequate to maintain full employment" (Hansen 1939, p. 10)
Fundamental in expanding the secular stagnation concept has been its re-discovery proposed by Lawrence Summer, on November 8, 2013, at an IMF conference in honor of Stanley Fisher. Summers described two matters that generated clear evidence for a revival of the secular stagnation concept, as "before the 2007-8 financial crisis there had been a massive financial

expansion, yet there were no signs of overheating in the real economy; and once the crisis was resolved, there was no upturn in the economy, with incomes stagnating" (Hansen 1939, p. 10). To explain both elements we have to consider the Wicksellian natural rate of interest, which firstly was "defined as the interest rate that is compatible with a stable price level. An increase in the interest rate above its natural rate contracts economic activity and leads to lower prices, while a decline relative to the natural rate has the opposite effect. In Wicksell's view, equality of a market interest rate with its natural counterpart therefore guarantees price and economic stability" (Lubik and Matthes 2015), and more precisely we need to interpretate it in the sense of a negative Wicksellian natural rate of interest "implying that saving exceeded investment at any nonnegative interest rate" (Turner 1921, p. 1).
Lawrence expressed again his self on the matter through an article in March 2020,

"there are a number of things we would expect to see if secular stagnation has been taking hold in recent years. First, a high supply of savings and a low level of demand should mean low interest rates. Indeed, real rates by almost any measure have been trending downward over the last 20 years, even as budget deficits have increased…Second, one would expect that difficulties in absorbing savings would lead to reduced growth and difficulty in achieving target inflation. This is what has been observed. At present markets do not expect any country in the industrial world to hit a 2 percent inflation target…Third, disappointing growth has coincided with inflation's surprising again and again on the downside…If, as many suggest, the dominant reason for stagnation is disappointing productivity performance, we would expect to see prices rise rather than fall. Absent extraordinary policy settings, deflation might be setting in…Fourth, a period of slow growth and deflation has also been a period of asset price inflation"

he also argued: "I am not aware of any other theory that can explain sluggish growth in the face of hyper expansionary policies and rapid acceleration in private sector credit growth. Lack of productivity growth would be expected to lead to increased product price inflation and reduced asset price inflation. Increased risk and uncertainty would tend to lead to decreased rather than increased asset price multiples. Any temporary consequence of the financial crisis would lead to reduced credit expansion and a steep yield curve rather than what we have observed" (Summers 2020).

D. Cases of secular stagnation now and then

The Japanese experience in 1990 and then the post 2007/8 crisis effect "may indicate, along the lines of the secular stagnation hypothesis, that market forces are insufficient to bring the economy to its full-employment growth path. Summers has defined secular stagnation as a permanently negative natural rate of interest" (Turner 1921, p.1). The revival of the secular stagnation concept coincided with the revival of the liquidity trap concept and the zero lower bound concept.
According to Turner "secular stagnation means that the zero lower bound problem is turned into a permanent – not just transitory cyclical – feature, of the economy" (Turner 1921, p.1).
Krugman interpretating Turner, in fact stated, in 2013 that "there is a case for believing that the problem of maintaining adequate aggregate demand is going to be very persistent–that we may

face something like the "secular stagnation" many economists feared after World War II… what if it turns out that we need ever-growing debt to stay out of a liquidity trap?… Bear in mind that interest rates were actually pretty low even during the era of rising leverage, and got worryingly close to zero after the 2001 recession and even, you might say, after the 90-91" (Krugman, 2013).
Even if it is often thought that secular stagnation disappeared because refuted by the events, this is not obvious, in fact Backhouse and Boianovsky, in 2016, wrote that

"changing attitudes towards secular stagnation have always had an important political dimension. Though Hansen had mentioned the idea earlier, it took off only in 1938. It was not just that the US had experienced nine years of depression: the shock was that recovery, that till the summer of 1937 seemed strong, suddenly aborted, with a downturn even more severe than that of 1929. By this point, after a number of attempts to tackle the depression, some of which had to be abandoned, the New Deal was widely seen as taking a turn that was critical of business and business opposition to the New Deal was growing. In 1938…Hansen and Currie persuaded policy makers to take seriously the idea that the problem might lie in the coordination of saving and investment, an idea closely linked to secular stagnation. Secular stagnation was thus highly political from the start: it was not just an academic idea" (pp. 964-965).

The second post war proved that there is not an immediate problem but its implications in secular stagnation depend on how the matter is interpreted, the problem was indeed relegated to underdeveloped economies. Furthermore, another emergence related to stagnation was seen possible only as the role of the government in an economy would have been reduced, as in 1970 "What probably killed the idea among academic economists was the acceptance…of the rational-agent general competitive equilibrium model as the dominant framework in macroeconomics" (Backhouse and Boianovski 2016, p. 965).
The future presence of the issue is not certain and will depend on economic and political factor, but the preoccupation about a possible future presence of secular stagnation has always remained high, as we can deduct from a WSJ article of 1 June 2021 which assessed:

"The White House economic analysis boils down to an assertion that slow growth is inevitable. The belief is that the U.S. economy can't grow faster than 1.9% over the long term because the U.S. population is aging and demographics is destiny. Productivity growth is fated to slow down, and tax and regulatory policy doesn't matter. But if this is our fate, the implications are as depressing as the numbers. It means Americans are destined to endure the economic malaise that has haunted Japan and much of Western Europe in recent decades. It means a less dynamic economy, which means fewer opportunities for upward mobility. And it means slower growth in incomes—especially for the young and those who don't already own assets.
For the government, a 1.9% economy means a growing disconnect between the rising costs of the Biden entitlement state and a reduced ability to finance it. There's no way an economy growing that slowly can afford both a robust defense budget and the Biden social welfare policies. To put it bluntly, this is a budget that is anticipating America's economic and political decline."[16]

Also, secular stagnation may be an indirect challenge to emerging economies as Joseph Joyce states, as low interest rates "may alleviate some of the pressure on borrowers with high debt loads […] they are susceptible to other shocks such as slowing economic growth or the

[16] See https://www.wsj.com/articles/a-future-of-secular-stagnation-11622588742

breakdown of trade negotiations between the U.S. and China. If such a shock occurs, we may once again witness a flight to safety that leaves borrowers in emerging markets vulnerable to 'sudden stops' of capital that, combined with depreciating exchange rates, will disrupt their economies" (Raposo 2019).

VI. ON KEYNES, MAIN CRITICALITIES AND POINTS OF CONTACT

A. Between Keynes and Marx

Our debate on Keynes continues and after analyzing his original idea and one of its many interesting developments (secular stagnation), in this section I decided to confront his and Marx ideas, taking in consideration the work of Andy Denis, professor in the department of economics at City, University of London.
As A. Denis express in his introduction, Keynes and Marx hold two completely different approaches to economics, and particularly to the contest of economic crisis, as Marx based his analysis on the inner nature of capitalism, while Keynes view was based on an analysis of capitalist economy as a whole.
Again A. Denis discuss some fundamental points of contact between the two thinkers, given by firstly the labour theory of value and its inner concept of surplus value, a concept which Keynes indirectly expressed as equivalent to that expressed by Marx. In fact, to Keynes "everything is produced by labour, and the yield on capital consists of a part of the money value of the products of labour, which accrues, not to the labourers, but to the owners of capital, owing to 'the cumulative oppressive power of the capitalists to exploit the scarcity value of capital (ibid., p. 376). Yield must therefore consist of the product of unpaid labour, surplus labour" (Denis 2018).
The analysis continues articulating that, as Marx, Keynes considered labour as the foundation of value, and its quantity as not related to price, "Hence the value of an asset depends, not on the quantity of actual labour performed in its manufacture, but on that of homogeneous, 'ordinary' labour – or 'simple average labour', as Marx terms it (Marx [1867] 1977, p. 51) – embodied in it. Even this quantity of homogeneous labour, however, does not directly determine the exchange value of the product…The proportion of assets to labour is precisely what Marx calls the organic composition of capital. Keynes expresses it as the proportion 'between the amount of labour employed in making machines and the amount which will be employed in using them'" (Denis 2018).
Also, to Marx the ratio between the 'ultimate quantity of value' and 'the quantity of labour employed' are given as C+V+S and C+V and express simply rates of profit with tendency to fall towards unity.
While to Keynes it was the profitability criterion which posed a barrier to capital accumulation as "when current labour is replaced by machinery, by past labour embodied in assets, a lower

yield would be expected, as only present labour produces anything. This can only be countered by withdrawal of capital from that industry, forcing the price to rise" (Denis 2018).
The price which deviated from labour value to Marx was the price of production and "it is equal to the cost of production plus a proportion of it equal to the average rate of profit" while to Keynes "the 'higher price', which Keynes says is required for goods produced by more roundabout methods, is the exact equivalent of Marx's price of production" (Denis 2018).
According to Andy Denis, the law of tendency of the rate of profit to fall is another crucial element in the confrontation of the two economists, to Marx

"the increase of the organic composition of capital consists of (1) an increase in the ratio of circulating constant capital (raw materials, power, etc) to variable capital, which is on average balanced by an offsetting increase in the rate of surplus value, and (2) an increase in the ratio of fixed constant capital (machinery) to variable capital, which is not so balanced. Every improvement in technique based on replacing workers by machines therefore results in two increases in composition, only one of which is offset (on average) by an equal increase in exploitation. A tendency for the rate of profit to fall is therefore inevitably associated with industrial capitalism, in Marx's view, because composition (c/v) must rise faster than exploitation (s/v)" (Denis 2018).

While Keynes introduced the declining marginal efficiency of capital writing that "the marginal efficiency of [any given] type of capital will diminish as the investment in it is increased, partly because the prospective yield will fall as that type of capital is increased, and partly because … pressure on the facilities for producing that type of capital will cause its supply price to increase" (Keynes 1936).
In the concept of MEC a particular issue arises by technological progress, intended as mechanization eliminating labour from production process. Here the controversy is given by the inclusion or less of inventions on his theory so by extensive or intensive capital accumulation. Under a micro economical point of view

"as Dillard (1984, p. 428) notes, 'Marx integrates technological change into his central model. Keynes's failure to do so is one of the major shortcomings of his theory. His theory of unemployment would have been strengthened if he had learned from Marx about modelling technological unemployment'. These two versions of the tendency of the rate of profit to fall are thus complementary – neither is more right than the other. The rate of profit falls because machines replace workers; on the one side, the lost value-creating power of the expelled labour reduces the ability of the owner of each unit of capital to use its possession to extract surplus value; on the other the lost purchasing power of the expelled workers brings down the demand price for output and hence the profitability of capital…Marx bases himself on the fact that only human production, not machinery, can create value; Keynes bases himself on the fact that only human consumption, not capital equipment, can confirm the value so created by consuming it" (Denis 2018).

Again, to Marx "a fall in demand, relative to the amount of capital employed, that is, the situation is one where capital has become more abundant, more overproduced, and the marginal efficiency of capital or the rate of profit therefore falls" (Denis 2018).
Denis concludes that

"The contributions of Marx and Keynes, their theories of the production and realisation processes respectively, should therefore be understood as a unity: 'the relations of distribution are only the relations of production seen from a different aspect' (Marx [1862b] 1972, p. 56). Yet there is a persistent tendency

to see them as something separate, and the same barrier to the expansion of capital, appearing differently in one sphere from its appearance in the other, is taken to be a different, additional barrier. This is quite contrary to a conception of Marxian economics which sees the essence of capitalist crises in the tendency of the rate of profit to fall manifesting itself perforce in a crisis of realization" (Denis 2018).

From the analysis of A. Denis, we can conclude that Marx and Keynes even if apparently completely opposed, take common steps in the study and the approach of their economic thinking.

B. A view on Keynes possible failure on unemployment

Many criticisms have been moved to Keynes about unemployment and not only, as for Henry Hazlitt who stated that everything in Keynes General theory is "not original or untrue" (2007, p. 274), or as for David Laidler who moved a congruent criticism (1999).
On the same flow of the precedent two, a similar kind of criticisms has been proposed by the 'Austrian School of Economics' which asserted that the remedies for unemployment where totally opposed to those exposed by Keynes. In fact, Austrian School considered unemployment as to be "caused by excessive union-imposed and government-imposed wage rates" (Rothbard 2022).
An even more rigid criticism arrived from William Harold Hutt, as later reported by Pejovich and Klingaman (1975). Hutt firstly posed his attentions on wage rigidity claims, as he thought that workers can adapt to demand changes, not only by lowering their wages, but also by moving to better opportunities, which could result also in a movement toward another industry. Hutt then posed his attention on incentives for not working, which, according to him, discouraged workers to accept the offered wages.
Furthermore, Hutt posed himself against Keynes' argument that wages could not easily fall and even if they could this would not alleviate the unemployment issue. Hutt at this regard asserted that "An increased volume of employment, which is a larger number, multiplied by at a lower wage, a smaller number, could be more, and will be if small wage cuts result in a large amount of demand at that price. The average wage will rise if the unemployed workers are included with a wage of "zero" when calculating the average before the wages were reduced" (Blumen 2021).
Another related fallacy noted by Hutt was given on the Say's law conception that he attributed to Keynes, commentating that

"the point that Keynes missed in his vicious downward spiral was that the increase in production following from the lower wage per worker results in more supply of goods. Hutt agreed that there is a feedback cycle, but it works differently than Keynes explained. One of the factors driving wages down was the depressed condition of the economy, which—ironically—was caused in part by politically induced wage rigidity. When more goods are produced, the prices of goods fall. Workers can buy more with the same wage or buy the same amount with a lower wage. Overall lower prices for goods mean a higher average real wage for everyone" (Blumen 2021).

About a possible failure of John Maynard Keynes' unemployment and more in general economy, we need to consider the positions taken in the late 1970s and the early 1980s by various economists.
By 1978, Lucas and Sargent were already talking about life 'After Keynesian Macroeconomics'. The issues this last two individuated were related to "(i) inadequate microfoundations which assume non-market clearing; and (ii) the incorporation in both Keynesian and monetarist models of a hypothesis concerning the formation of expectations which was inconsistent with maximizing behaviour, that is, the use of an adaptive rather than rational expectations hypothesis" (Snowdon and Vane 2005).
Blinder also confirmed that "by about 1980, it was hard to find an American academic macroeconomist under the age of 40 who professed to be a Keynesian" (1988b).
Subversive voices instead began to see the light in the late 1980s, when a sort of restoration of Keynes' ideas started to take place, as when Samuelson was asked if Keynes was death he answered "Yes, Keynes is dead; and so are Einstein and Newton" (Samuelson, 1988).
This kind of restoration was later brought on by many, but before focusing on this topic we must cite Michel De Vroey, a relevant interpreter of the possible failure of Keynes' position, who recently wrote that "there was no room for a rationing outcome (and hence unemployment) in the theoretical framework Keynes wanted to use" (2016).

C. A Keynesian Resurgence

By the mid 1980s Howitt wrote about 'The Keynesian Recovery' (1986), in the early 1990s Blinder stated that 'A Keynesian Restoration is here' (1992) while Thirlwall discussed the 'Keynesian Renaissance' (1993).
With regard to a Keynesian resurgence, is interesting to understand Tobin answer to his own question of 1977 about the 'death' of the Keynesian economic, an answer that we can find in his essay, 'The Future of Keynesian Economics':

"One reason Keynesian economics has a future is that rival theories of economic fluctuations do not … I hazard the prediction that neither of the two species of business cycle theory offered by new classical macroeconomics will be regarded as serious and credible explanations of economic fluctuations a few years from now. Whatever cycle theory emerges in a new synthesis will have important Keynesian elements … Yes, Keynesian economics has a future because it is essential to the explanation and understanding of a host of observations and experiences past and present, that alternative macroeconomic approaches do not illuminate" (Tobin 1987).

To economists as Tobin, but also as Akerlof and Leijonhufvud it was a fundamental task for macroeconomics to explain when the invisible hand efficiently coordinates the economic behavior. Leijonhuvfvud summed up this as "The co-ordination question, simply stated, is this: Will the market system 'automatically' co-ordinate economic activities? Always? Never? Sometimes very well, but sometimes pretty badly? If the latter, under what conditions, and with what institutional structures, will it do well or do badly? I regard these questions as the central and basic ones in macroeconomics" (1992).

To fully understand the intrinsic reason of a possible 'Keynes' resurgence', we can underline how it was certainly the high unemployment situation, related to all Europe in the 1980s and the 1990s that provided increasing 'credibility to Keynesian theory and policy' (Tobin 1989; Arestis and Sawyer 1998).
At this respect we know how new classical macroeconomists solved the debate between neoclassical microeconomics and Keynesian macroeconomics abandoning the latter.
The 'Keynesian orthodox school' instead, proposed the revaluation of the neoclassical economic theory, intended to generate a better suitability to the Keynesian subjects, so to pose them again in a position of domination over the macroeconomics scenario. The message of the 'Keynesian orthodox school' comprised four main propositions

"1. an unregulated market economy will experience 'prolonged' periods of excess supply of output and labour in contradiction to 'Say's Law' of markets; that is, in Keynes's terminology, market economies will exhibit 'unemployment equilibrium';
2. aggregate macroeconomic instability (business cycles) are mainly caused by aggregate demand disturbances;
3. 'money matters' most of the time, although in very deep recessions monetary policy may be ineffective (Blanchard, 1990a; Krugman, 1998);
4. government intervention in the form of stabilization policy has the potential to improve macroeconomic stability and economic welfare." (Snowdon and Vane 2005; Greenwald and Stiglitz 1987, 1993a; Tobin 1996; Lindbeck 1998).

In this sense, even if the 'new' Keynesian economists would agree with these propositions, new Keynesian models are different and intended to recognize the whole variety of the real world imperfections (Stiglitz 2000, 2002).
"By rebuilding the microfoundations of Keynesian economics utilizing the findings of modern microeconomic theory, new Keynesian theorists have established a research programme aimed at rectifying the theoretical flaws which permeated the supply side of the 'old' Keynesian model (see Snowdon and Vane, 1995). Because the typical market economy is riddled with numerous imperfections, aggregate supply does respond to changes in aggregate demand". (Snowdon and Vane 2005).
To conclude on the matter, we take in consideration a Snowdon and Vane citation of Gordon (1993), which points out how the Keynesian economics stems from the unhappiness of firms and workers during periods of recession and depression.

"Workers and firms do not act as if they were making a voluntary choice to cut production and hours worked.' New Keynesians argue that a theory of the business cycle based on the failure of markets to clear is more realistic than the new classical or real business cycle alternatives. The essential difference between the old and new versions of Keynesian economics is that the models associated with the neoclassical synthesis tended to assume nominal rigidities, while the attraction of the new Keynesian approach is that it attempts to provide acceptable microfoundations to explain the phenomena of wage and price stickiness" (Snowdon and Vane 2005).

VII. HOW KEYNES' IDEAS AFFECTED THE MAIN 20TH CENTURY'S EVENTS

A. The Great Depression

Prior to the 1929 crisis, the Keynesian solution to unemployment in Britain was about the restoration of sterling to its pre-war parity given at $4.86, "if Britain ever again needed to finance a war by borrowing and printing money, she would be better able to do so if people had confidence that-over the long term, at any rate-the purchasing power of the pound would be stable. Restoring the pound to its pre-War parity was a way of building that confidence, and hence an investment in Britain's national security" (Glasner 2011).
This combination between an overvalued pound and rigid wages guaranteed an high unemployment in Britain.
Monetarists would say that these two factors were enough in order to explain the issue, but the great depression then drove the level of unemployment higher and higher, without a slowdown even in September 1931 when England left the Gold Standard by taking control of its monetary policy. It Is in fact from this anomaly that Keynes leaves his essential orthodoxy of the Treatise and approach The General Theory, so it is during these years that Keynes will provide his main contribution on the unemployment issue.
Many factors contributed to high unemployment levels "first, benefits were not tied to wages, so lower-paid workers found unemployment a "comparatively attractive" option. Second, after serving an initial waiting period of three to six days of continuous unemployment at some time in their career, workers could obtain benefits for spells of unemployment as short as one day. It was, therefore, not uncommon for workers to arrange with their employers for work-sharing schemes in which workers would work three days a week and collect unemployment benefits for the other three days" (Glasner 2011). More generous and more available unemployment benefits generated a clear path toward higher problems related to unemployment, as Edwin Cannan states:

"To throw numbers of your employees Ollt for short intervals to suit your convenience is obviously less likely to create friction, and is therefore more likely to be profitable, when the persons thrown out can draw on a common fund raised by stamp duties on employment and other taxes . . . . [Specifically] in the occupations in which the superiority of employment over unemployment is least, the insurance scheme has reduced the economic pressure which used to make persons grab at every chance of employment. . . He [the unemployed worker] takes the alternatives to be, 'Take what you can get now, or hold out another week, when something better may turn up.' . . . The magnitude of the turnover of labour…is so great that a very little average delay will make a large addition to the unemployment" (Cannan 1930, pp.46-47).

Daniel Benjamin and Levis Kochin even discussed how, maintaining the 1913 ratio of benefits to wages during the 20s, would have been anyway 7% lower than the actual ratio in the same period. To conclude on the Great Recession argument, Keynes stated that the stimulus to employment generated by wages reduction would have been reduced by price reductions, as

"automatic price adjustments, on this reasoning, could never restore full employment to an economy mired in depression. But Keynes simply ignored the distinction between wage reductions that exceed price reductions and those that compensate for prior price reductions. While the former reductions create windfall profits for business and are "competed away", the latter simply restore profits to normal levels and are not "competed away". (Which, of course, is not to say that economic policy in a depression should be limited to encouraging wage reductions.) So, in his final and most famous contribution to economic theory, Keynes fundamentally misunderstood the problem for which he sought to provide both an explanation and a cure" (Glasner 2011).

In this sense only his earlier writing could have been a valid contribution to healing of great depression unemployment issue.

B. Keynes and employment policy in the second world war

Keynes analysis of post war unemployment comes in a period Keynes is concentrating on its Clearing Union project.
During the troubling years that affected all the European territory, the war cabinet and particularly James Meade triggered those discussion which will lead to the Employment White Paper of May 1944, when for the first time, the responsibility of governments for fluctuations in output and employment is acknowledged (Slabakova 2018).
In this period, we easily distinguish between the optimists of the Economic Section and the pessimists of the Treasury one, the latter led by Hubert Henderson, about who Keynes asserted: "the author seems to be scared to death lest there might be some date at which the figure of unemployment would fall below three million" (Keynes 1942).
We can observe how the optimistic scenario arises, for absurd, from the war itself, as in 1942 unemployment was just at 1% and inflation was just at 2%.
The previsions labeled in 1942 by Keynes and Richard Stone strongly deviated from the Hubert and Henderson ones. The formers estimated an 8% or 9% unemployment, while the latter estimated a 12% one. At this regard Keynes wrote:

"it may be argued that even 1,200,000 [unemployed] is a pessimistic assumption in the light of the greater knowledge and experience of these problems and, above all, of the greater will to grapple with them and to regard their solution as one of our primary responsibilities. We cannot, on this view, regard the unemployment problem as substantially solved so long as the average figure is greater than 800,000 namely 5 per cent of the [male] wage-earning population, or rest content without resort to drastic changes of policy so long as it exceeds one million" (Keynes 1943).

Keynes evidently still believed in the conception of the 5% norm as he affirms that his conclusions were given "on the grounds that it seemed to us that this was about the highest the public would stand in post-war conditions" (Keynes 1942, p. 299).
On this matter we can extrapolate some consideration on full employment as it

"emerges from this remark as essentially a culturally, or politically, determined variable. It is an estimate of the maximum unemployment the community will stand and the minimum that can be achieved without

imposing on it an unwanted cost. The idea that a free society in peacetime might not be willing to pay the cost-in terms of either liberty or inflation-of a very high level of full employment escaped the hubristic Keynesians of the 1960s, looking back to what had been achieved in the war. Alan Coddington has put this point extremely well, in a passage which deserves quotation. He is commenting on G D Worswick's remark of 1977: 'The lesson of the past is not that demand management did not work. It did--but it was not enough. The point is not discard it but to buttress it with additional instruments'" (Skidelsky 1998),

on this point Coddington wrote:

"This talk of 'buttressing with additional instruments' is not only unhelpful, it is also disingenuous. For, given enough buttressing, anything can be achieved: if the central government authorities are in a position to write a script for the whole economic drama, then they can make sure that it conforms to their prevailing idea of an edifying overall plot, and one I in which the supporting characters never have a chance to upstage the stars. But this leaves unasked and unanswered a number of politically contentious questions concerning just how much power is, could be and should be concentrated in the hands of the central authorities of government. Indeed, this way of looking at the matter has the result that the degree of centralization of economic power is allowed to emerge as a residual from the solution to problems of macroeconomic management" (Coddington 1983, p. 42-3).

During the terrifying years of the Second World War, Keynes also accused the Treasury of being ignorant and pessimistic with respect to demand and supply (Moggridge 1975), while his optimism was due to his belief that England was reaching American productivity levels during the war.
Keynes given the strong possibility of an allies win throughout the last years of the conflict took a step back on his full employment conception, considering that "the full employment policy by means of investment' is Keynes's method of accelerating through the barrier. From this perspective, the mass unemployment of the interwar years was not just the result of a random collapse of confidence, but the precursor of what can happen to rich societies which fail to make adequate preparations for the good life which wealth makes possible" (Skidelsky 1998).
This conviction will introduce the post-war three phases.
Indeed, Keynes, firstly, in 'The Long-Term Problem of Full Employment' (1943), expressed, as interpretated by Moggridge, that "It seems to be agreed today that the maintenance of a satisfactory level of employment depends on keeping total expenditure (consumption *plus* investment) at the optimum figure … The problem of maintaining full employment is, therefore, the problem of ensuring that the scale of investment should be equal to the saving which may be expected to emerge" (1978, p. 320-25).
And on this argumentation Keynes differentiated between three different phases that he expected to take place at the end of World War II, as in the first phase "It is, however, safe to say that in the earliest years investment urgently necessary will be in excess of the indicated level of savings. … In the first phase, however, equilibrium will have to be brought about by limiting on one hand the volume of investment by suitable controls, and on the other hand the volume of consumption by rationing and the like" (Moggridge 1978, p. 320-25), in the second phase

"If two-thirds or three-quarters of total investment is carried out or can be influenced by public or semi-public bodies, a long-term programme of a stable character should be capable of reducinjg the potential range of fluctuation to much narrower limits than formerly, when a smaller volume of investment was under public control and when even this part tended to follow, rather than correct, fluctuations of investment in the strictly private sector of the economy…It becomes necessary to encourage wise

consumption and discourage saving, and to absorb some part of the unwanted surplus by increased leisure, more holidays (which are a wonderfully good way of getting rid of money) and shorter hours…The object will be slowly to change social practices and habits to reduce the indicated level of saving. Eventually depreciation funds should be almost sufficient to provide all the gross investment that is required" (Moggridge 1978, p. 320-25).

In the third phase, he concludes that "When investment inevitably becomes low, then to avoid the problem of secular stagnation, government will need to boost consumption and leisure" (Moggridge 1978, p. 320-25).

VIII. FRIEDMAN AND PHILLIPS AS MAIN CHARACTERS OF THE 20TH CENTURY AFTER KEYNES

A. After Keynes, from Phillips to Friedman

After discussing the Great Recession and the Second World War, as interpretated by Keynes, in our timeline we are obliged to mention a factor that, in the same century, has completely overturned the view of unemployment and more in general of the economics after Keynes, the Phillips curve.
The original results of the Phillips curve immediately emerge as completely different from the consideration we have of it today. Firstly, because what Phillips preliminary found was a long run relationship between unemployment and the rate of change in nominal wages, considering cyclical phases.
A second cardinal difference was denoted by the fact that Phillips

"did not interpret the unemployment rate at which money wage change is zero as 'equilibrium' unemployment or 'full employment'. He somewhat broadly interpreted his results as evidence of an influence of labour market conditions on nominal wage dynamics: When the demand for labour is high and there are very few unemployed we should expect employers to bid wage rates up quite rapidly, each firm and each industry being continually tempted to offer a little above the prevailing rates to attract the most suitable labour from other firms and industries. On the other hand it appears that workers are reluctant to offer their services at less than the prevailing rates when the demand for labour is low and unemployment is high so that wage rates fall only very slowly. The relation between unemployment and the rate of change of wage rates is therefore likely to be highly non-linear" (Stirati and Meloni 2018).

In this context, the evidence found by Phillips could be interpretated in Marxian terms relatively to unemployment but, the main differentiator between Phillips and the classical view is posed on the fact that real wages are not affected, this because real wages would only increase proportionally with productivity (Philips 1958, p. 284).

By contrast Phillips' output about the labour market, from a neoclassical point of view, were not consistent:

"A first aspect is that, according to the latter (Phillips), when the labour market is in full employment equilibrium, with no 'inertial' inflation, nominal wages should be stable. Thus the standard approach requires reinterpreting the intercept on the horizontal axis (close to 6 per cent unemployment rate in Phillips's estimates) as 'full employment'. The other connected problem is that, according to neoclassical views, at any other point on the Phillips curve the change in nominal and real wages should be what brings the economy back to equilibrium. That is, it should correct the excess demand or excess supply in the labour market which is causing the change in wages. Hence those points should represent transitory situations rather than an 'average' or long-run relation between unemployment and the rate of change of nominal wages, as is instead the case in the original estimates" (Stirati and Meloni 2018).

However, we know that the real target of Friedman criticism, fundamental in the development of the curve's results, was on Lipsey's Phillips curve, where the rate of change of nominal wages was given as a function of the difference between labour demand and labour supply, as

"a point on the left of the Phillips curve intercept, featuring a positive rate of change of nominal wages, corresponds to a situation of excess demand in the usual representation of the labour market. As nominal wages adjust, if the price level remains unchanged, labour demand will fall, moving along the usual demand curve until equilibrium is reached only if the price level continuously increases, thus leaving the real wage unchanged, can the economy remain persistently away from equilibrium, that is, the intercept of the Phillips curve. Positive constant inflation is thus associated with a lower than equilibrium unemployment rate, with a number of vacancies that tends in the aggregate to be larger than the number of unemployed workers, causing a reduction in frictional unemployment" (Stirati and Meloni 2018).

In favor of a full completeness on this topic, we must assert how the first formal rejection to the Phillips curve did not come from Friedman but from Phelps (1967), through his three elements analysis "first, the negatively sloped short-run PC determined the rate of price change, with no mention of wage change, and responded one-for-one to changes in the expected rate of inflation. Second, expected inflation responded gradually over time to movements in the actual inflation rate. Third, a social utility function depended negatively on the rate of unemployment and on the expected rate of inflation" (Gordon 2018). Also, inflation rate was determined as constant and as equal to expected inflation rate, only when employment was at his long run equilibrium. Furthermore, "at any $U < U^*$ inflation exceeded expected inflation and so expectations were continually revised upwards, thus shifting actual inflation up one-for-one, until u returned to U^*" (Gordon 2018).
Friedman's presidential address to the American Economic Association (Friedman 1968) made the same basic points as Phelps (1967) but enjoyed of a much more relevant impact on economic thought. Phelps at this regard even wrote a second paper in 1968 underlying the differences between his approach and Friedman's one, stressing out that to him both the firms and the workers were 'dumb' because, both, seeing the price rising in their industry, decided to produce more without realizing the presence of a price level increase in the rest of the economy.
As to Phelps, to Friedman "the natural rate was the only unemployment rate consistent with the accurate formation of expectations, which required a constant actual rate of inflation equal to the expected rate. Phelps's long-run equilibrium theory became Friedman's 'natural rate hypothesis' (NRH)" (Gordon 2018).

Friedman argued that workers utility maximizing decisions related to labour supply depended on real wages and given that it is unreasonable to think about mistakes on worker's part, real wage growth (Wr) depended on the difference between the natural (Un) and the actual employment rate (U). So Wr = f(Un-U), while to the nominal wage growth (Wn) we add the expected inflation, p expected, so Wn= f(Un-U) + p expected. This last equation means that "Hence, only rising price inflation (determined by economic policy) will be able to keep the economy persistently in a position of positive excess demand at an unemployment rate lower than equilibrium. Points along the downward-sloping Phillips curve are no longer stable: when the unemployment rate is persistently below the equilibrium one inflation will be accelerating (and vice versa)" (Stirati and Meloni 2018).
The main step forward, as proposed by Phelps and subsequently by Friedman, with respect to the original Phillips curve was given by the fact that, to the former it is economic policy to determine changes in the unemployment rate, as economic policy causes an unexpected positive price inflation which leads to a decline in real wage which subsequently generates a movement of firms along their labour demand curve and so pushes them to hire more workers.
In a passage Friedman express the difficulties in explaining how, according to the neoclassical view, employment changes relative to aggregate demand fluctuations "because selling prices of products typically respond to an unanticipated rise in nominal demand faster than prices of factors of production, real wages received have gone down – though real wages anticipated by employees went up, since employees implicitly evaluated the wages offered at the earlier price level…The simultaneous fall ex post in real wages to employers and rise ex ante in real wages to employees is what enabled employment to increase" (Friedman 1968, p. 10).

B. The Phillips curve myth

Friedman's interpretation of the Phillips curve is so dominant in the overview of macroeconomic policies in the last decades of the 20th century that I have decided to go a step further into its analysis. In order to do so I will follow the structure proposed by James Forder (2010).
As Forder affirms,

"Phillips' intent had nothing to do with stability under a policy of inflation. His claim was that the relation had been stable for a long time. He estimated it for the period 1861–1913 and then noted (1958, pp. 293–295 and pp. 297–298) that later data points up to 1957 were either very close to the curve or could be explained away. This he took to suggest that the same underlying relation survived in the later period. He had no data that would have revealed the effects of sustained inflation and made no reference to the possibility" (Forder 2010).

Reading these lines, we can understand how Phillips' main intuition is about the relation between levels of unemployment and levels of wages, both completely detached from institutional or political changes that happened over the period. This generated a powerful but also simple explanation of inflation. Inflation that according to the Phillip's model could have been stopped only in one way, the way of a price stability achieved by an appropriate adjustment in the levels of unemployment.

Another fundamental step in Friedman's analysis of the Philipps curve is evidenced by Friedman affirming that the Phillips curve "'filled a gap in Keynes's theoretical structure. It seemed to be the 'one equation' that Keynes himself had said 'we are . . . short" (Friedman 1977, p. 469). From this last proposed perspective about Keynes

"the thoroughly Keynesian Clark, Smithies, Kaldor, et al. (1949, see especially pp. 43–46), writing for the United Nations…like many others, recognized what they took to be a subsidiary point, that inflation might, in fact, begin to rise before full employment was reached because of such things as supply-side bottlenecks and the development of pockets of monopoly power. Naturally, as low but persistent inflation continued throughout the 1950s, these 'subsidiary' considerations attracted more attention and the outlook developed into the theory of cost-push inflation. A crucial aspect of that—argued powerfully from a Keynesian perspective by, for example, Thomas Balogh— (1958) was that it held that cost developments were not, for practical purposes, controllable by the restriction of demand, and such restriction would, therefore, be ineffective in reducing inflation" (Forder 2010).

This had two major consequences as, those adhering to this view of inflation did not accept his Phillips curve interpretation, and that the orthodox idea about the lack of impediments in reaching price stability was threatened by Phillip's analysis. Under these two points, it became arguable that as Friedman claims ''a stable relation between the level of unemployment and the rate of inflation was adopted by the economics profession with alacrity'' (Friedman 1977, p. 469).

Instead "the view that anything resembling Phillips' formulation was either quickly or widely accepted—particularly that it was quickly and widely accepted by those most concerned with policy—is seriously mistaken. It was not a convenient finding for the orthodox of the day, it did not fill any gap in their theory, and it was not accepted with alacrity, or even, in many cases, ever" (Forder 2010).

So, soon this idea of Philips' search for stability in cases of institutional changes, went lost and left space to the observation of Phillips' work in terms of the relationship between unemployment and inflation.

In his writings, Friedman also states that Keynesian economists, considering the relation between wages and unemployment "would analyze the relation between unemployment and nominal rather than real wages and would implicitly regard changes in anticipated nominal wages as equal to changes in anticipated real wages'' (Friedman 1977, p. 469). Friedman have been considered wrong even in this case, as many of those following the Philips' path, included changes of the price index as a variable explaining wages. At this regard Forder (2010) acknowledges Lipsey (1960), Dicks-Mireaux and Dow (1959), Klein and R.J. Ball (1959), Dicks-Mireaux (1961), Tinbergen (1951), Klein and Goldberger (1955), Klein and Ronald Bodkin (1964) and John Vanderkamp (1966).

Also, when Friedman (1968) posed his attention on expectations, everyone included expected price changes in their equation so on this matter Forder (2010) concludes that "in one way or another, one must account for price changes was accepted by all the principal analysts after Phillips and almost all before him… and… not only were all the principal estimators of Phillips-type relations clearly conscious of the importance of changes in the price level, but the theorists of the Phillips curve also had readily available an account that responded to the question of expectations, and suggested the possibility of a persistent trade-off" (Forder 2010).

C. The advocacy of inflation

Forder's (2010) analysis on Friedman continues with the debate on 'the advocacy of inflation', opened with a statement by Friedman, who said "in the circumstances of the post-World War II period, when governments everywhere were seeking to promote 'full employment', [the rate of inflation consistent with] it tended in any one country to rise over time" (Friedman 1977, p. 455), in this context "What is very rare indeed, but ought to be common on Friedman's story, is actual advocacy of a policy of inflation on the basis of an account of the Phillips curve vulnerable to Friedman's argument about expectations" (Forder 2010).
To discuss the advocacy of inflation we will follow Forder's reasoning step by step, as he defines as a particular case that of Samuelson and Solow (1960). Leeson (1997b) among others underline the Samuelson and Solow special role in promoting the Phillips' curve to affect inflationary policy.

"His case turns on the fact that, without any formal econometrics, they presented a roughly drawn 'Phillips curve' for America, captioned the graph as 'showing the menu' and offered their 'best guesses' at the inflationary consequences of various levels of unemployment. The issue of whether, in fact, the effect of Samuelson and Solow's paper was to promote the acceptance of inflation is not under consideration here, but it would be easy to overstate the extent to which the actual content of the paper argues for that outlook. The title of the paper is ''Analytical Aspects of Anti-inflation Policy'' and most of it concerns the problem of distinguishing cost-push and demand-pull inflation. When the authors do address the issue of the Phillips curve's offering a 'trade-off,' they raise a number of doubts about it and, in particular, say 'a past characterized by rising prices, high employment, and mild, short recessions is likely to breed an inflationary bias' (1960, p. 187). This leads them to suspect that high rates of unemployment would be only temporarily necessary to control inflation, and that, if a low-demand policy were followed, ''it might be that the low-pressure demand would so act upon wage and other expectations as to shift the curve downward in the longer run—so that over a decade the economy might enjoy higher employment with price stability than our present-day estimate would indicate'' (1960, p. 193). This clearly amounts to a position very much like that later taken by Friedman, and argues in favor of sound-money policy" (Forder 2010).

Samuelson and Solow also evidenced how the attempt of controlling inflation through managing demand may generate an adverse shift in Phillips curve and will possibly bring it to produce an increase in structural unemployment, subsequently producing a slow technological progress alimented by 'class warfare and social conflict'. These aspects did not only interfere with expansionary policy, but also posed doubts on the stability of the Phillips curve, warning that policy decision may also affect the curve on the long run.

"Overall, a balanced assessment of the actual content of the paper would say first and foremost that the Phillips curve plays a rather limited role in it. 'Guesses' are presented as to the inflation costs of various employment targets, but it is specifically and clearly noted that these relate to the short run. The firmest position expressed about the Phillips curve is that there are a variety of things—on both the supply and demand sides—that might shift it. Indeed, Laidler (1971), among many others, cited Samuelson and

Solow as authority for the claim that there is no stable Phillips curve for the United States" (Forder 2010).

One of the first claimer on inflation advocacy as Friedman theorized it, was Reuber (1964) who declared how in Canada, disregarding international constraint, the optimal combination would have been 2.5% unemployment and 3.75% inflation. Reuber studies also had another influence on Friedman's ideas, as "if significant price increases come to be anticipated," Inflation would not affect output (Porter 1964, p. 419).
Kennedy's Council of Economic Advisers, posed a strong attention on the unemployment issue, it did not so on the basis of Samuelson and Solow studies but instead, in John F. Kennedy first 'Economic Report of the President' it was affirmed that "the target for stabilization policy is to eliminate the unemployment which results from inadequate aggregate demand without creating a demand-induced inflation…If we move firmly to reduce the impact of structural unemployment, we will be able to move the unemployment target steadily from 4 percent to successively lower rates"(p. 46).
So, from these lines, it was evident how, the removal of the 'impact of structural unemployment' was necessary on the reduction of unemployment without inflation.
The overcited report, the 'Economic Report of the President', was also the one to introduce 'Guideposts' as designed to encourage non-inflationary wage settlements.
On 'Guideposts' Samuelson wrote: "Any criticism of the Guideposts which does not explicitly take into account the Phillips curve concept I have to treat as having missed the fundamental point of all economic policy discussions" (1967, p. 54).
This meant that "If wages and prices were perfectly flexible, he said, there would be no inflation below full employment" (Forder 2010) and that in such case "the authorities would engineer fiscal and monetary expansion just up to the point of full employment" (Samuelson 1967).
To deepen on this topic, on a statement clearly about L-shaped theory, Samuelson (ibid., pp. 52-53) affirmed that prices moved upward before full employment was reached.
The purpose of the 'Guideposts' was in fact to stop this kind of occurrence.

"The interesting point is that he characterized a 'good' Phillips curve as one which, at high levels of employment, is steep but indicates inflation arising only at low levels of unemployment, whereas a 'bad' one is more shallow but crosses the unemployment axis at a higher level of unemployment. (The full employment level is the same in both cases.) The 'good' one is, obviously, more nearly L-shaped. But the fact that this is the steeper curve surely shows that a policy of moving up it and accepting inflation was not the real concern" (Forder 2010).

"Another branch of the literature focuses specifically on the econometrics of the Phillips relation and in particular on the size of the coefficient on expectations. It should be remembered, however, that the discovery—frequently made until the mid-1970s—that it was less than 1 is a separate question from whether inflation is desirable" (Forder 2010).
Related to this branch, one of the main contradictions to Friedman was proposed by Solow (1968) who suggested a coefficient on expectations between 0.3 and 0.4, stating also that "there is in the not-so-short-run, a trade-off locus between inflation and real output; and that its position is such that high employment and price stability may be incompatible...What to do about it is a difficult and important question of policy. It is doubtful that there is any single, simple, dramatic solution" (p. 16).

Again Solow (1969) asserted that the rate of inflation may be totally incorporated into expectations, as "whatever may be true of Latin-American-size inflations or even smaller perfectly steady inflations, under the conditions that really matter—irregular price increases with an order of magnitude of a few percent a year—there is a trade-off between the speed of price increase and the real state of the economy. It is less favourable in the long run than it is at first. It may not be ''permanent'' but it is good enough for me" (p. 17).
"This is as near as he gets to a discussion of policy and, hence, as near as he gets to the advocacy of inflation" (Forder 2010).
We can observe that many economists advocated inflation on the basis of the Phillips curve, but we can also examine how these positions where supported majorly by minor figures as William Bowen (1960), Robert A. Gordon (1967), Paul Sultan (1957), Sumner Slichter (1948, pp. 42–45), William Vickrey (1955) and Kaldor (1957).
To conclude, Phillips curve itself revealed its role in practical policy making, as the opposite of that thought by Friedman

"The first appearance of anything like it in Economic Reports of the President comes in 1969 where it appears in the context of a discussion of how to reduce inflation, and the clear implication is that higher unemployment will do the job. Such a policy is not espoused, but rather the point is made that it would be preferable for the Guideposts to work. Similarly, Michael Stewart (1977) says, with some sarcasm, of the Conservative government elected in the United Kingdom in 1970, that they promised to control inflation, and that 'Underlying the Government's confidence in the policy this time lay one of the most dazzling magic keys in the history of economics: the Phillips Curve' (p. 157). In other words, they were going to raise unemployment. In both countries, it would seem, the prominence of the Phillips curve (or a like relation) in the discussion of inflation policy emerges when it is deployed to describe the requirements of price stability" (Forder 2010)

IX. UNEMPLOYMENT THROUGH RECENT ECONOMIC CRISES, THE 21ST CENTURY

A. The Great Recession

The global recession of 2008 and 2009 is referred to as the worst since the Great Depression of 1930s.
Anyway, we can assess how during the 1930s the rate of unemployment touched the 25% in the USA, a percentage to which neither the worst affected economy got closed to in the 2010s.
Even if this percentage cannot be directly compared between the two periods, we recognize that even the amount of job losses has been much more inferior during the Great Recession with respect to the Great Depression.

Despite the previous analysis, the consequences in the 2000s and 2010s labour market have been devastating.
In OECD countries the unemployment rate increased from the 5.7% of the third quarter of 2007 to the 8.6% of the third quarter of 2009, which in numerical terms results in a 10.1 more millions of people without a job.[17]
"The five hardest hit OECD countries in terms of a surge in the unemployment rate from 2007Q3 to 2009Q3 are Estonia (+10.9 percentage points), Spain (+10.3 ppts), Ireland (+8.1 ppts), United States (+4.9 ppts) and Turkey (+4.6 ppts). The average increase in the OECD is 2.9 percentage points" (Verick and Islam 2010).
Other OECD countries instead reflected only a low contraction, as Norway and Malta for example. Still, further countries reflected a decrease in unemployment rate, as it is the case for Poland and Germany.
Moreover, we know that some groups of countries were hit harder than others "Firstly, the crisis has in general hit men harder in advanced economies, particularly younger men…Secondly, workers with lower levels of education have been more vulnerable to the impact of the crisis…Contract status also plays an important role in determining the vulnerability of workers to losing their jobs…Another group that has been particularly vulnerable are migrant workers" (Verick and Islam 2010).
In developing countries, the situation has resulted more difficult to analyze, as countries like Mexico and Turkey experienced a growth in unemployment of respectively 2.1 and 3.2 percent, and Latin American countries, together with Caribbean and CIS countries are the one who saw a larger increase in their unemployment rate.
In the African continent instead, the country that has been more strongly hit by the crisis has been South Africa, where the main issue has been more the discouragement rather than the effective unemployment.
During the fall of 2011, in an article related to results from a Federal Reserve Bank of Cleveland study, Murat Tasci analyze a still high unemployment through these words
"we found at least two reasons why the unemployment rate could stay high for some time: the weakness of the recovery in real economic output and the slow rate at which workers find new jobs…Whether the labor market situation becomes better or worse depends primarily on the growth rate in the aggregate economy…Potentially, a large pool of long-term unemployed might start losing their skills to the point of being a bad match for new jobs when the economy finally starts to recover robustly. This is one particular danger the Great Recession poses for the U.S. labor markets" (Tasci 2011).

We know that the effects of this crisis on unemployment, long-termly lasted, as for the UK, the unemployment rate went back to its pre-crisis level only at the end of 2015 while in the USA, it went below five percent only in 2016 (Echavarria and Arias 2017).

B. Covid-19 impact

[17] See OECD labour force survey data, http://stats.oecd.org/Index.aspx?DatasetCode=LFS_SEXAGE_I_R

The World Health Organization declares COVID-19 a pandemic on March 11, 2020, when WHO director-general Dr. Tedros Adhanom Ghebreyesus stated that “this is not just a public health crisis, it is a crisis that will touch every sector” (Ducharme 2020).
After the first lockdown on the american territory which occurred in Puerto Rico on March 15, nearly the totality of the states followed by April 7, 2020.
The ‘Bureau of Labor Statistics’ reported that unemployment rate “rose from 3.5% in February, 2020 to a high of 14.8% in April, 2020 and then fell to 6.1% in April, 2021 (FRED 2021b). Cohen has found that 1.1 million workers had been misclassified by the BLS. Cohen adjusted the official unemployment rate and found that accounting for the misclassification “yields an adjusted unemployment rate of 9.1% in August [2020], which is meaningfully lower than 11.0% reading in July [2020] and a peak of 19.5% in April [2020]” (Cohen 2020).
Moutray found that “while the unemployment rate peaked at 14.7% in April [2020], the reality was even starker, with the —real unemployment rate— which adds in those —marginally attached to the labor force and those employed part time for economic reasons— at 22.8% that month (Moutray 2020)” (Reid 2021).
In response to this constantly increasing numbers, the Congress of the United States passed three stimulus bills: the CARES Act, the Consolidated Appropriations Act 2021, and the American Rescue Plan Act.
The CARES Act was signed by President Donald Trump on March 27,2020 and provided a 2.2 trillion dollars economic stimulus, as “the bill included $300 billion in one-time cash payments to individuals and dependent children, $260 billion in increased unemployment benefits, $350 billion (later increased to $669 billion) in funding for the Paycheck Protection Program that provided forgivable loans to small businesses for payroll expenses, $500 billion in loans for corporations, and $339.8 billion to state and local governments (Snell 2020)”(Reid 2021). The benefits of the CARES Act expired in July 2020 and subsequently “the number of poor people has grown by 8 million since May, according to researchers at Columbia University, after falling by 4 million at the pandemic‘s start as a result of a $2 trillion emergency package known as the Cares Act” (Deparle 2021).
The Consolidated Appropriations Act 2021 was signed by President Donald Trump on December 27, this was a 2.3 trillion spending bill divided in

“$325 billion for small businesses; $15 billion for economically endangered live venues, movie theaters, and museums; $166 billion for stimulus checks to individuals; $120 billion for an extension of federal unemployment benefits; $82 billion for public schools and universities; $69 billion for vaccines, testing, and health providers; $25 billion to state and local governments for rental assistance programs; $13 billion to increase the monthly Supplemental Nutrition Assistance Program (SNAP/food stamp) benefit by 15%; $13 billion in direct payments to the farming and ranching industries; $60 million for small meat and poultry processors; $10 billion for child care, $10 billion for the U.S. Postal Service; and an extension of the CDC‘s eviction moratorium” (CBO 2020a, CBO 2020b).

The American Rescue Plan Act of 2021 was signed by President Joe Biden on March 11, 2021, it supplied a 1.9 trillion dollars stimulus bill as it

"provided extended federal unemployment benefits, $1,400 direct payments to individuals, emergency paid leave for over 100 million American, a tax credit to employers who offer paid sick leave and paid family leave benefits, extended food stamp benefits, expanded the child tax credit, expanded the earned income tax credit, made forgiven student loan debt tax-free, grants to small businesses, $350 billion to state, local, and tribal governments, $130 billion for K-12 schools, $40 billion for public colleges and universities, $48.8 billion for housing assistance, $164.3 billion for healthcare programs and services, $86 billion to pension funds that are close to insolvency, $55.5 billion for transportation, $10.4 billion for agricultural programs and services, and $1.85 billion for cybersecurity funding (Zhou and Stewart 2021)" (Reid 2021):

C. The impact of the degeneration of the Donbass' conflict

The 24th of February 2022 determines the expansion of the Donbass' conflict, from a clash between the Ukrainian government and the auto-declared independent republic of the Donbass Oblast, to a large-scale confrontation between Russia and Ukraine.
With regard to this escalation, the totality of world economies, more or less directly, have been involved in the conflict, both in sense of its causes and of its consequences.
According to World Bank data the world's inflation rate in 2020 was at 1.9% and the unemployment rate at 6.6%, as both of this numbers were influenced by the effects of the Covid-19 pandemics.
In 2021 the inflation rate rose to 3.4% while the unemployment rate decreased to 6.2%.
In 2022 instead, we saw much stronger increases, as in June of this year, inflation was at 7.3% and unemployment at 8%.
A very interesting approach, based on WEDL-Simulator, intended at determining the possible economics consequences of the conflict, is proposed by Professor Mario Arturo Ruiz Estrada. Him, about unemployment and inflation rates wrote:

"to measure the inflation and unemployment levels in war ratio (IW%:UEW%) for Russia and Ukraine respectively. Initially, the (IW%:UEW%) for Ukraine in year 2014 is equal to (11%:18%) and for year 2022 is around (80%:95%). We can observe that in year 2022 shows a high inflation and a large unemployment compared to year 2014. According to our preliminary results the inflation and unemployment arrives to the higher level. We try to discover possible unemployment that can adversely affect a large immigration to the neighbour's countries rapidly. Basically, we can observe a massive volume of Ukrainian around five million left Ukraine running from the war. According to our estimates, the inflation arrives to a hyperinflation levels. In the case of the world inflation and unemployment shows the next results: for year 2014 (2.35%:5.60%) and year 2022 (11.50%:12%). We can observe that in war any country inflation and unemployment moves in the same direction and almost proportionally" (M.A.R. Estrada 2022).

To conclude on this, more than actual issue, we can state that the effects of all conflicts are devastating on human and economic terms but, the consequences of the Russian-Ukrainian one

will be necessarily greater than those generated in recent years by other hostilities as the 'Afghanistan war', the so called 'Allied Force Operation', the precedent 'Yugoslav war', the 'Syrian war', the 'Iraq war' and many others.
This because of the magnitude of the 24th of February conflict, which is still, nowadays, experiencing a degeneration of the Russian-NATO relationship both in economics and military terms.

X. GOODHART AND PRADHAN, THE UNEMPLOYMENT OF TOMORROW

One of the most interesting theses discussing the future of unemployment and of the world economy in general, has been expressed by Charles Goodhart and Manoj Pradhan back in 2017 (Goodhart and Pradhan 2017).
A first analysis is proposed on the demographic dynamics over the last 35 years, together with their reversal. With this respect, Goodhart and Pradhan talked about the demographic sweet spot which started in the 1970s and the 1980s and initiated through the evident presence of falling fertility rates.
Then, until the 1990s, we experienced a displaying of a world population growth at nearly 2% per year, with a subsequent fall to 1.25% approaching to the 2010s.
In any case population growth according to Goodhart and Pradhan, will be higher in 2040 because of those countries defined as the least developed ones.
However, another factor was critical in the creation of the sweet spot, and this was given as the fall in the dependency ratio, a fall caused by the combination of an earlier decrease in fertility and a later increase in longevity.
According to the writers, the sweet spot was made sweeter by China which "has played a well known role in lowering global real interest rates. Its share of world trade (an average of exports plus imports) increased from slightly less than 2% in 1990 to almost 12% by end-2014" (Goodhart and Pradhan 2017). Also,

"The rise of China to the status of economic superpower has been the dominant feature of the last three decades. China's rise, the main characteristic of globalisation, in conjunction with a beneficial sweet spot in demography, drove output up and inflation down in the advanced economies. But these trends are now reversing, and China's greatest contribution to global growth is now past. Its working age population is now shrinking, while the ranks of the old expands, there and worldwide. This great demographic reversal will lead to a return of inflation, higher nominal interest rates, lessening inequality and higher productivity, but worsening fiscal problems, as medical, care and pension expenditures all increase in our ageing societies. Meanwhile debt has been massively accumulated, especially as a consequence of the Covid pandemic. This will make control of inflation much harder in future decades. Be warned, the future will not be at all like the past, and in many ways even more difficult to manage" (Goodhart and Pradhan 2020).

Anyway, the sweet spot is seen as disappearing with the dependency ratio getting worse, while ageing "will lower both desired savings and desired investment, but desired savings will fall by more. The resulting imbalance will require the real interest rate to rise for the market to clear. Just as the real interest rate has fallen since the 1980s thanks to a decline in desired investment borne out of the demographic sweet spot we described above, real interest rates will reverse course along with demographic trends and the resulting changes in savings and investment dynamics" (Goodhart and Pradhan 2017).
These aspects according to the two economists generated some clear macroeconomics conclusions:

"growth is the first and most obvious casualty, with a decline in overall growth, and total hours worked will inevitably fall. However, human happiness is linked to per capita gross domestic product (GDP) and that measure is likely to look a lot more benign; both higher proportions of young and old are inflationary, and it is only the working cohort that can be deflationary for the economy. Both of the former are net consumers and it is only the latter cohort that can offset the demand for goods and services by producing those goods and services; and both the investment and personal savings ratio will decline" (Goodhart and Pradhan 2017, p. 18).

So, the main concept that we can deduct from these words is that, in recent decades, globalization and demography has generated disinflationary trends, particularly related to China. China experienced a major positive labour supply shock due to its inclusion in the world trading system but also due to its internal migration and a strong change in its dependency ratio. In fact, "The falling ratio of dependents to workers is of, and by, itself disinflationary" (Goodhart and Pradhan 2020).
Furthermore, Goodhart and Pradhan underlined an increased world-wide labour availability with a shift of manufacturing jobs toward China, which subsequently generated a falling labour bargaining power.
The two economists conclude that, many problems are related to the increase of life expectancy, given firstly by a worsening medical dependency intended as the increasing proportions of people with infirmities.
Also ageing led to greater fiscal problems given the rise in public sector deficits alimented by expenditures and tax receipts and again by the COVID-19 crisis.
So Goodhart and Pradhan talking about the future predicts

"Most of the countries where growth has been strongest, such as Germany and China, are now facing a shift from an improving dependency ratio and a sharply growing working age population, to the reverse, a declining WAP and worsening dependency. Overall growth is the result of a combination of an increasing WAP, and an increase in productivity per worker. If the WAP is now beginning to decline in much of the West and Asia, then, unless productivity per worker enjoys a miraculous recovery, growth may subside to even lower levels than in the past. This means that we will not be able to grow out of our problems of deficit and debt, unless technology, e.g. AI, robotics, etc., generates a massive increase in productivity per worker; past disappointing figures for productivity increases in recent years makes this seem very unlikely. The alternatives, then, involve greater taxation, less welfare, notably reduction in state pensions, more inflation, or default. So, for example, a probable outcome will be higher taxes, especially on the rich, corporations, land and noxious carbon and other pollutants. None of these are politically palatable. If we think of politicians maximising their political chance for re-election, then our view is that greater inflation will be part of the optimal political mix. In recent decades, central bankers have been the best friends and supporters of Ministers of Finance. As public sector debt ratios have increased, the largest

persistent increase of such ratios ever in peace times, the continuing decline in nominal interest rates has allowed debt-service ratios to remain stable, even to decline slightly. This symbiotic friendship is heading for a sharp divorce. The future for inflationary targetry will be much more difficult and problematic than in the past. That said, there will be some more beneficial side-effects. As the labour markets tighten everywhere, we expect investment in Western countries to rise, in order to maintain competitiveness, which in previous decades could be achieved by out-shoring. So, we expect there to be some recovery in productivity per worker. Similarly, the recovery in labour bargaining power and the coming increase in taxation, especially on the rich, will lead to a waning of inequality. In a sense, the reversal of the previous trends in globalisation and demography will, we expect, lead to some reversal in the nominal trends that have been so prominent in recent decades" (Goodhart and Pradhan 2020).

X. CONCLUSION

From a complete analysis of our work, we can conclude how unemployment is an enormous matter which is called into question at every single historical stage, as one of the main indicators related to wealth of the different countries.
At this regard, the full understanding of the topic is fundamental to a well-functioning economy, even when the cohabitation with the issue is subject to some not totally predictable shocks.
In fact, both too high and too low unemployment can be detrimental to an economy. High unemployment could generate a reduction in production and GDP and could also hurt workers' long-term earning potential while, a very low unemployment, could have negative effects as a rise in inflation and again a reduced productivity.
In order to contrast unemployment, we have some well-known possible remedies, firstly given by monetary and fiscal policies.
Indeed, an expansionary monetary policy can lower interest rates and stimulate demand while increasing businesses financial capital needed in order to meet the rising demand.
An expansionary fiscal policy in lieu, could be initiated by an increase in government spending or a decrease in taxes which will work in a similar way to the lowering of interest rates so, increasing demand and subsequently the amount of cash, for businesses to meet this demand.
Other solutions to this problem could be determined by an increase of funding on education or, as a University of Massachusetts Amherst study propose, the construction of mass transit, expressed as one of the most cost-effective solutions. Even though as a result of our work we know that unemployment benefits can produce a growth which is even faster and more direct than public works projects.
As the final step of my work, I want to propose a personal opinion regarding part IX section C of this paper which analyze the most recent forceful challenge to global economy.
In this respect, our study on this matter show how sanctions against a conflicting country are not an optimal solution as they have evident effects, not only on the directly affected country, Russia in our case, but in all other countries, particularly those who are Russian trading partner.

In this sense our work shows how, to an approach based on sanctions, an approach based on diplomacy and means of peace should be preferred, both in terms of human and economic lives.

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