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Keynes' General Theory of Employment, Interest and Money Re-Stated

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Abstract

We dealt with how economy determines its *Employment* and *Income*. We also dealt with: 1) the *propensity to consume*, and 2) *the marginal efficiency of capital-MEC*, which is determined by the *long-term expectations* of the enterprises about the *prospective yields* of their capital assets, by the *state of confidence* on them, by the level of their *prospective yields* and by the lending *Rate of Interest.* We defined the *supply* & the *demand* for *Money* and the *Money Wage*. We showed how New Investment is determined by the MEC; we assumed that the money wage is determined by bargains between labor & enterprises. We accepted that the Supply of Money is decided by the Central Bank and that the MEC, moreover, depends on Employment. We assumed that to any level of Employment corresponds one level of Income, *not necessarily that of the full employment*. We also took the following factors of the economy *as given*, *but not as constant*[1]: skills; labor's quantity; equipment & its quality; techniques; the degree of competition; consumers' tastes and habits; labor's sources of disutility; the social structure; the distribution of national Income; the supervision of labor & of its organizing.

Keywords

Keynes' General Theory of Employment, Rate of Interest and Money Re-Stated

1. Introduction

This work is based on Keynes (1936)[2]—K thereafter—published book titled the

[1]For the "given" factors Keynes simply *did not take their effects into account in the GT*, though they influence Employment and Income (GT, p. 248). As a result, by describing them as "given" is misleading.
[2]GT finished by Dec. 13th, 1935.

"General Theory of Employment, Interest and Money", GT thereafter, in Feb. 1936. K mainly dealt with the determination of economy's total *employment*, *interest rate* & *money*[3]. Moreover, K thought it necessary to explain, and at the same time defend, at once, the prefix "General" (GT, p. 3). For K, this prefix was purposed to *add emphasis* (Chapter 1)[4], because he believed that the prevailing "Classical theory"—CT thereafter—was a *special case*[5].

In addition, for K, CT did not describe the economic reality in which he lived. As a result, K showed in particular that if the system is disturbed, it will not return to full employment, as believed.

The GT addressed mainly to economists, because it dealt with *difficult at that time theoretical questions*. Its application to practice, consequently, was placed in a 2nd place. GT was *also* a study of the forces that determine economy's *Output*.

1) The 1929-1939 Slump

K, in 1929, was 46 years old, when a worldwide great depression (a Slump) took place, which lasted till 1939—with a *peak* in 1933—creating up to 15 million unemployed... In our opinion, K wrote, indeed, the "Economic Theory of the Depressions" or the "Economic Theory of Mass Unemployment" (Goulielmos, 2023a, 2023b).

The Slump began on Black Thursday, 24/10/1929, when NYSE had a previous rise of 90% in about 1 year. The prices of the shares—*which were overpriced*—started to fall, and to cause a panic. The GNP_{USA} fell by 30% and the unemployment rose by 25%.

2) Economic Policy & Real Life

K, being a pupil of Alfred Marshall (1842-1924), dealt with the actual *economic problems*, where Marshall, moreover, limited even the use of his mathematics—as a misleading proxy of reality, we believe. Moreover, K believed that CT lacked *clearness* and *generality*. In addition, K criticized his fellow economists for having almost fully destroyed the practical influence of the economic theory (GT, p. vi).

3) The Real Life and Mathematics

Many economists, till nowadays, created a plethora of mathematical models, apparently difficult to be understood by policy-makers. I remember, in a lecture I attended, delivered by Joan Robinson (1903-1983) in London, in the 1970s, a famous Japanese mathematical economist to "cloud" the blackboard with a plethora of equations in presenting his paper. He compelled Joan to ask: "Sir, she said, what

[3]K thought, wrongly, (but in 1930), as admitted by him, that "the influence of money" was something *separate* from the general theory of supply & demand (GT, p. vi).

[4]K distinguished his theory from that of the CT (prevailing from 1835 to 1935). Marx (1818-1883) considered as "Classical economists", D Ricardo (1772-1823) and J Mill (1773-1836), and their predecessors at their culmination. K included also: J.S. Mill (1806-1873; son of James), Alfred Marshall, Is. Edgeworth (1845-1926) and Prof. A.C. Pigou (1877-1959). The extensive references of K in the GT were made to Marshall and especially to Pigou. K explained why criticized Pigou (GT, p. 279), for his "theory of unemployment".

[5]K argued that even if we assume *fully flexible wages* & *prices* downwards—as CT—the economy will not always return to *full employment* (*this being his central proposition*). Employment can coexist with a number of unemployed (being involuntarily so for lack of demand).

about the real world?" And he answered: "Madam, this is the real world". K apropos also expressed his opinion about mathematical economics (GT, pp. 297-298).

2. The Purpose of This Work

To restate the essential arguments of Keynes derived from his GT.

Paper's Structure

This work is presented in ten parts: Part I, dealt with the Classical Theory of Employment; Part II, dealt with the "Effective Demand", which K called the *substance* of GT[6]; Part III, dealt with the determination of the Rate of Interest; Part IV, dealt with the Liquidity Trap; Part V, dealt with the Theory of Money; Part VI, dealt with the Theory of Prices; Part VII, dealt briefly with K's Monetary Economy; Part VIII, dealt with K's Shifting Equilibrium; Part IX, dealt with paper's contributions and Part X, dealt with our recommendation for demand and supply to determine prices. Finally, we concluded.

3. Part I: The Classical Theory of Employment

This is based on 2 postulates, treated as axioms (as K wrote): first, the money Wage—Wm thereafter—paid to labor—is equal to the value of labor's marginal product[7]—MP_L thereafter. This means that each worker earns his/her Wm being equal to the value of his/her (net) contribution[8] to production. This in turn determines the demand of the enterprises for labor. K accepted the above (GT, p. 17).

The above also means that—with a given organization of the economy, its equipment & technological progress (techniques)[9]—the real wage—Wr thereafter, the output and employment *are all connected*. Thus, a*n increase in employment can only occur if followed by a decline in Wr*, where profit also increases. Consequently, the MP_L (which determines Wr) has, necessarily, to be reduced, for employment to be increased (GT, p. 18).

Second: the "utility of labor" is equal to its "marginal disutility"[10]. This means that enterprises pay the Wm to labor, be *sufficient*, (in workers' estimation), to *induce* the volume of labor—actually employed—*to be also supplied*[11]. This 2nd postulate determines the quantity of labor supplied. K objected the above in two

[6]GT, p. 5.

[7]Imperfect markets excluded. Labor's MP is the amount added to total production by an additional worker.

[8]This can be found by the value by which the production will be diminished if he/she stopped to be employed.

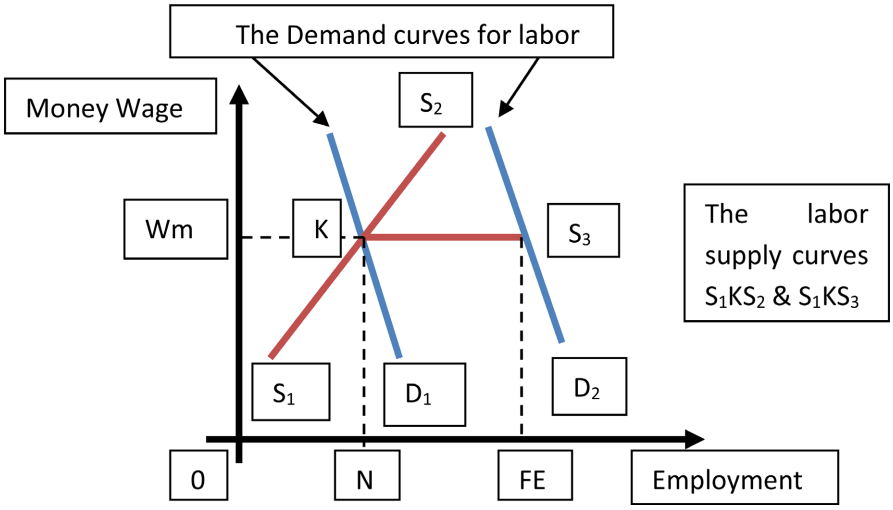
[9]*These are the standard assumptions of K*—making his theory—useful mainly for the *short run*.

[10]For K, *labor's disutility* comes from all kinds of reasons, which lead a man/woman to withhold his/her labor rather than to accept a wage, which provides utility < a certain minimum (GT, p. 6). For labor to do this, we believe, has to rest on unemployment benefits, past savings, support from family, etc. Humans cannot survive for long without employment, we believe, not to mention the associated psychological effects for one to be unemployed for a long time.

[11]K introduces into his argument also the possible "combinations between employable units", which K considered them as analogous to the imperfections we meet in competition.

counts, as will be mentioned below.

Total employment, now, in any economy, is determined at the point where the marginal "utility" of labor, MU_L, balances the "disutility" of the marginal employment MD_L (p. 6, GT).



Source: Author.

Graph 1. Total employment determined by the interaction of the demand for, & the supply of, labor, according to both CT and Keynes.

As shown in Graph 1, the demand for, and the supply of, labor, at the negotiated Wm, determines country's total employment. This, however, is *below full employment*. Because a part of labor, equal to NFE, is not employed, due to the insufficient demand D_1. This K named a case of "involuntary unemployment", and we re-named it as a case of "forced employment"… for the first time. The kinked supply curve S1KS3 is our contribution to K's theory of employment.

K's Objections to CT's 2nd Postulate

A fall in Wr, with the Wm constant, will *not* result in a lower supply of labor, as believed. This means that a rise in the "cost of living" will make the unemployed, NFE—though willing to work at Wm—*to withdraw* from the supply of labor (GT, p. 13). The 2nd, more fundamental objection of K, was, however, that Wr is not determined during the "wage bargains" (GT, p. 13), as believed.

K defined 3 main situations when a person is unemployed (Table 1).

Table 1. Situations where a person is unemployed.

Frictional	Involuntary	Voluntary
Men & Women are unemployed, after their graduation, due to the time devoted to the search to find a job, submit a CV & attend interviews	Men are unemployed, if a small rise in the prices of goods, make the supply of labor—willing to work at Wm—greater than demand	Refusal or inability of the labor to accept a given wage (though it is equal *to its MP*)

Continued

K mentioned (GT, p. 6): The temporary want for a balance between the relative quantities of specialized resources as a result of miscalculations or to an intermittent demand; the time lags consequent on unforeseen changes; *the change-over from one employment to another*	Introduced by K for the first time	For K (GT, p. 6), this is due to: legislation, social practices, the combination for collective bargaining, the slow response to change, & the human obstinacy

Source: Author; data mainly from GT, Chap. 2.

As a result of the above discussion, there are 5 ways so that economy to increase employment (Table 2).

Table 2. The five ways to increase employment.

By reducing "*frictional* unemployment"; this means faster employment procedures, mainly on the part of the enterprises; more frequent mass employment conferences; shorter retirement age, etc. By reducing "*voluntary* unemployment"	By decreasing "*marginal disutility*" (please read also footnote 10); this is a fertile ground for policy	By increasing the MP_L (in the industries producing goods for wage-earners) (*); this may be also a fertile ground for policy	By increasing the *prices* of the goods used to be bought by non-wage earners; can the Administration do this?

Source: Author; data from GT, p. 7; (*) K showed how.

K concluded that the willingness of labor to accept a lower Wm, will not necessarily lead to a higher employment, as believed. Moreover, MP_L will not necessarily fall (GT, pp. 17-18). A reduction in Wm will, ceteris paribus, stimulate demand, provided it lowered the prices of the products and increased output and employment—something possible, but up to a point[12] (GT, p. 257).

The Cost of Living

Some economists argued that the rise of the "cost of living" may create a reason for a claim from the side of labor, for the Wm to rise, thus supporting CT's opinion that the *Wr* is in fact negotiated.

True is that recently, (mainly after the Russia-Ukraine War), the above opinion obtained certain firm grounds, due mainly to the serious rise of the cost of energy, development which made Wm to fail to face the cost of living.

A higher cost of living—due to a rise in prices—will *be used*, *we believe*, *as an additional argument* for strikes and for higher Wm claims from the part of labor,

[12]K specified this point to be the "marginal efficiency of labor", as output increases.

but Wm will only finally be negotiated. Worth noting is that Economists failed originally to include Energy in production as its 4th coefficient, along with Labor, Capital and Land.

4. Part II: Effective Demand Is the *Substance* of the GT of Employment (GT, p. 25)

Enterprises pay, in providing employment: 1) the "factor cost", meaning the payments made to "factors of production" used, or inputs—in modern terminology; 2) the payments made to other entrepreneurs (for inputs purchased from them); 3) the sacrifice, which incurs to the enterprises from operating their equipment (the user cost) vis-à-vis leaving it idle.

K defined also profit, or what he called "*entrepreneur's income*"—destined to be maximized—as the value of output, which exceeds the above costs 1 & 3. Moreover, total income, or proceeds, is the sum of the factor cost and the profit.

Enterprises provide employment by taking into account the total "supply price", Z, (= *the output produced by labor),* and the "*expected proceeds*" *from labor, which are equal to D*[13]. If D > Z, enterprises offer a higher employment, and this up to Z = D (GT, p. 25). Employment is thus determined at the intersection between the "aggregate demand function" and the "aggregate supply function"—providing also a maximum profit.

4.1. The Effective Demand

D, mentioned above, is the effective demand—meaning the "expected proceeds" by the enterprises. For K, the introduction of this concept is *novel*, where effective demand is the one expressed in money.

4.2. The Problem Which Capitalist Economies Face

K, in GT's page 27, introduced the problem of the capitalist economies, which *arises when the income earned by the consumers is not spent entire on consumption, because a part of it is saved*. This is based on the social fact that the more the needs of the consumers are finally satisfied-out by the previously earned income, the greater the part of the increased income eventually saved-out.

The above phenomenon verified by the statistics concerning the primitive societies, where at their early stages of development they spent their total income on consumption. The problem is also verified by the amounts spent by the enterprises to *promote their sales* (*advertisement*; *discount sales*; *sales by installments*), by convincing people… to spend.

It is further verified by the amounts saved by the Governments, out of their Budgets, derived from taxation etc., which have also to be spent by financing space programs etc. The amounts saved, however, are the amounts, by which enterprises will be *short in* their proceeds, vis-à-vis what they have spent plus their profit… Then, total employment at t cannot be sustained at t+1 and enterprises will reduce

[13]Total demand function.

their production by the unsold one, and thus they will reduce employment.

We may use now a familiar notation derived from GT: let income Y = C + S (1), where C stands for consumption and S[14] stands for saving[15]. Worth repeating is that as Y increases, C diminishes, and S increases; then Y has to be reduced, *creating a deficient effective demand*, unless Y = C + I (2), where I stands for the new investment.

In (2) above, we have also *equilibrium,* if I = S (3). But this equilibrium is not automatic, however, because I can be > or < than S. The people who save and the people who invest are not the same, as believed. Banks etc. try so that the two variables of S and I to be brought to equality. The question is, do they succeed?

4.3. K's Theory of Employment Propositions (Table 3)

Table 3. The propositions out of K's theory of employment

D_1 is spent on consumption C. Where C depends on N & Y, & on the propensity to consume, PC; the PC is a functional relationship between Income Y & consumption C, = f (Y) (4), but dC/dY > 0 and < 1 (5)	Employment depends on D (D_1 + D_2), where D_2 is equal to the amount, which is expected by the economy to be devoted to new investment	The Wr is determined by MP_L in wage-goods industries; Wr = the marginal disutility of labor	Remarks: In CT, D exists at all N; N is in neutral equilibrium & < its maximum value; competition among firms may push N to its maximum value, *with stability;* D is not compatible with a constant Wm; Money & real Y, depend on Employment
K tried for long to show that his GT "*guarantees*" *stability*	When N increases, D_1 increases, but less than D	When 0N increases, total real Y increases, plus consumption, & so new investment has to be sufficient to absorb the excess of total output over consumption at 0N	Effective demand, D = the total "supply function"

Source: Author; based on GT's Chap. 3.

[14]In communist states both saving and Investment are carried out by the state.

[15]The role of banks, and of those who attract savings to finance the new investments, *is important*. The level of the rate of interest, r, is the key variable for the attraction of savings from homes (hoarding) to the banks, in absence of a haircut risk (from capital controls as this happened in Greece in 2015). The level of the lending rate of interest, however, acts also as a cutter, if it is >MEIs. A l*ower* r and a *higher MEI* are recommended, though a low r will discourage saving to reach the banks. K discussed for long how societies, in different stages of their development, *offer opportunities to new investments*. This is why AI, and the "rare earths", as well innovations, are required in providing opportunities, especially when MEC > r, otherwise savings will remain idle, and Y will be reduced. The role of Governments is obvious here: to increase MEIs as far as possible and reduce r as far as possible, making also a "liquidity trap" inactive. Saving is also made by the firms called "depreciation". K went as far as to consider depreciation in USA as responsible for the Great Slump (GT, p. 100-104). Enterprises *have to realize that depreciation has to be spent before a deficient demand is created*... This issue is certainly related also to the "durability of the investments" meaning that the longer a capital good produces/lives, the rarer is replaced, and so its accumulated depreciation spent. This is a real dilemma.

5. Part III: The Determination of the Rate of Interest

It is interesting, we believe, to quote here what Joan Robinson, in her book "Economic Heresies" (p. 80), wrote for K's Chapter 17 (of GT), apropos titled "the essential properties of interest and money". She wrote that she found chapter's arguments "difficult to follow", and K admitted that this was so also for him.

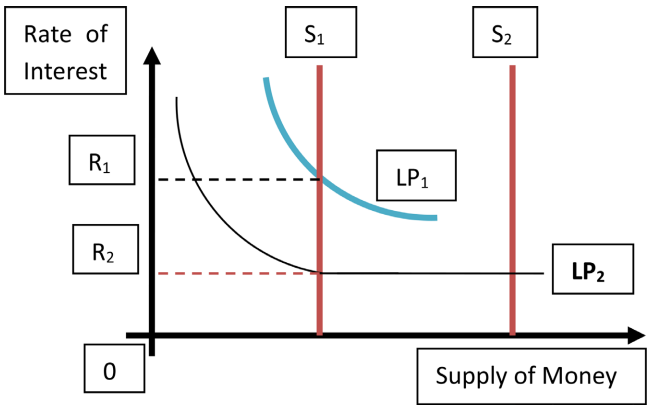
5.1. Is a Discount Factor Required?

A "discount" factor has to be entered into the calculations of the enterprises, due to the fact that their new investment has a future life (called "useful life"). This means that enterprises need to find a way to "convert" their future costs and revenues, and thus profits, from what is expected to be in, say 20 years ahead, to the present. The "present value" discounted then can only be compared with the amount which is about to be invested.

Given that any investment is expected to provide a profit % (called internal rate of return-free of inflation), in order to be undertaken, this profit % (MEC) (GT, pp. 140-141) has to be > than the lending rate of interest. This idea was not one of K, but was due to Professor Fisher Irv. (1930: from his book the "Theory of Interest"). K did not hesitate to adopt the theories of other economists, which he found them correct, like the above theory of interest and the theory of the investment/income multiplier of Kahn, R F (GT, p. 113).

5.2. The Rate of Interest Determined

The interest rate, for K, is determined by the demand for money, expressed by people, (known as "liquidity preference"), and the supply of money, done by the authorities (Graph 2) (the Central bank). People prefer to be liquid, for three reasons, meaning to have a demand for cash, and pay indirectly the rent to hold money, which is the rate of interest.



Source: Author.

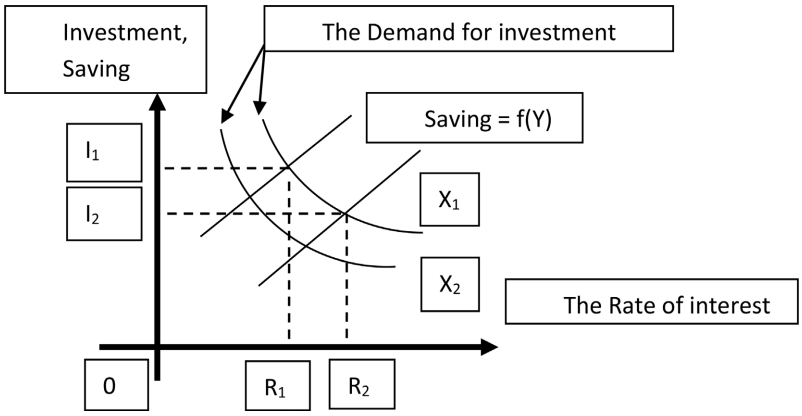
Graph 2. K's determination of the rate of Interest.

As shown in Graph 2, the Supply of money, S, as decided by the authorities—and the Demand for money, LP—as decided by the public—determine the rate of

interest 0R. K has described the LP demand (GT, p. 171) as follows: "the schedule of liquidity-preference, which relates the quantity of money to the rate of interest, is given by a smooth curve, the LP, which shows a falling rate of interest as the quantity of money is increasing".

5.3. The Rejection of CT's Formulation of the Rate of Interest by Keynes

K presented, and… rejected, the Classical Theory of the rate of interest (GT, pp. 180-182), by using a graphical tool (like Graph 3), suggested to him by Harrod R. F.



Source: Author; modified from that in GT.

Graph 3. The determination of the rate of interest according to CT.

For CT, the rate of interest (on horizontal axis) determines investment demand (& Saving) (vertical axis) (Graph 4). In Graph 4, in fact, we have 4 unknowns and 2 equations (investment demand & the rate of interest). The four unknowns are: Investment demand, Saving, Income and the Rate of interest. The changes in saving are caused by the changes in Y. Y is determined by the investment demand—given S. The rate of interest is needed in advance in order to determine Y. The demand for investment and the supply of Saving determine Y, given that r is determined already elsewhere.

6. Part IV: The Liquidity Trap (LT)

Let us assume that any rate of interest below $0R_2$ is desirable (Graph 3), because there are certain MEIs < $0R_2$. But this, however, *cannot be done,* even if the supply of Money is increased to S_2… Economists, and not K, named this a "liquidity trap"—LT thereafter.

As shown, the LT has made the increased supply of money, ineffective—and thus the authorities, and so the monetary policy, unable to reduce the lending rate of interest below $0R_2$. Economy in this case has then, as its option, the fiscal policy only.

Economists, in the 1990s, disputed that a LT existed, despite of what K (GT, p. 207) wrote in 1936: "it is possible for the rate of interest to fall down to a certain

level, so that the liquidity preference of the economy to become absolute, and as a result, everybody to hold cash".

Later, economists, in 2013, however, talked about a "real rate of interest", which increases as prices fall—providing also a gain to cash holders. This real rate of interest *can be trapped also*, and thus to have a RLT (a real LT) at zero OR. The slumps in Japan in 1990's and in 2000's and the global financial crisis in 2008-9 in USA *are considered as cases of LTs* (Krugman, 2010).

Here, we may add that the banking system is interested, we believe, in, an as great as possible gap between the rate of interest paid to call deposits and the lending interest rate—LIR thereafter. The LIR can never be very low or zero, we believe. We can say also that there is a degree of inflexibility of the LIR downwards by incorporating a % for risk and a % of uncertainty as well as other costs mentioned by K.

Moreover, the bank of England on 27/04/2000 published a working paper, no 111, about the liquidity traps and how to avoid and escape from them.

7. Part V: The Theory of Money

Money satisfies people's 4 needs (**Table 4**).

Table 4. The needs satisfied by money.

To pay bills etc.	To exchange it with goods & services etc.
To store value or wealth (more important)	To have a unit to express the accounts

Source: Author.

For K, money is the only asset having a rate. K argued that 3 motives make-up the demand for money: the money which one holds/demands to carry out his/her daily transactions; the money, which one keeps/holds to face unforeseen circumstances (e.g., a sudden health problem; further studies; travelling), and the money one requires to store his/her wealth in it.

People of course can store their wealth also in bonds, and in elsewhere[16]. Bonds offer a double gain: one from their value appreciation and one from their interest rate. They surely can offer also a double loss.

Let the demand for money, $M_D = L_1(Y) + L_2(r)$ (6), where L_1 stands for the two motives mentioned above, determined by the level of Y, while L_2 is negatively related to r. The two first motives above are clearly caused by an uncertain future. Certain economists called K's "liquidity preference theory" as a "theory of uncertainty". The CT assumed that only the M_d has a person, so that to make a maximum number of transactions, being equal to k PY, where k stands for a constant proportion of Y, and P stands for the average price level.

Monetarists—Mon.—thereafter, moreover, believed in nothing more than a complex version of the above CT. Mon. argued that the Md is for financing rather stable

[16]Gold; jewels; foreign currency; crypto money; raw materials; houses; shares; objects of art, etc.

transactions, and not being a unique function of the rate of interest and Y. In the economy many physical and financial assets exist, where their return influences Md. People are rather assumed to try to equalize the marginal rate of return across all physical and financial assets.

Money is a substitute for all other assets, and the Md is a function of their rates of return. This statement is in agreement with K's theory, where the rate of interest influences the Md.

Let, now, the demand for "*real* money" balances to be Md/P, a function of Y, Prices P and r. This is the "modern quantity theory of the Md". Mon. argued that the Md can be statistically only determined, and thus monetary policy has to be preferred. Where, Ms (the supply of money) has to grow at a constant rate (= growth of output). But this policy, when applied, produced great instabilities.

For K, the fundamental propositions of a Monetary Theory start first with the Md. Individuals are free to change—whenever they like—the amount of Money they hold, provided that the total amount of Md is exactly equal to the Ms, created by the banking system. Md = f(Y, Prices), where for K here the Prices mean the prices primarily of the securities (financial assets like stocks, equities, debentures and bills), the purchase of which is the natural alternative to holding cash (GT, pp. 84-85).

8. Part VI: The Theory of Prices

The economists who were concerned with the "theory of prices"—TP thereafter, were also those concerned with the "theory of value", arguing, once upon a time, and par excellence, *that Prices are determined by Supply* (plus the changes in Marginal Cost & the elasticity of supply in the short run) *and Demand* (GT, Chapter 21).

The above economists, however, when passed on to the "theory of Money & Prices", adopted a number of other factors (shown in Table 5), who this time destined to govern Prices, forgetting at the same time the elasticities of Demand and Supply. They rather assumed a zero elasticity of Supply and a demand proportional to the Q_M. As a result, the TP had to be brought, by K, closer to the theory of value.

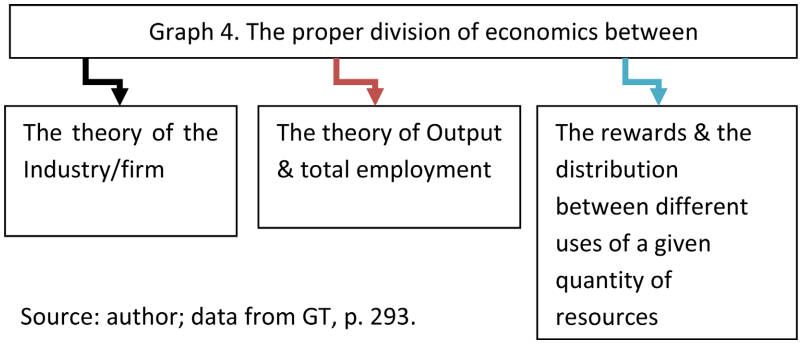
Table 5. The factors brought in by the classical theory of money & prices.

The Q_M	The Income velocity	The velocity of circulation (a function of the velocity of transactions)	Hoarding
Forced Saving	Inflation	Deflation	

Source: Author; data from GT, p. 292.

For K, in order for the economists to bring the TP closer to the "theory of value", they have to consider Economics as dealing only with the 3 theories mentioned below (Graph 4).

K argued that if we assume that the total employed resources are constant, and that the conditions in industries/firms are unchanged, as CT did, we have missed



Source: author; data from GT, p. 293.

the significant characteristics of Money. To determine Output and total employment, *we need a Monetary Economy*. "The importance of Money flows from being a link between the present and the future" (this is the most repeated sentence in the whole GT, as mentioned) (GT, p. 293).

K suggests considering what distribution of resources will be consistent with the (shifting) equilibrium (which we have presented in Part VIII)? In the real world, the previous expectations, though liable to disappointment, affect what we do today (GT, p. 294). This is the standard philosophy of K.

The level of all prices depends on what is paid (called remuneration) to factors of production (which make up Marginal Cost), and on the scale of Output (and on the volume of employment). Industries' costs of production depend on their output. Important here is to ask "how the changes in Demand affect the costs of the industries and their volume of production" (GT, p. 295)?

The costs of production in any industry depend on the output of the rest of the industries. Prices depend on wages (and on the volume of employment)—if the costs move along the direction of Wm. Thus, the effect of changes in Q_M on price level can be considered as being compound from its effects on Wm and on employment (GT, p. 295).

K made five new assumptions (GT, p. 296) (Table 6) about the Qm theory.

Table 6. The new K's assumptions about the quantity theory of money.

The Effective demand may not change in exact proportion to the Q_M	Assume diminishing returns to scale, as N rises	Some commodities will reach inelastic supply
The Wm will tend to rise	The "remunerations" will not all change in the same proportion	

Source: Author; data from GT, p. 296.

A rise in Effective demand will cause a rise in employment and in Prices. Thus, prices can rise gradually as employment rises (GT, p. 296).

The Relation between the Changes in the Q_M and the Changes in the Effective Demand (GT, pp. 296-309)

The effective demand—ED thereafter, affects partly the employment and partly the

prices, following a rise in Q_M. K accepts the case of a gradual rise in prices, as N rises. K wishes further to analyze the TP, defined as one concerning the relationship between changes in Q_M and changes in Prices, with a view to determine their elasticity in relation to the 5 complicating, but not independent, factors mentioned above (GT, p. 296).

A rise in ED is divided among a rise in Output and a rise in Prices, and this may influence the way in which the Q_M is related to ED (GT, p. 297). Also, the differences in the proportions in which the remunerations change may influence the relation between Q_M and ED. The rate of interest also influences the relationship between ED and the Q_M.

Concluding this part, we may say that there are three important relationships in K's system: 1) the LP, which tells us how much the rate of interest must fall so that any new money to be absorbed; 2) the MEC, which tell us by how much a given fall in the rate of interest will increase investment and 3) the investment multiplier, which tell us by how much a given rise in investment will increase ED.

9. Part VII: K's Monetary Economy

K introduced a monetary economy. A monetary economy for K is the one in which the future views[17] of the enterprises are capable to influence today's level of employment, through Money. *This is the most persistent idea of K. K believed that money is the link between the future & the present...* This, however, as K argued, depends also on the *interaction* of *supply* and *demand*[18]—which is also a further link with the fundamental "theory of value"[19].

10. Part VIII: K's Shifting Equilibrium

K introduced verbally a new concept of equilibrium, ignored, however, by the economists, to the best of our knowledge. He called it "shifting" (GT, pp. 293-294)… meaning "changing", concerning the enterprises. This was so, because their views were also changing continuously over time. For K, this equilibrium makes-up… also "a theory" (Graph 5).

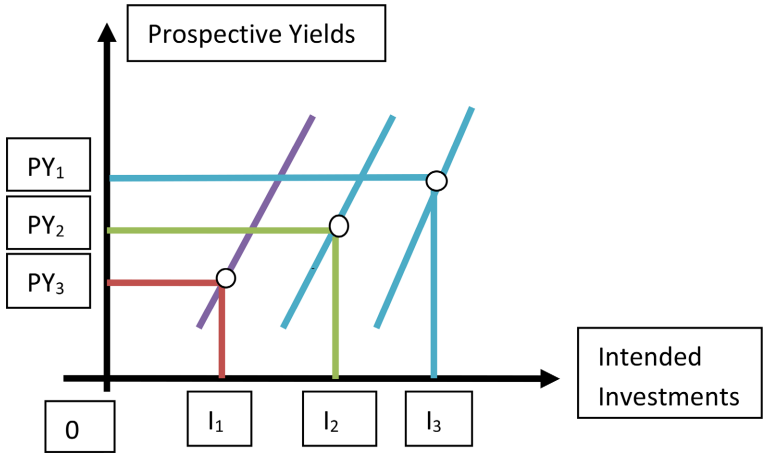
As shown in Graph 5, the higher the prospective yield—PY, the higher the intended investment by the enterprises. These PYs, however, are only pieces of the entire puzzle of economy's "New Investment". The PYs indicate the prerequisite

[17]For K, the "positive expectations" of the enterprises—at the present—lead to the new investment.

[18]For K, *demand* & *supply* determine price, and given costs, they determine profit. The *expected profits* determine the new investment and the employment and the output: a simple and consistent reasoning.

[19]The "theory of value" used to deal with the *intrinsic worth* of a good, defining also its price. The "values" were: the "value in use", which corresponds to the capacity of a good to satisfy a need, and the "value in exchange", which is the worth of a good in exchange (= relative price). A good must be *useful* to be *produced* and/or *exchanged*, given its costs (wages, rents & profits). The late 19th century economists, argued, however, that the *price* of a good is determined by *marginal utility* (an "exchange value" concept). The modern writers grouped 2 incentives, i.e. the "utility maximization" for the consumer and the "profit maximization" for the producer, into a single principle: that of "maximizing welfare". The concept "*marginal*" established firmly itself in economic theory, however, where one meets 29 such concepts…

elements existing in the economy, so that enterprises to be willing to *implement* these investments to which PYs belong to, as soon as the rest of the prerequisites (supply price; lending rate of interest, MEI, etc.) are also satisfied.



Source: Author; inspired by Keynes, GT, p. 293.

Graph 5. Keynes' shifting equilibrium[20].

The above idea, which we have presented, for the first time, graphically, is based on the fact that "the reason for which an enterprise invests, or buys a newly-made capital asset, is asset's net, discounted, and expected return (gross revenue less expenses = net present value); we assumed, however, *a degree of* 100% *confidence*" in PYs (our definition). The PY is also the "demand price" of a capital asset (GT, p. 135).

In addition, the "supply price" of a capital asset is its replacement cost by a newly-made capital asset. These PYs are not static...

The above theory, K argued that it is also… a "theory of value" as well one of "distribution" (GT, p. 294). Given the importance attached to the theory of PY by K, we wonder why economists ignored it… given that in all our readings about K's GT, we have never met a reference to this super-concept. Of course this can be further researched.

11. Part IX: Paper's Contributions

11.1. The Kinked Labor Supply Curve

In Graph 1, we showed the economy to achieve *equilibrium* in its labor market, by paying the Wm, and by employing 0N people. This economy, however, had NFE people (involuntarily) unemployed, because the current demand, D_1, was insufficient. This is K's model, which apparently is one of "equilibrium". Certain economists argued that this is not equilibrium… a matter of further research.

To support the above statement, i.e., that K's model is one of equilibrium, we

[20]This is a first attempt to present graphically a concept described by Keynes verbally.

may argue that NFE labor *accepted* to work at Wm, as shown in Graph 1. *A*ncient Greeks used to say: "when there is a need, to this even Gods are convinced". We showed the above outcome by *drawing a* "*kinked labor supply curve*": *the* S_1KS_3. *This we consider to be paper's graphical contribution to K's theory*. K has defined the equilibrium also among employers as follows (GT, p. 27): "the level of employment at which there is no inducement to all employers either to expand or to contract it".

11.2. The Wm Inflexibility Downwards

The inflexibility of the Wm downwards also showed in Graph 1, as we have drawn the part KS_3, of the curve S_1KS_3 (supply of labor), as a straight line.

We have noticed, in our country, that many households argue that their monthly money wages do not last to cover the expenses of a whole month. One source of wage inflexibility downwards, we believe, is the fact that wages are one of the means for a Man to stay alive (to exist) and certain governments admitted that labor is entitled to subsist (i.e., to be provided with a "survival" standard of living).

We do not, of course, subscribe to Malthus's (1766-1834) primitive idea that a wage rise will increase… labor supply, or to his macabre opinion that "death will prevent wages from a further fall". Labor should not be an object of commerce. Slumps, however, may make people to kill themselves.

The excessive deaths of course support state's ability to pay pensions, and here is where Pandemic… has helped. An improved public health system, will no doubt, keep more pensioners away from death… and will support an additional need for "old age houses".

Economies changed from those earlier ones having a balanced population of all ages, to one having old people by a great majority. Extending the retirement age is something to be suggested, instead of making it shorter, as many economies tried to do (e.g., France).

Most modern societies—due mainly to the cost of living, as alleged—give birth to max. 1 or 2 children on average… This will affect the supply of labor and the number of country's soldiers, and the ability of the state to pay pensions.

Greece, e.g., is one country where there is a lack of labor for Tourism and for Agriculture, though having 8.2% unemployed out of a total employed of 4.71 m (Sept. 2025) in about 10.4 m people total in 01/01/2024. This obliged Government to depend on immigrants. The almost 386,000 unemployed Greeks show that there is a problem in labor supply for not being adaptive to demand. Re-education of those unemployed is an obvious costly solution.

Also, the country faces a serious demographic problem, which obliged Government to provide tax cuts to larger families, in 2025; and all the above along with a "brain drain". Something or things are obviously not right.

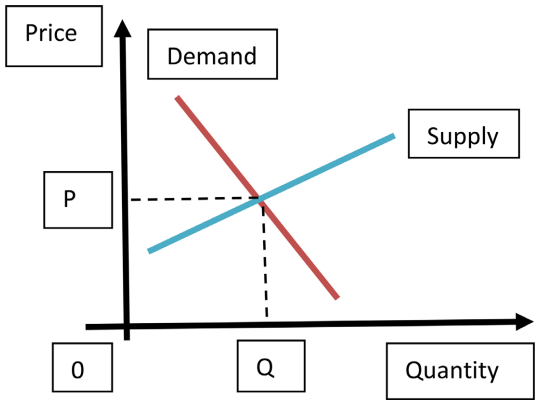
Unemployment, we believe, is a complex, and not only economic, phenomenon, correlated also to the number and type of the university graduates pro-

duced[21]. There—as we all know—is a serious disharmony created between the types of the university graduates produced and the needs of the industries, at least in my country.

Professors teach… their Ph.D., while industries need something else, e.g., AI people or experts in computers and in rare earths etc. We may, thus, suggest something revolutionary, i.e., to ask entrepreneurs to decide the university syllabuses—while Governments to add their *certain additional subjects*[22].

12. Part X: Demand and Supply Is Recommended to Determine Price

Graph 6 now shows that the price of a good has rather to be determined by the demand curve of the consumer (governed by his/her disposable income) for the specific good, and the supply of the good concerned (governed by its costs of production).



Graph 6. The proper determination of the price of a good/service.

As shown, the price of any good, or service, has to be determined at the interac-

[21]We assume, according to our "theory of education", that there are 3 schools of thought: 1) In favor of educating as many as possible, if interested, (UK used to be such an example); this category creates a happier, and a more creative population. In USA you may encounter a person to fill your car with gasoline having a doctoral degree… 2) One, expecting universities, and other schools—state and private, etc.—to provide *only those required by the industry* out of an exact plan. 3) One, where Universities "produce"—by the power of their independence—whatever their PhD holders like, (Greece is an example), regardless of whether they will be needed or not by enterprises. This last model creates a number of unemployed together with vacancies, which we may call it "the educational paradox". The failure of a country's educational system, we believe, can be shown, along with other factors, by the number of unemployed, and in money terms by the unemployment benefits paid. In EU, in 2022, 178b euro paid to unemployed... From the 3 mentioned above schools of thought, one may derive 3 different educational policies, which have 3 different costs and importances. For wealthy societies we will recommend to follow the first school of thought. For the poor countries, we will recommend to follow the 2nd model. For the third case-study, we will recommend the state to correct it. This is an issue for further research. Our slogan may be: "it is better to have a fully educated population partly unemployed than having a fully employed uneducated one". See also next footnote.

[22]So that to confirm modern society's urgent need so that an educated person to be also a civilized one. This means that a human being has not simply to be a Homo-economist, but also a Homo—sapiens... He/she, not only to know everything about the present life, but also to be aware about the after-death one… Education perhaps will put an end in the phenomenon where husbands kill their wives…

tion of its Supply and Demand. This *contributing proposal* brings us back to the early history of the original formulation of the "theory of demand". This demand-supply model, we believe, is nearer to the economic reality than the existing mathematical models, and we suggest to be adopted by economists. *This*, *of course*, *is another subject for further research*.

13. Conclusion

GT is a *turning* point in the history of economic thought, and it provides a reformulation of the contemporary monetary theory. K created a simple, general, economic equilibrium model, capable of manipulation and empirical formulation and, moreover, relevant to the problems of economic policy.

Keynes introduced a new type of equilibrium, called "shifting equilibrium"—as shown—establishing a bridge between present and future, which has been achieved only by introducing money into the economy. Unfortunately, economists have ignored this concept and theory for which K was proud.

GT explained why a "competitive capitalist economy" cannot automatically maintain full employment. Moreover, it stimulated a revolution about the role of the governments. Finally, GT turned the attention of economists from the determination of the "*general level of prices*" to the more important of "how *output*", ("and employment"), are determined.

GT also rejected the opinion of CT that unemployment was due to *high real wages* & *higher interest rates*. Keynes underlined the importance of the *effective demand* for growth and development, which, however, can be short of that needed for full employment, unless the New Investment equals Saving. For the gap between the new investment and Saving to be closed, the Government is called to close it, by proper spending (fiscal policy), if and when LT cancels the effectiveness of state's monetary policy.

K expected (GT, p. 248) that an inducement would push the rate of the new investment to the point which forces the supply of every type of capital asset to a figure, which, taken in conjunction with its PY, *brings MEC to approximate equality with the lending Rate of Interest.*

The physical conditions of the Supply in the capital goods industries, the state of confidence concerning the PYs, the psychological attitude to liquidity and the Quantity of Money, determine, between them, the New Investment. The dynamic character of Investment underlined by K, no one we believe can underestimate in a world where consumption will be less than the entire Y.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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