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Will the EU Policy of the Increasing Interest Rate Be Able to Reduce Inflation? Do We Need Keynes to Win the Battle against the 2023-2029 Continuing Depression?

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Abstract

The paper used four models of Keynes (1936), Hicks (1937), Solow-Swan (1956) and Temin-Vines (2014) to estimate mainly the end result of the rising EU interest rate. We rejected for nowadays both the *sticky money wages* and *prices* prevailed at Keynes' time, but we had to show Keynes'… **shifting equilibrium**. We also rejected the possibility of crowding-out. We provided an analysis clearing-out the exact triple role of the interest rate. We expressed our dissatisfaction about the way the above models treated, or ignored, the important role of **depreciation** and of **embodied technical progress**! Reference has been made to GFC, the COVID-19, and the Energy crisis. The GFC in fact did the job—that could devaluation do of the Euro—and even better.

Keywords

The Keynes (1936)-Hicks (1937)-Solow-Swan (1956) and Temin-Vines (2014) Models, The Result of the Rising Interest Rate in EU, Non-*Sticky Money Wages* & *Prices*, Keynes' Shifting Equilibrium, Crowding-Out Investors, The Interest Rate, The Role of Depreciation

1. Introduction

Keynes (1883-1946) (1936) established the branch of Economics known as "Macro-economics", made up of the Greek word "Macro", meaning "long"! With "Macro", Keynes meant… catholic. Keynes' purpose—in the General Theory—was

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to deal mainly with **Employment**, **Interest** and **Money**[1]. Given that at the start of the "Great Crisis", Keynes was 46 years old, he wanted, apparently, his theory to make the consequences of the "Great Crisis" **less** severe!

Moreover, Keynes was aware of the errors of the "Classics", studying them intensively since, at least, 1929. Keynes was a **short-runner**[2]: "the long run is a misleading guide to current affairs"; "in the long run, we are all dead", he wrote. This made Keynes depart even more from the Classics (e.g., Marshall, 1920), who worked in the long-run…

Keynes admitted that he was a "Prisoner" of his former education at Cambridge[3]—being a student of Alfred Marshall (1842-1924)—(who retired in 1908-9 and succeeded by Pigou A C, (1877-1959))—a dominant personality.

The important inheritance to Keynes from the Classics, however, was his **methodology**, which we believe—*met also in Marshall* (1920), i.e., "*economists have to explain how economy actually functions*[4] *…*"

Paper's innovation is its effort to use Keynes' General Theory in 1936 *to explain certain economic policies of today like stag-inflation and the impact of the gradually rising interest rate by the ECB as well others.*

2. Aim and Structure of the Paper

The aim is to show what Macroeconomics—of Keynes—and of others—has to say about the effectiveness of the EU's interest rate increases—now at 3.75% p.a.—in trying to reduce inflation—now at 7% (estimate). We took into account: the "Great Slump with a Pandemic", 2009-2023, and the "global energy crisis", which emerged after the "Russia-Ukraine War" (2022-).

The paper is cast in 13 sections, after literature review. 1) Keynes Macroeconomic Theory (1936); 2) the case where consumption falls short of production; 3) the factors which determine Investment; 4) Keynes Multiplier; 5) Crowding-out; 6) the UK Bank Rate; 7) Keynes criticism concerning the interest rate of the Classics; 8) inflation; 9) Hicks model of synthesizing Keynes with the Classics; 10) getting-in or getting-out from a GFC: does it matter? 11) The Solow-Swan model; and 12) the Temin-Vines Model (2014). Finally, we concluded.

3. Literature Review

Solow (1956) (1924-) argued that the Capital stock can be substituted by Labor.

[1]Keynes dealt with: **employment**—which "paradoxically" was not **full**—and automatic—as advocated by the Classics; **money**—where its role was not clear; there was a theory concerning its quantity impact on prices etc., and the **interest rate**, where its determinants: the "loanable funds" (the demand for money) and savings (the supply of money), were irrelevant. Keynes removed the interest rate from the determination of production—according to the Classics—to be a **monetary tool,** equalizing the supply of money (managed by the Central Bank) to the demand for it, for 2 specific uses and for speculation (buying & selling bonds).

[2]Keynes (1923): "A tract on monetary reform".

[3]Marshall taught there 23 years and introduced geometry & mathematics in economics—mainly in footnotes—to minimize their influences on… reality, we believe.

[4]A model is a framework of analysis **abstracting** from the complexities of the world… Baumol (1961) argued that (p. 413) all models are oversimplified pictures of the world.

Savings and Investment determine the capital/labor ratio and output per head. He also found that 4/5 of the growth per worker in the USA was due to the **technical progress**. Samuelson (1967) formed 9 mathematical theorems in stating the Keynesian system, relating (pp. 278-280) 3 variables: Income, Interest rate and Investment, to one function and 2 schedules: Consumption, Marginal efficiency of capital, liquidity preference, and to one **parameter** M-money (Table 1).

Krimpas (1974: p. 125) argued that the power of money as a concept, when introduced into a model, *changes the world completely*, making it causal (as in Keynes GT). Blaug (1997: pp. 641-688), gave a full presentation of Keynes model with reference also to Hicks IS-LM. He argued that Income—not interest rate—as believed by the Classics-works toward the equality of Savings to Investment.

Stiglitz (2011) named the 2009-2018 crisis as the "**Great Slump**", when millions of people lost their jobs, as well their houses, worldwide; he named also the 1929-1933 crisis as the "**Great Economic Crisis**". He mentioned Keynes to remind us of his opinion that the markets may not function well, and the State has to intervene. Stiglitz believed that a recession needs **expansionary** monetary and fiscal policies.

Temin and Vines (2014) argued that Keynes' contribution is too often neglected. Also, that the Keynesian age was terminated by the Global financial crisis—GFC in 2009-2018… They extended also their domestic analysis towards an **open** economy.

Goulielmos (2018a) investigated certain similar problems of this paper, and it may be considered as a companion to the present. Brady (2023) (down/d[5] in 2023) argued that the methodology used by Kahn (1931) for the "multiplier" is the one used by Keynes (1921) on the "limit of a geometrical series of declining infinite numbers".

Table 1. Samuelson's 9 theorems concerning Keynes system.

Change	Interest rate?	Income?	Investment?	Remarks
A rise in the propensity to consume→	Increase (theorem 4)	Increase (theorem 3)	ambiguous	
A rise in the Marginal efficiency of Capital→	Increase (theorem 1)	Increase (theorem 2)	Positive→	presumptive
More money→	Reduction (theorem 6) ceteris paribus	Increase (theorem 7) (*)	Increase (theorem 8) (*)	Interest rate constant; the MPC** plus MPI*** < 1 (theorem 5)
Rise in the marginal efficiency schedule→			Increase (theorem 9) (*)	Given a change in INS (Savings) vis-à-vis interest rate

Two coefficients: α & β, appear in the original… and on the front cover of the book. (*) Assuming that INS changes with interest rate, and decreases, but not as much as Investment. (**) Marginal propensity to consume; (***) Marginal Propensity to invest; Investment equals INS (equilibrium).

[5]https://ssm.com/abstract=3286471 downloaded 11/04/2023.

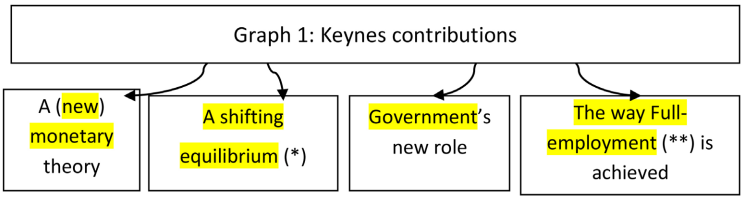
4. Part I: Keynes Macroeconomic Theory (1936)

Keynes concerned with how to boost **employment,** and reduce mass **unemployment**[6]—a result of the "Great Crisis"—counting about 10 m unemployed! Keynes contributed in 4 economic areas (Graph 1).

Keynes assumed an economy with unchanged *population and technical knowledge. In such economy* "**effective demand**[7]**"** determines employment (at given **real wages**[8] & **interest rate**[9]) and Output (Graph 2):

Consumption is a stable (but decreasing) variable, destined to buy the goods and services produced, **caring exclusively for today**! Keynes appreciated consumption given that it covers about 70% of the **effective** demand! He assumed a **constant capital,** and **inflexible prices**—given the 1929 depression. In modern terminology Keynes assumed "*sticky prices*" (Temin & Vines, 2014: p. 42). Keynes assumed also inflexible **money** wages—due mainly to ***psychological* reasons**—an idea found also in Smith's (1723-1790) "Wealth of Nations" (1776).

The "**sticky money wages"** is an assumption, however, which **always has to** be **tested** against **reality**, in our opinion! For the governments, which tried to reduce money wages in the past faced with strikes, protests[10], turmoil, etc., with **only** one exception (the GFC period!). Moreover, if **money wages** are **sticky**, we must find-out from where **inflation** comes[11]. This question gave rise to the so called "Keynes effect"[12]. In EU nowadays the prices are not "sticky" given the cost-inflation due to the Energy Crisis since Feb. 2022. Important, however, is the **prior** GFC, when money wages fell, say by 40% at least.



Graph 1. Keynes contributions. Source: author. (*) Economists argue that Keynes analyzed the "Economic Disequilibrium". We believe: the "Slump Economics". Samuelson argued that Keynes provided a **General equilibrium** analysis (Temin & Vines, 2014: p. 66). (**) In a capitalist competitive economy full employment is not automatic!

[6]Unemployment in Keynes is also **involuntary,** meaning that the unemployed wishes to work, at the current money wage, but there is no job. The students of Keynes tried to expand his theory towards economic growth (the "Harrod-Domar" growth model, 1946). In fact there are two models: Harrod (1939) and Domar (1946).

[7]Cash demand.

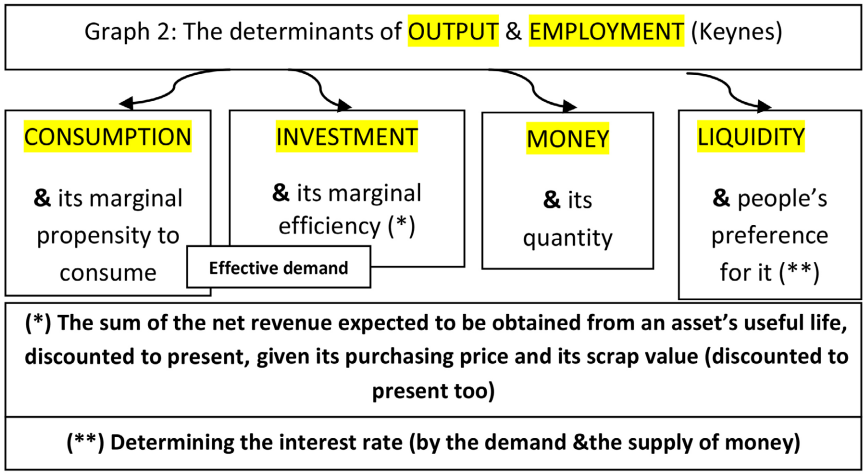
[8]The Classics believed that if *money wages reduced*, *consumption* would fall, and *employment would rise* (as cheaper). *If t*he demand for Labor rises, the increased INS—from higher incomes—will increase investment. Labor is treated as a product: when its quantity rises, its price (money wage) falls, and vice versa.

[9]The Classics believed that the **interest rate** makes INS and Investment equal.

[10]Remember that the waves of protest in France, in early 2023, and for months, were due to government decision to raise the pension-receiving-age by 2 years (from 62 to 64)!

[11]Important are the **structure of the production cost** and the % share of each cost to the total! The energy cost is the one we have to manage in case of inflation…

[12]When prices increase, consumption falls, and the demand for money M_1, for transactions rises, and M_2 (for speculation) falls. Interest rate rises and bonds become cheaper…



Graph 2. The determinants of OUTPUT & EMPLOYMENT (Keynes). Source: author.

4.1. The Paradox of Thrift

During an economic crisis, economists suggest more **investment**—a suggestion made also by Keynes. This presupposes 3 things: an appropriate level of INS (**Graph 3**). An *increase* in the interest rate, so that to increase INS (Keynes: Chapter 9, section 2). A… *lower* interest rate (and a higher MEC) to stimulate new investment (Keynes: Chapter 11, Section 7)!

As shown, the GDP is determined by: INS, Investment & government spending[13]. The INS is a function of GDP. Investment, and state's spending are, *for the time being*, assumed *independent* (*a straight line*). Let INS to increase from A to B. Keynes argued that Investment includes the "unsold (finished) goods" = AB, due to INS_1. The equality of investment & government spending to INS_2 moves GDP_1 to C, where GDP_2 < than GDP_1! This is the "**paradox of thrift**", meaning[14]: "the **less** an **economy spends,** the less new output produces, and the less employment provides!

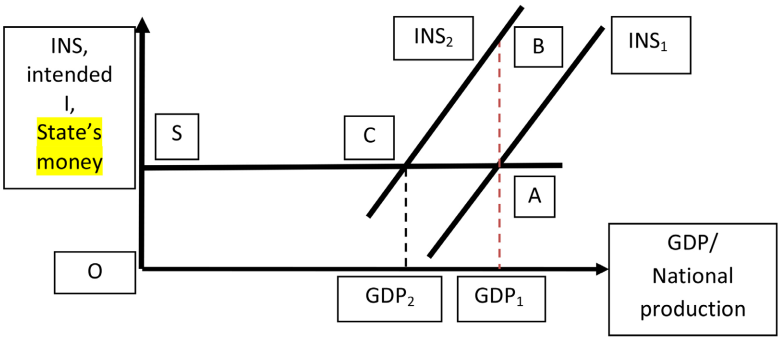
4.2. Keynes Shifting Equilibrium

Keynes introduced his **equilibrium** (**Graph 4**) (GT, p. 293): the "Shifting" one, meaning "changing"… For Keynes: the "**changing views** *about future*, today, are capable of influencing the p**resent"**!

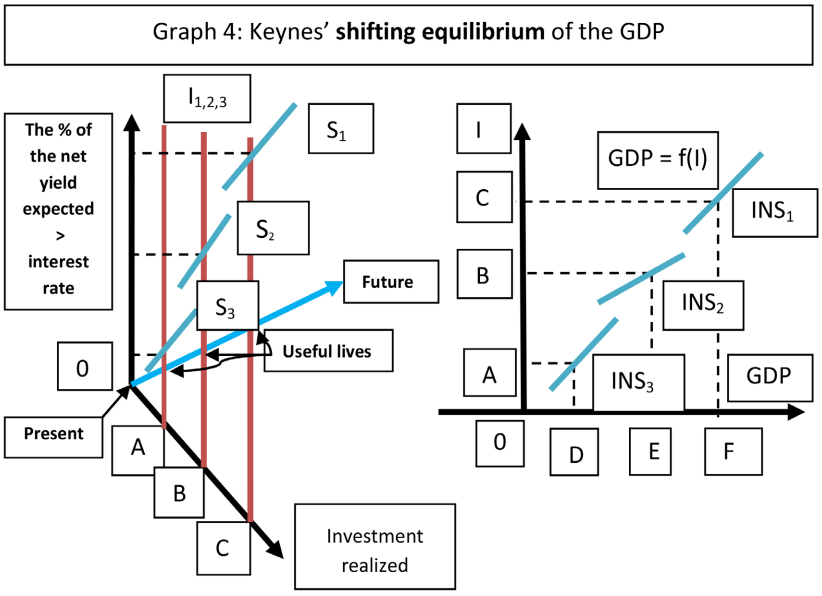
As shown, on the LHS, there are 3 levels of investment **ready** to be carried-out: $I_{1,2,3}$; where from them investors **expect** 3 different % of net yield ($MEC_{1\text{-}3}$ > than the prevailing interest rate). For completeness, we **assumed** 3 different **useful** lives. Keynes argued: as "the expected yield **falls,** the amount ready to be invested will also fall" (0A < 0B < 0C)! The shifting equilibrium shows **how** the **expectations** (indeed changeable) existing in an economy about the future MECs, given the prevailing interest rates, **affect** GDP **today**!

[13]Kahn (1931) argued that an increased output—due to government spending—brings investment up—in line with INS, at a **constant interest rate**.

[14]Creating an additional cost; and lower prices, in order for the stock to be sold; services of course cannot be stored; there is also the so-called "user cost". The unsold products should be storable and of equal quality than the rest of production.



Graph 3. The Paradox of Thrift (the Keynesian Cross). Source: inspired by Temin & Vines (2014: pp. 45-47).



Graph 4. Keynes' shifting equilibrium of the GDP. Source: author.

The above gives the **clear message** that an economy with **expected** MEC ≤ than the interest rate, today, has no **hope to grow,** through private investment! The shifting equilibrium, further, in order to be such, the 3 levels of the investment to be carried-out, are **matched** by the 3 levels of the pre-existing INS, producing 3 different levels of GDP (0D; 0E; 0F; RHS). The Classics—in comparison—had a stationary[15] equilibrium—because they believed that "everything in the economy is known in advance" (perfect foresight)! Keynes had; however, still, to **connect today** with **tomorrow**!

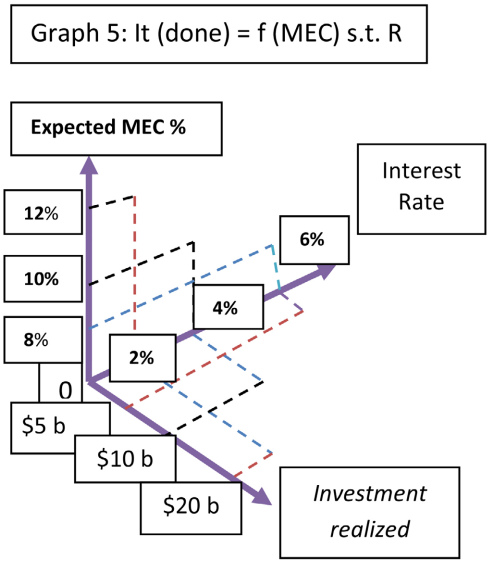
4.3. The Relationships Which Confused Mrs. J Robinson and… Mr. Keynes!

Important in Keynes are the relationships between the **expected MEC**-marginal

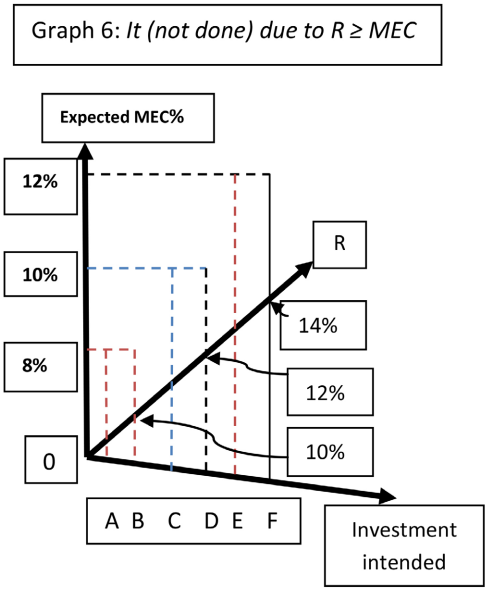
[15]Marshall (1920: p. 305), wrote: to study the influence of **time** (on costs of production & on value) the famous **fiction** of the Stationary state, which **cannot** be found in the **modern world**, has to be **studied (bolds introduced).** He quoted Keynes' work on "Scope and Method of Political Economy" (1891) introducing a different methodology!

efficiency of capital and the **investment carried-out**, and between the expected **MEC** and the prevailing **Interest rate** (Graph 5 & Graph 6)!

As shown (Graph 5), the "Expected MEC" determines actual investment, in $b, (a positive function), **provided**[16] (s. t.) that this MEC > than the prevailing interest rate R. As R increases, the volume of the **potential** investment falls, because **part of it** is **cut-off** (Graph 6). As shown (Graph 6), AB amount of **potential** investment **will not be carried-out**, at interest rate 10%, CD at 12% and EF at 14%! R, moreover, has to be determined elsewhere, because here is one equation and one unknown: It realized = f (MEC, s. t. R < MEC).



Graph 5. It (done) = f (MEC) s.t. R. Source: author.



Graph 6. It (not done) due to R ≥ MEC. Source: author.

[16]This expression (s.t.) is used in mathematics, when a variable has to satisfy (is subject to) certain condition.

Mrs. J Robinson (and Mr. Keynes!) was confused… both, by what was written in chapter 17 of the GT about R and about Money! Their confusion, most probably, can be explained, we believe, because R has to act: 1) as "cutter" of the "unqualified" potential investment; 2) as equilibrium factor between INS and Investment, and 3) as equilibrium factor between demand and supply of money…!

Further Research

The role of the Depreciation-D has to be stressed more. Firms **save today** to spend **tomorrow** on **new** capital goods, and this has to be analyzed! The depreciation, if >0, indicates first the pre-existence of profits, and $\sum_0^n Di$ indicates that the accumulated profits not spent, **have to** be **spent** at the time the capital good is **scrapped**. Keynes cared about depreciation[17].

INS to be distinguished in private and entrepreneurial: INS = INS_p + INS_f. **Investment** to be distinguished in 4 components: potential, carried-out, 2nd hand and replacement: $I_t = I_p + I_{co} + I_{2nd\ h} + I_{repl.}$. Of course, the **potential investment** is the most important, showing the **dynamism** of an economy, and the duty of the authorities to manage the interest rate accordingly to mobilize MEC. But equal important we believe is the investment in 2nd hand capital goods.

5. Part II: When Consumption Falls Short of Production

Consumption, as income rises, f**alls**! Consumption—above the subsistence level—gives birth to a residual from income—the "income not spent"-INS, which, however… cares exclusively for **tomorrow** (and for the future interest rate)! Moreover, t**ime** became an **economic variable** at the moment INS born (Goulielmos, 2018b)! When a dollar is not spent, but kept, **time starts** then **to count**!

The amount of INS, say 30% of yearly income, is destined to buy things and services; to cover a number of precautionary needs, (including "insurable" risks), and to gain from the changes in the prices of bonds and/or shares, to participate in mutual funds etc., and in … various bets where one buys the hope for a gain!

In a primitive economy (barter): *production* is equal to consumption and no macroeconomics is required! But when the yearly consumption is lower than the production, the economic problem arises! Economies invented a number of methods, as well as established a number of sciences, (sales promotion, advertisement, etc.) to solve the problem: "**make people,** holding the INS, … to spend it".

The INS may end finally in the banks, but at the same time it frees certain inputs which produced for consumption! However, it is wrong to consider the equality of the potential investment to INS as an **automatic process**, because **this** is a **condition** of an **(ex ante) equilibrium**. This further presupposes a prior **equilibrium** in **consumption,** meaning that the **consumers** bought the quantities of products and services they wanted, at rational prices, and at the quality expected, or even better!

There is, however, one very important question: "are the inputs released from consumption suitable to be used by investment?" Suppose that the labor released

[17]Keynes in GT (p. 100) wrote that **depreciation is responsible for a slump**! In 1929 in USA, the fast capital expansion since 1924-5, led to huge unneeded depreciation of capital causing… the **crisis**.

from producing certain consumables concerns ex-land workers, but, say Microsoft, needs digital personnel… Education and Government, then, have to make the resources released from consumption suitable to serve a (new) investment (our argument)!

Capitalism requires, whatever is **produced** by the system, **to** be **sold**—domestically or abroad—sooner, or later (if storable), for producers to be happy (equilibrium in supply). Marshall (1920) assumed: dYt = dCt in ***Poverty***[18]! In poverty the producers have no problem to increase production, as this definitely will be exchanged. This was[19] "Say's Law" (in 1803). Also, dYt − 1 < dCt, if past INS is decided to be spent.

We come now to another important Keynes breakthrough: "When and why investors invest?"

6. Part III: What Factors Determine Potential Investment?

6.1. The Economic Psychology

Keynes's **methodology** belongs… to economic **Psychology**! It is clear that Keynes influenced, more or less, by the previous masters in philosophy, like by Hume[20] (1711-1776); in philosophy and economics, like by Smith[21] (1723-1790); and in pure economics, like by Marshall[22] (1842-1924). *If one wants to understand Keynes*, ***or criticize him***, *is by examining first his psychological foundations* (Goulielmos, 2018a)!

Keynes observed people in their economic activities and revealed their psychological motives! And this method compensated him by learning[23]: **Why** consumers do not spend all their income… **Why** people hold money… **Why** entrepreneurs invest[24]…

6.2. Keynes Enterprise-Man

Keynes paid particular attention on the behavior of the "**enterprise-man"** (p.

[18]This gave the idea to Keynes about a decreasing consumption function to income, we believe! The statistics nowadays inform us about Savings for 3 groups, distinguishing them by their level of income! The new and old **poor save 0**.

[19]A French economist (1767-1832) and Professor (1831) (at College of France) known for his theory: "Supply creates its demand". See Mill, J. S. (in 1844), on the influence of consumption on production, Essays on some unsettled questions of Political Economy, London School of Economics, 1948, pp. 47-74.

[20]A philosopher; he argued that the scientific methodology is largely a branch of **applied psychology**! Humans have a "Free Will"! Thus Keynes wanted to know **the way they decide**! The free Will introduces **instability** into the system—no doubt—unless there are certain **massive laws in freedom**. So we may define economics as: **the science looking for how to satisfy the needs of the human body, given the limited resources available, for people deciding massively in freedom"…**

[21]A philosopher; professor of Moral Philosophy **and** economist! In his theory, each one is prompted by self-interest in his desire for the goods of others, and what he called "natural liberty".

[22]Marshall's contribution to what we may call "Psychological Economics" was the *utility enjoyed by consumers*.

[23]Marginal propensity to consume; liquidity preference; expected marginal efficiency of capital: GT pp. 246-7.

[24]Those who argued that Keynes had no "**business economics analysis**" are misinformed, we believe.

161)! By **enterprise**, Keynes **meant** something—indeed—**unexpected**: **"forecasting"!** The enterprise-man is a **forecaster… estimating** the prospective yield of a (**new**) asset—over its whole life—**accompanied** by a strong "enthusiasm"… to **buy** it (p. 158)!

Imagine a man having—or be able to obtain—the required finance—to make—day by day—**simple** calculations on various **new (*) assets** (presented to him by the capital goods-manufacturers in **exhibitions** or by their **salesmen**) as to what **net** yield, discounted to present, they **may** get over their useful life (estimated), taking into account their price, their estimated scrap value, and the prevailing interest rate—adding also a % for risk! (*) Embodied **technical progress** enters this way into investment…!

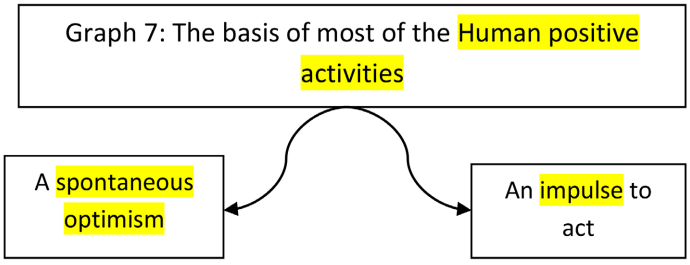
Keynes further argued that a great part of the (positive) human activities (read potential investment) depends on the following 2 factors (Graph 7)[25].

As shown, 2 properties are required for one to be investor: to be optimist—(spontaneously)—meaning **enthusiastic**—about, and to have a **self-push** for action. When an enterprise-man decides to undertake an investment, the full consequences of will be shown **many years ahead**… this, for Keynes, is equivalent, for him to act on a **spontaneous impulse**[26,27]. Differently, this cannot be explained, when nothing is certain **today** about **tomorrow**… Keynes in fact stated the reasons why the enterprise-men are **few**, we believe!

In modern parlance, economy needs men and women **taking-up risks** by believing in their vision, prepared to risk money, having nothing more than that… Keynes, no doubt was describing, in 1936, what today we mean by "entrepreneurs". Most people **cannot** be such—because they cannot also see the **needs** flying in the sky and landing soon on earth—and provide the means to satisfy them when they arrive!

Keynes identified the factors by which an **individual initiative** can be adequate to lead to investment (Graph 8), as well the factors which make it inadequate (Graph 9).

As shown, for one to be investor has to have spirits like one finds in the animals! Meaning, rather to act than not to act. The investors count the general atmosphere if this is friendly to them, before they decide to invest in a certain

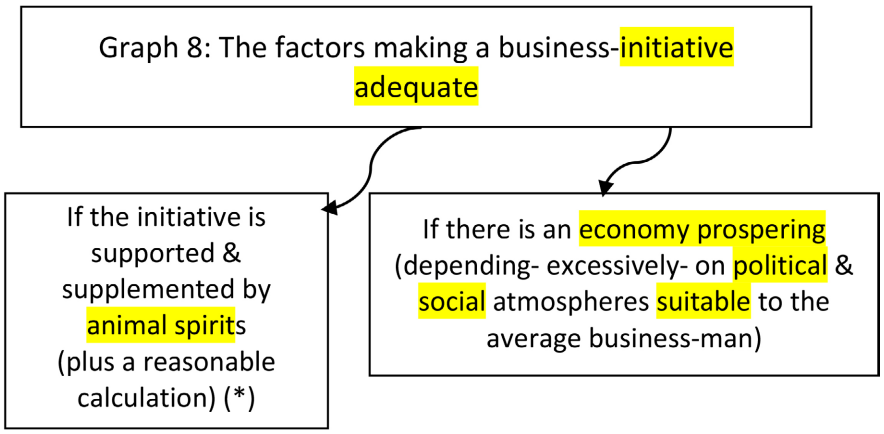


Graph 7. The basis of most of the Human positive activities. Source: author.

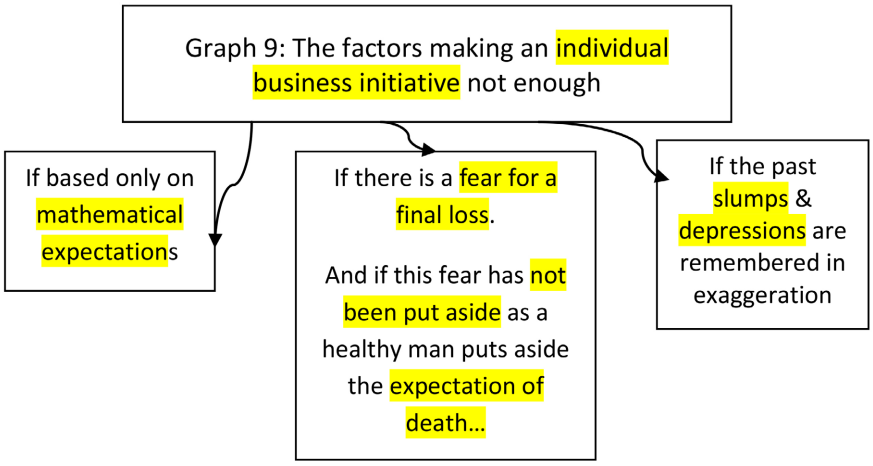
[25]Keynes excluded the "**mathematical expectations**"!

[26]Keynes called them "**animal spirits**".

[27]Keynes excluded the outcomes based on a **weighted average** of the **quantitative benefits** multiplied by their **probabilities**!



Graph 8. The factors making a business-initiative adequate. Source: author. (*) Keynes reduced his original—rather stringent—rejections of all scientific methods; today we have a lot like the "Risk analysis" etc.



Graph 9. The factors making an individual business initiative not enough. Source: author.

economic environment (political stability, taxation, parity, suitable labor force, national costs etc.).

As shown, Keynes brought-in the **fear** of the **final loss,** underlining also its strong *discouraging* influence! A manager—he wrote—thinking about the final loss from an (investment) initiative, he may feel a fear, which will **overtake** him, as often it did this to (many) **pioneers** before!

Moreover, the prevailing **politica**l and **social** atmospheres may diminish one's spontaneous optimism. In addition, the memory of past slumps—if reminded in exaggeration—will also discourage investors! The above are, indeed, the 3 human reasons, which prevented—in the past—the majority of persons to become entrepreneurs! Moreover, this is an example of the English **"common sense**[28]**" economics**, we believe.

[28]Keynes (GT, p. 195) noted that the income holders hold a **working capital,** like firms, due to the "income motive"!

The Embodied Technical Progress in Newly-Produced Capital Assets: For Further Research

Keynes enterprise-man, as we described him above, is inclined to choose the capital good of the **latest** technology: i.e., of Vt vintage. Now, if the capital good of Vt vintage is **bought**, the **latest technical progress** is embodied into the model! Important is that the productivity, (not profitability), of the capital good is a function of Vt vintage! Pt = f(Vt).

We suggest further to distinguish technical progress between **local** and **imported**! This is necessary to accommodate the case of Germany, which, given a surplus in its balance of Payments, imported embodied technical progress from USA, and grew by boosting its exports! This means that in order for a country to become competitive, and to export products, it has also to import capital goods produced elsewhere (e.g., in USA, UK, Canada, etc.) of the latest technology!

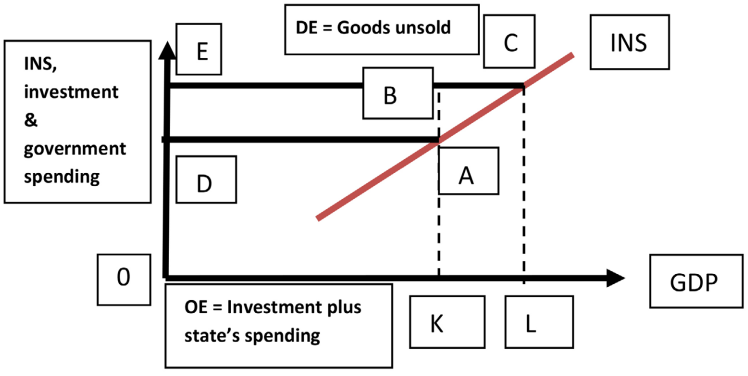
Investment, for Keynes, could, not only increase GDP by an equal amount, but also by a **higher** one, due to … the "multiplier", to which we turn!

7. Part IV: Keynes Multiplier

Kahn (1931) discovered the "employment multiplier". Given that GDP can increase by **government expenditure,** (e.g., by carrying-out public works as they used to do in 1930s), and given as a result a higher GDP—investment can reach INS—at an *unchanged interest rate*. Keynes, (GT, p.p. 115-9), discovered the "investment multiplier". The 2 tools are not equal (Keynes). This discovery was **ideal** in a crisis to be able to produce additional GDP, *beyond* the initial one!

The public works were a solution given investors' inertia during the Great Crisis. What if, however, the public works would use the resources investors needed, to carry out **their** investment—the so-called **crowding-out** (see below)?

For Keynes (GT, p. 115): c dIt = dYt (1), where c is the **investment multiplier** (c > 0). Equation (1) means that an initial **rise** in investment can raise income *c times that rise*! Now, by definition: Ct + It = Yt (2), and dYt = dCt + dIt (3), dividing this by dYt, we get: dYt/dYt = dCt/dYt + dIt/dYt (4), where dCt/dYt = the marginal propensity to consume—thus, 1= MPC + 1/c (5), c = 1/1 − MPC (6). Using geometry (Graph 10):



Graph 10. Keynes' investment multiplier graphically. Source: modified from that in Temin & Vines (2014).

As shown, the government spending increased from D to E, and GDP increased from K to L! The multiplier is equal to BC/AB > 0[29]. So, a rise in GDP (K → L) is achieved by a rise in state's spending (D → E)—given a proper level of INS (at constant Money and/or Interest rate).

8. Part V: Crowding-Out: CO

CO occurs when the private investors focus on a **similar** set of **strategies** as the State; capital is chasing the same trades etc. World Bank (worldbank.org) invented a … **new multiplier**: "for every $1 extra government investment, a $2 private investment takes place" (in USA)! Is *the opposite also true…*?

Nowadays, the governments are **willing** to **spend**—provided they **have**/can borrow the funds required—in "**supplementing"** private investment, so that, **together**, to reduce unemployment, known as "state investment in partnership with private sector" (PPP-public/private partnership). Governments carry-out plethora of **infrastructural** projects nowadays for energy, environment, highways, metro stations, bridges, etc.

9. Part VI: The UK Bank Rate

UK, in 1930, preoccupied with how to keep its **reserves** at a "proper" level—given also its wars, a task existing since 1880—at least: because if the value of Exports[30] **was less** than the value of Imports[31], **gold**, etc., flew-out! In order for UK to achieve an **external balance** ($XP_1 = MP_2$), either X had to increase, or P_1[32] (given exports' elasticity of demand), or both. Moreover, either M had to be reduced, and/or[33] P_2[34]?

The UK Central Bank, under the Gold standard, since 1925, **used to** raise the Bank Rate to reduce the trade deficit… by attracting foreign gold (capital inflow), which wanted to enjoy the higher interest rate prevailing in UK. The above policy was apparently **myopic**, as it ignored the repercussions of the Bank Rate on the rest of the economy!

Keynes, unlike Hume[35]—who relied on the quantity of money—focused on the root of the problem: "Why the value of UK Exports was less than the value of UK Imports?" "What a high Bank Rate, for a long-term, meant for investment,

[29]The elasticity of the INS curve—as shown—determines c.

[30]X times P_1: where X stands for the quantity of exported goods and P_1 for an index of their prices, expressed say in $.

[31]M times P_2: where M is the quantity of imported goods and P_2 the index of their prices, expressed also in $.

[32]The **law of demand says:** higher export prices, lead to fewer exports, unless the currency is devalued. Higher demand for exports raises their prices, unless the currency is devalued. The "marginal propensity to import" is important. Transport costs also play a role affecting CIF prices.

[33]This depends on the countries abroad. Cheaper countries are to be sought after. M can be reduced by **substituting** the imported goods by national ones!

[34]Let a price be 100 Euros. Assume that 1 Euro = 140 Yen. Then this price is 14,000 Yen. Assume now that 1 Euro = 70 Yen (50% devaluation). The price is now 7000 Yen!

[35]Hume D (1711-1776) influenced Smith A. Keynes devoted a footnote to him & about his essay on money, in 1752, saying that he was 1 & 1/2 foot in the classical world, being a mercantilist (p. 343, GT).

domestic demand, employment and wages?" He argued that "if the prices of the domestic goods-in terms of gold—are **high**, the foreign buyers would not buy them (& X will fall)". Thus, "the solution is to make domestic goods cheaper, (lower P_1), so that the value of Exports, (due to the higher **volumes** demanded), to become higher than the value of Imports"!

Another important issue was the interest rate theory of the Classics, to which we turn.

10. Part VII: Keynes Criticism about the Interest Rate Determination by the Classics

For Keynes, the interest rate is King in the "Kingdom of Money": a monetary tool! Keynes' chapter 17 led, however, Robinson (1971: p. 80) to write that she could not follow. Keynes said: "me too"!

Keynes presented the Classical theory of the interest rate, using a diagram—the **only** one in GT—(like Graph 11(b) here) (GT, pp. 180-181)!

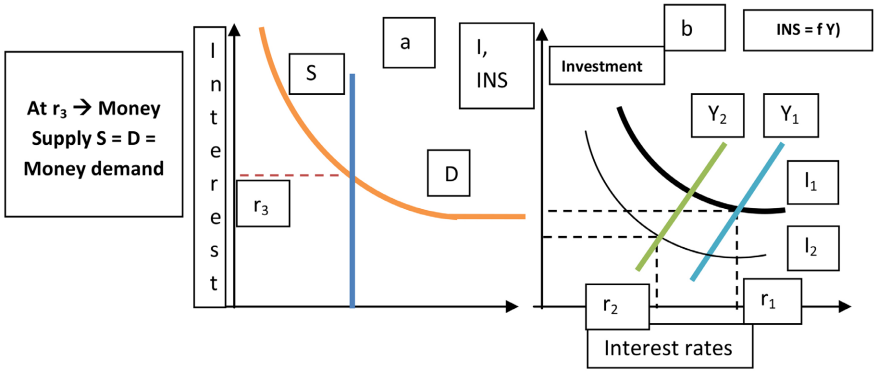
As shown (11b), the interest rate, r_1, made INS (Y_1) equal to Investment I_1, (INS is a function of Income). But here we have 3 variables, and only two equations: 1) INS/investment, 2) income and 3) interest rate. If investment falls, income falls, but towards where? If, however, the interest rate is determined elsewhere (r_3) (Graph 11(a)), then the situation becomes determinate!

11. Part VIII: Inflation

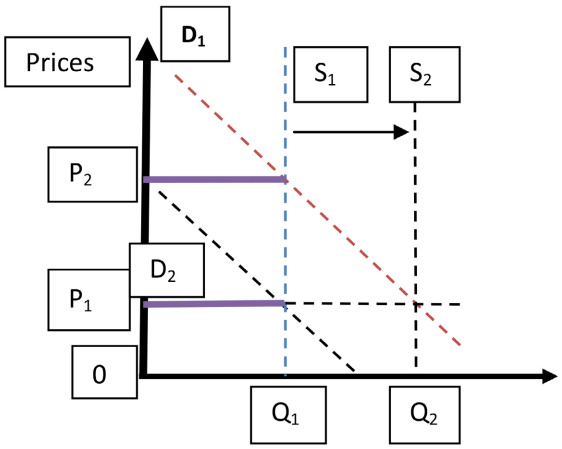
For Keynes, the inflation appears when a **rise** in the volume of the **effective demand,** D1 → D2, (Graph 12), raises cost, instead of raising output, creating—subsequently—a **rise** in **prices**.

As shown, a rise in the effective demand, from D_1 to D_2, faced a fully inelastic supply of goods and services, S_1, raising the general level of prices from P_1 to P_2. Apparently, the solution is to shift S_1 to S_2, and return to P_1…

Graph 11: Keynes' diagrammatic presentation of the Classical Interest rate theory (b) & of his own (a)



Graph 11. Keynes' diagrammatic presentation of the Classical Interest rate theory (b) & of his own (a). Source: author.



Graph 12. Inflation. Source: author.

Our analysis so far used the "Keynes model" to give answers in certain past and present economic problems. Are there any other models?

12. Part IX: Hicks Model Synthesizing Keynes with the Classics

Hicks (1904-1989) submitted (1937) to Keynes, (Editor of EJ), his article: "Mr. Keynes and the Classics". Before that, Keynes wrote that the Classical theory is *partial;* and Hicks wrote that Keynes theory is *partial*! Hicks' model is a **synthesis** of 2 theories—at their final equilibrium-: that of the Classics and that of Keynes!

Imagine Keynes to write down his travel memories in the wild **Forest** of Classics, full of intellectual animals, lions and crocodiles, till he reached the mountain's top… Hicks… to arrive there by a helicopter, and to argue that the whole Keynes' travel, and especially his **climbing-up**, can be interpreted by only two videos: "IS and LM"! "IS" standing for "Investment & INS" curves, together, and "LM", standing for the "Liquidity Preference & the supply of Money" curves, together, (Figure 1)!

Hicks wrote to Keynes (in 1937): "Thank you for accepting my manuscript as **true** of your **views**" (!) (! & bolds added). Keynes replied[36]: "I am glad that you think your manuscript is good"[37].

As shown, the GDP is determined by two curves IS & LM. They show the coincidence of action between **Investors** and **Savers**, at the prevailing interest rate r_1 (equilibrium) (where **r_1 < the Marginal Efficiency of Capital**—MEC (not shown here) **according** to **Keynes)**); also, LM shows the coincidence of the needs of the holders of Money with the amounts provided to them by the authorities, at the prevailing interest rate (r_1) (equilibrium). Thus, in an "IS-LM

[36]Meaning: "You consider your article capable of expressing my true views… then you must think it good"!

[37]Alternatively, Keynes had to see **if** Hicks' paper expressed his true views, something that was not his job. Hicks apparently asked for a confirmation. If Keynes' answered "yes"-this would be a substantial achievement for Hicks in his thirties, and perhaps not true.

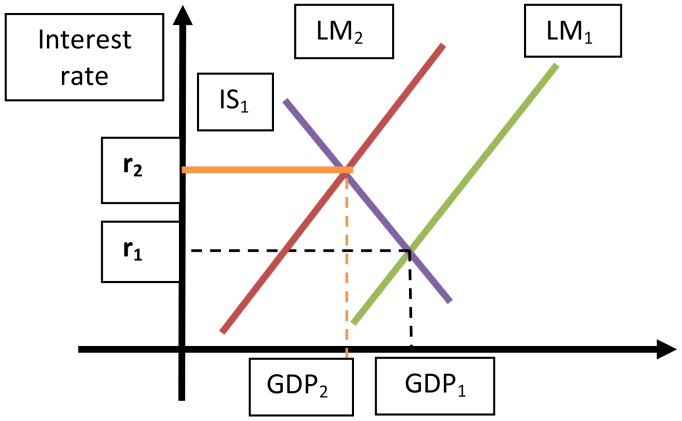


Figure 1. Hicks' shorthand presentation of Keynes' General theory (Hicks, 1937). Source: author.

model", investors—at an interest rate r_1—are happy to invest It_1, and savers were happy to save St − 1 (=It_1) at r_2 (not shown): IS_1 determines GDP_1 by crossing the LM_1! At this GDP_1, the Money holders, $L_{1\text{-}3}$, are happy by the supply of money $M_{1\text{-}3}$ provided to them by the authorities, at interest rate r_3 (not shown)! Thus $r_1 = r_2 = r_3$…

Assume now a rise in the interest rate, from r_1 to r_2-by decreasing the **supply** of money (**Figure 1**): thus LM_1 shifts left up to LM_2, *and GDP$_1$ and employment*, ***fall***, *crossing IS$_1$*! *Thus*, the effort of the EU—to increase the marginal lending facility to 3.75%—means to shift D_2 **back** to D_1, reducing inflation (to 2%) from the estimated 5.3% in 2023 (ECB 16/03/2023 report in internet)[38]. As **shown,** the **recession** in **EU** is **coming!**

Model's great service, no doubt, is to accommodate—in **one** figure—the "Fiscal" and the "Monetary Policy"—dealing with *taxation*, *government spending*, the supply and the demand of money! Are there cases where Hicks's model was used to draw an economic policy?"

12.1. The USA "Great Moderation" (1980-2007)

Mr. Volcker, P. A., (1927-2019), was a FED chairman, who "managed" the USA economy from end-1979 starting inflation. He focused[39] on **Money Supply**, i.e., on LM curve! His particular target was the "bank reserves". He **decreased** the Money Supply—making credit so expensive so that the businesses paid from 1% in 1969 to 14% in 1980 and 21% in 1982 (prime lending rate)! Unemployment in USA varied from 3.5% in 1969 to 9.7% in 1982 (Federal Reserve Bank of St. Louis report (in internet)).

For Keynes, the interest rate is also a function of M_2, (cash destined to buy

[38]Investment fell by 3.6% in the Euro area in the last quarter of 2022, and consumption fell by 0.9% (a total of 4.5%)! Investment obviously reacts faster.

[39]In 2007 the USA GDP fell by 4.3%; unemployment rose to 9.5%; the housing prices fell; the S & P fell 57%; only the investment flows into USA helped interest rate to stay low; plus a rise in mortgages, in securities, in oil prices as well the COVID-19. In 2021 5.5% were unemployed from a high 9.6% in 2010 (USA).

bonds), which is what left from M after deducting M_1, (cash destined to be used in transactions—related to GDP), or $M = M_1 + M_2 = L_1(Y) + L_2(r, e)$ {1} where the Ls are the liquidity preference functions, r the interest rate and **e** stands for the **expectations** *about r* (Keynes, GT, p. 199-200). Volcker shifted LM_1 to LM_2 (**Figure 1**), reducing money supply, and as a result he increased interest rate[40]. He finally reduced the inflation!

12.2. The "Quantitative Easing"

Economists got the idea—from Hicks perhaps—not only to apply fiscal measures in a crisis, ala Keynes, or monetary measures, ala Classics, but also to **combine** fiscal and monetary policies **together**, involving for this the Central banks (in USA, UK and Japan) (Temin & Vines, 2014: p. 69).

This was a policy used also when economy "caught" in the "liquidity trap"-LT, where Classics fell in! The LT is set when the Supply of Money is unable to reduce the interest rate further down (see **Graph 11(a)**), and thus the monetary policy becomes **ineffective** in raising investment! **Economy** is left with **fiscal tools…**

In addition, any central bank can **buy** and **sell** bonds[41]—something done for centuries—known as "open market operations". Worth noting, however, is that by buying bonds, the central bank increases the Money Supply, and shifts LM curve to the right, reducing interest rate (**Figure 1**). But worth reminding is that there is a **negative** relationship between the Price of a bond and the interest rate!

12.3. The Bankrupted USA Banks

Three banks bankrupted by May/2023—in USA: "Silicon Valley"-SVB, "First Signature" and "First Republic". Apparently, they were not properly liquid, so that to satisfy customers' withdrawals at all cases. One bank, out of the 3, "lost" $100 b deposits! The SVB failed to raise $2 b needed to respond to deposit withdrawals! This followed bank's investment in long-term government bonds, which, when the interest rate rose, their value[42] fell. The "New York Signature" bank faced "deposit withdrawals" of more than $10 b—out of a bankruptcy fear! Additional problems added by the Deutsche and Suisse banks' share dropping in March 23, increasing the fears about their possible collapse! Many incriminated the rising interest rate for the above situation.

To incriminate a *rising interest rate* for all evils in banking, we think, is not fair! The factors that may trigger, (and triggered), a banking collapse were: a big loss, ($1.8 b—after tax—as happened in one of the above 3 banks); a fall in share

[40]By increasing interest rate is expected for the banks to gather money in! Also, investment may fall, but **this depends on the difference** between r and MEC! Moreover, to reduce consumption, this is done by the higher prices prevailing for: food, gasoline, rent, interest rate on house loans, transport, gas and electricity, vacations… etc.

[41]The Central Bank can buy not only bonds issued by the government, but all types of bonds, securities, short term government bills, long term industrial ones etc.

[42]Think a bond priced at $100 giving a dividend $10 p.a. and the interest rate to rise to 20%; the bond price is $50!

prices (not usual, however; the value of shares fell from $268 b to $106 b, in one day, for one of the 3 banks mentioned!); a fall in the value of bank's assets (bonds; mortgages etc.).

Governments have to watch-out, we believe, the banks as to what **products** they sell, and to guarantee any haircut of deposits (like the FDIC in USA) even above $250,000 per case! The potential collapse of the banking system is the number one problem nowadays, we believe, which brought-in **hoarding**!

13. Part X: Getting-In or Getting-Out from a GFC: Does It Matter?

It is important whether an economy gets-out from a depression or gets-in to one. Economy's initial position matters! During and after the GFC: 1) a substantial *reduction in salaries*, *wages and pensions* (2009-2018) took place; 2) an economic drain[43] from the Pandemic (2019-23) occurred and 3) an Energy crisis since end-Feb. 2022. According to one view, the cuts in Greece—due to GFC only—varied from 20% to 50% on the pre-crisis levels! In such a situation no one **needs devaluation…**

We come now to another "shorthand" model due to Solow-Swan (1956).

14. Part XI: The Solow-Swan Model

Solow and Swan (1956) published—each independently, within the same year—a long-run model of economic growth[44]. They made 5 assumptions missing in the "Harrod-Domar 1946" model: technological progress—boosting labor productivity; rising labor force (by n + g); capital accumulation; a Cobb-Douglas production function & elasticity[45] of substitution between capital and labor equal to 1. They assumed, further, constant returns to scale—CRS and full employment.

The models used a differential equation (ordinary)—becoming thus nonlinear dynamic models—where $Yt = Kt^{\alpha}(AtLt)^{1-\alpha}$ [1], where Yt = Production, AtLt = Labor (effective) increasing by n (boosted by technology by g, and by the state of knowledge), α = the elasticity of production to capital ($0 < \alpha < 1$) and Kt the stock of capital. Kt is subject to a fixed depreciation δ (=a constant %).

Yt is not entirely consumed, but only a part c of it (cYt, where $0 < c < 1$), thus **leaving** s (=1 − c) for Investment. The model apparently **denies** the case where **investors** do **not wish** to **invest**, if MEC ≤ interest rate… What is then the behavior of the capital stock? It **grows** by the amount spent in adding (new) capital goods to it, and **diminishes** by the amount set aside for scrapped capital goods. Depreciation, apparently, is a key factor **in a** capitalist system for firms… All firms in the system have to produce so that TRt − TCt = Gross Profit at t − Depreciation at $t > 0$ [2], where TR is total revenue and TC total cost in the long run!

[43]Greece argued to have spent $350 m!

[44]A Nobel Prize awarded for this work in 1987! The work starts with a criticism of the "Harrod-Domar model" 1946, denying the **fixed proportion** between capital and labor in production! https://en.wikipedia.org/wiki/Solow%E2%80%93Swan_model (01/05/2023 down/d).

[45]This means that the change in the optimal capital/labor ratio equals the change in the price of labor to that of capital.

Further Research

Proposed to distinguish depreciation in ***realized*** and **in potential**! *Realized* to be the depreciation spent exactly **at the time when** the capital good is **scrapped,** and potential to be the depreciation **destined** by the system—on accounting principles—to be spent some time in future.

In Solow/Swan model: dKt/dt − sdYt/dt = δdKt/dt [3]. We propose: dKt/dt = sdYt/dt + δdKt/dt [4] (adding depreciation **not deducting** it). Keynes e.g., reported that substantial[46] money retained from gross profits in USA, and destined to be invested **one day!** He emphasized the role of depreciation in the 1929-33 depression (GT, pp. 102-06)!

Alternatively let further Kt = sYt + δKt/n + Rt/n [5], adding a yearly **average** amount from the past depreciation and an average yearly amount obtained from the scrapped capital.

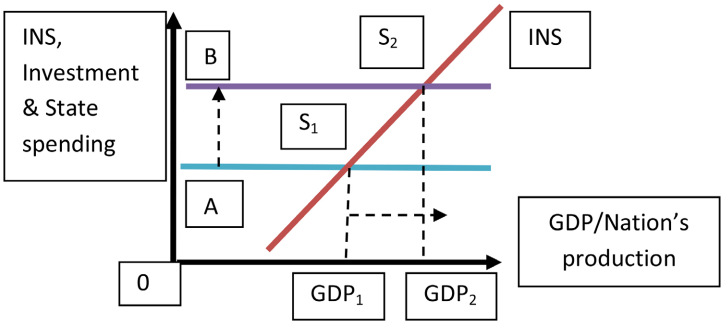
15. Part XII: The Temin-Vines Model (2014)

Temin & Vines (2014: Chapter 5) drew a figure—like **Graph 13** here—to present Keynes model pursuing **full employment,** but also **long-run growth**! They assumed that there is "**no** gap between INS and Investment, and Investment **will** definitely come up, in line with INS". This perhaps means that we may come as far as to assume that Investment is a **function** of INS: It = f (INSt − 1) [6] (a pretty Classical assumption)!

As shown, if we increase INS from S_1 to S_2, a rise in Investment follows, allowing also a rise in government spending of AB. This increases GDP_1 to GDP_2. This is an equilibrium ala Marshall, between Savers (**supply** of Savings) and Investors (**demand** for Savings) (the interest rate is not mentioned). Also, the **GDP** is determined by **Supply** (production of goods & services), while **Keynes argued** that **GDP** is **determined** by (effective) **Demand**!

Let us introduce Prices into this model **Graph 14** & **Graph 15**.

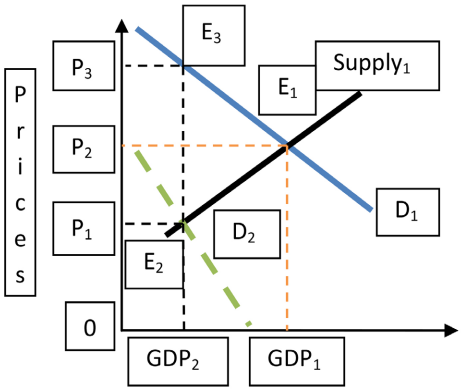
Graph 13: Total spending & its impact on GDP, taking into account INS: the Keynesian Cross



Graph 13. Total spending & its impact on GDP, taking into account INS: the Keynesian Cross.

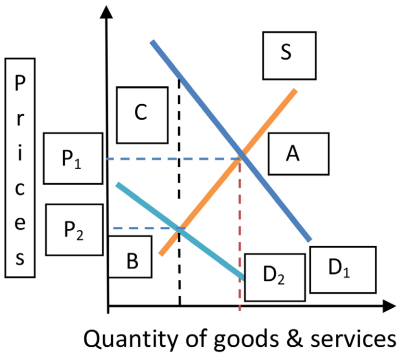
[46]The amounts spent, in USA, were $9 b in 1929 and $8 b in 1933, for servicing, repairs, maintenance, depletion and **depreciation**.

Graph 14: The effect of a shifting demand curve on Prices & GDP, ala Keynes



Graph 14. The effect of a shifting demand curve on prices & GDP, ala Keynes. Source: author; inspired by Temin and Vines (2014: Chapter 4).

Graph 15: The Supply & Demand model, ala Temin-Vines



Graph 15. The supply & demand model, ala Temin-vines. Source: author; inspired by Temin and Vines (2014: Chapter 4).

As shown (**Graph 14**), a fall in GDP comes from a fall in (effective) demand, D1 → D2 (ala Keynes). Prices also fell from P_2 to P_1. **Stag-inflation**—which occurred in 1970-1980—is shown when prices go up—to P_3—**but** at the **same** GDP. If, however, Supply rises from E_2 to E_1, due to the higher prices, P_3, economy will not go up to E3, but it will return to E_1. In **Graph 15**, the movement along the Supply curve S, and at B, economy faces P_2 prices, and economy cannot go-up to C, and then to A (due to the **sticky prices**).

16. Part XIII: The World after the GFC

The GFC led to considerable cuts in wages, salaries, bonds' prices and pensions! *The prevailing psychology*, *however*, *meant* ***to accept them***! The economic events, were so widespread, and the collapse of giant banking institutions (Lehman

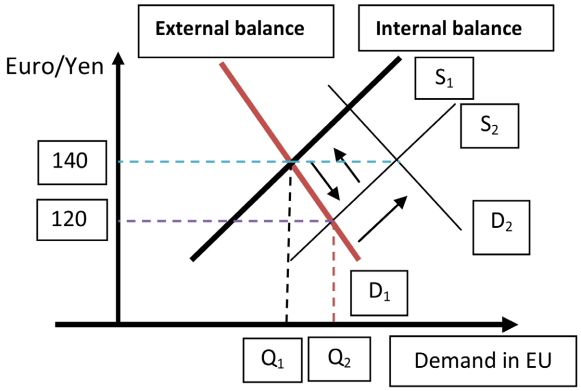


Figure 2. Austerity 2009 and thereafter in EU (in the Temin-Vines diagram). Source: author.

brothers), and others (AIG), so real, that employees are **obliged** to work without a rise for 12 years, at least, thereafter (2009-2020)!

Million people lost their jobs, as well as their houses, their 13th monthly wage (Greece), and the **effective demand** fell. The bad decision was to **haircut** bank deposits, which led people to hoard… and to a demolition of the confidence to the banking system!

Governments in EU, in 2009 and thereafter, had only one tool: **Austerity** (**Figure 2**)! The EU countries had to achieve an **external balance**, at a **fixed** real rate of exchange, and also at an **internal balance**!

As shown, the (real) rate of exchange is determined by an **internal** balance-meaning that at home, **there is full employment** at rather low prices—and by an **external** balance—meaning balance in the current account (basically Xt = Mt). Suppose now that the demand at home increases, from D_1 to D_2, then Imports increase… creating a deficit. To avoid this, the real rate of exchange has to be reduced to 120 Yen (not allowed). Alternatively, either the **demand** must fall back, at higher prices, or the exports have to **rise** and **imports** to fall.

17. Conclusion

The rise in the interest rate—decided by EU—will bring clearly a **fall** in **GDP**, and a rise in **Unemployment** in Eurozone. This, (3.75% now), is expected to attract-in foreign capital if the interests rate in USA (3.46%), Canada (2.91%) and Japan (0.39%) will continue to be lower than in EU (source: internet). But the EU banks have to be **stronger** than those in USA, Canada and Japan!

"Economic theory must explain life". This principle led Keynes to make one of his 3 main contributions: "INS and Investment are carried-out by different people"—an observation rejecting the "Quantity theory of Money[47]"! If we did not know that Keynes was a great economist, we would surely appreciate him as an "economic psychologist!"

[47]Let M × V = D, where M is the quantity of money, V income's velocity and D effective demand. If V is **constant**, and the elasticity of money & of prices (to M) is equal to **1**, prices will **change** along with M (given that money wages rise in accordance with D, and there is a constant GDP (Keynes, GT, p. 304).

The Pandemic—since 2019—caused a rise in INS, apart from the 6 million deaths, which **reduced consumption** and total pensions! Also, the "unsatisfied needs" waiting in the pipeline, emerged up all together when lockdowns stopped! The energy crisis that followed reduced consumption and created a cost-driven inflation.

The present situation (May 2023) is one with **a strong cost pressure**—including higher house rents, higher interest rates for house loans—higher prices, low level of wages *due to the prior GFC*! Consumption, INS and investment are falling, due to a weaker effective demand, and a higher interest rate. A **recession in EU is** coming[48], without no doubt.

Moreover, the **fear**[49] that **certain banks** will **collapse again** emerged in the USA in early 2023! Thus, **hoarding**[50] rose. This is something that **adds** another psychological independent determinant in the 3 motives mentioned by Keynes in the demand for money, which we have to pay particular attention to nowadays! Moreover, in modern economies people have their *precautionary* motive to be satisfied differently than in Keynes's time. Protection from a variety of potential risks comes nowadays from the "Life Insurance Companies!" Keynes discovered new *important laws*[51], *where one is the falling* ***consumption*** *as* ***income rises.***

Austerity did the job of ***devaluation,*** and **better**! During the 2010s, a number of EU countries had their value of imports higher than the value of their exports: Greece, Ireland, Italy, Portugal and Spain! These countries had to reduce wages, (a main component of cost), to raise their exports, and grow again, using the so called **"export-led-growth"** policy, followed especially by Germany. Moreover, countries like Greece, exported their ½ million unemployed—mainly young—to Germany, Sweden and UK (a brain drain).

In Greece, in particular, the exports were $5 b in 2022, but imports were $7.5 b, leaving a trade deficit of $2.5 b. INS was $22 b in 2021 and estimated to be so in 2022. GDP was $215 b in 2021 and estimated to be $220 b in 2022. Greece ap-

[48]In 2013 EU had a 12% unemployment (seasonally adjusted) and in 2023 (Fe.) 6%, where the youth unemployment was 25%.

[49]Certain countries, like USA, failed to recognize that the banks are the holy grail of the economy and had customers to lose all—or part of—their deposits: this (capital control) **was a great mistake,** which led to hoarding! In Greece, hoarding estimated at 20 b Euros in 2009 and thereafter. After 2019, confidence in banks returned, and deposits increased to 40 b Euros in Greece! Governments must do everything to restore people's confidence to the banking system, preventing it from speculations at individual level, (the so called "bonus system"), and having their products to be approved first, and then sold to customers. Banks must understand that their exclusive role **is to attract INS, and transform them to loans to the enterprise-men at a rate of interest lower than the marginal efficiency of capital**!!

[50]Keynes argued (GT, p. 208) that **a zero hoarding** in equilibrium is expected in a society which feels **no uncertainty about the future interest rate**. If M_1 satisfies the 2 motives and M_2 satisfies speculation, then $M = M_1 + M_2 = L_1(Y) + L_2(r)$, where L_1 is the liquidity function corresponding to **income Y** and determining M_1, and L_2 the liquidity function based on interest rate, which determines M_2.

[51]The Wars and the Space programs serve the same scope i.e., **to spend**, along with other purposes. Take e.g., USA economy in 2022, which produced a GDP of $25 trillion! It has to "**spend**" at least $5 tr. at a 20% INS rate on average!

plied Keynes's policy, we believe, using a rather high government[52] spending, allowed and helped by the EU funds coming in due to Pandemic (relaxing the previous fiscal discipline), and this way achieved a growth rate[53] of 8.4% in 2021 above Germany (2.6%)!

There is a **warning**—however—that the "government spending plus private investment" **must equal** INS. Worth noting is that the Greek tourism sector lacks **now** the required labor! Despite the fact that many Greeks returned from abroad …as a new demand created for them by FDI! From 2010 to 2021, 592,000 persons left the country to work abroad and returned 249,300 (42%). The Greeks were employed abroad in teaching 40%, research 15% and in destinations like: UK, France, and Belgium, as well NY.

Will the gradual increasing interest rate by the ECB reduce inflation? Inflation is due to 2 - 3 main causes: the "cost inflation" and the "demand inflation". We cannot speak of any "wage inflation". The rising interest rate will certainly cut a number of investment projects having MEC below or equal. Effective demand will fall, including consumption.

The disposable incomes will fall due to the higher prices, and dearer house loans, and as the case may be higher house rents, and dearer transport as well food—which one cannot reduce substantially (e.g., Greece). Whether Savings will rise and whether bank term deposits will rise, is not certain (Greece saw a rise in the time deposits interest rate up to 4% - 5%) as a result of the rising interest rate.

The high cost of energy—in gas, in electricity, in oil, in gasoline—which enters into the cost of every production, permits rather a low expectation and optimism! Moreover, the so called "greed Inflation" is all right economic, but this gets into the economic crime! The fall in effective demand will certainly boost unemployment, and the Governments will seek funds at a higher cost—all pretty according to Keynes GT.

Conflicts of Interest

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

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[52]Keynes (GT, pp. 335-340) was aware about FDI (foreign direct investment). For Keynes this depends on the balance of trade.

[53]Greece had negative growth rates between 2008-13, 2015-16; and 2020 of −9%!

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