possibilities of conflicts and frictions. However, do we not know – even without the exercise of the reproduction schemes – that baby animals can only grow into adult animals by eating more and breathing more and that their stomach, digestion organs, and lungs somehow manage to grow, *even if not completely in lockstep*, but in some zigzag-motion? Systems do come under stress when they grow and they, thus, need the capability to grow in a fluctuating, and unequal way and to endure transitory overcapacities at one place and under-capacities at others. Why should the extremely resilient capitalism be an exception? It is also an evident fact that capitalism managed extended reproduction quite well, did it not? After all, while Marx's reproduction schemes are helpful as a mental exercise in Quesnayian analysis, Marx was right not to try to use his departmental analysis to close the door for circuit closure.

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At the end of our treatment of Marx we conclude that neither his labor value and exploitation theory, nor his theory of the tendential fall of the profit rate, but his early "general formula of capitalism" and his notation M–C–M', whether in the split up of M into $c + v$ and of M' into $c + v + s$, and in the language of the reproduction schemes or not, offer the best connection point to a theory of employment-generating spending. These notations at least allows to phrase the problem hidden by Quesnay's axiomatic numbers, which surfaced in Sismondi's and Malthus', and which was chewed back and forth in the third interpretation of Ricardo's Law of Say, in a more concise way: In a two-classes-model, capitalists must mobilize their *expected* M'-M themselves in order to pay for their collective M'-M or profit; in a two-classes-world, they are the only ones who can do this. From here we jump after the Great Depression.

Section 8. Keynes: Firms' deficient employment-generating spending as deficient remedy for consumers' deficient employment-generating spending

John Maynard Keynes

With *John Maynard Keynes*, *Michal Kalecki*, and *Hyman P. Minsky* we come to the final part of our journey through historic contributions to the theory of employment-generating spending. The three authors jointly treat firms' productive investment spending as the critical component and determinant for the activity in the economy and employment. Their theories have to deal with microeconomic motives, expectations, and decision making because individual firms, entrepreneurs, or capitalists decide upon their investment based on their individual profit considerations.

Keynes provided a macroeconomic basis by working out a novel liquidity-preference-theory of interest derived from uncertainty. Kalecki and Minsky enriched and specified Keynes' insights. Minsky, in particular, emphasized the relevance of a broader spectrum of alternative investment opportunities and by adding his financial instability hypothesis; therefore, today, Minsky probably represents the most advanced theory of firms' productive investment spending. Although all three writers mainly think of the productive economy, and expect employment-generating spending and employment from it, all three have no sufficient distinction between the wealth economy and productive economy or between investment in the productive economy and investment in the wealth economy. For this reason, their efforts do not come to full fruition.

Since the author got his first copy of the *General Theory* in a bookstore in Shibuya (Tokyo) in 1986, he has always enjoyed reading Keynes. He felt included in an intellectual dream of another person with a great mind where ideas flow easily and generously. Yet, unfortunately, as happens after dreams, it later often turns out that not everything was as clear as it had appeared in the dream. Perhaps a bit sadly, it also turned out that Keynes was, in fact, sometimes too easily satisfied with the first treacherous clarity or he was so deeply in love with his spontaneous and creative thoughts that he did not want to expose them to the suffering brought about by tough scrutiny in the cold light of day. Keynes was a man of great intelligence; he lived a privileged, affluent, and respected life in a dandy-world amidst his attractive Russian wife (a ballerina dancer, who had been painted by Picasso), elite social groupings, such as the "circle", occasional top level political responsibilities and sometimes, so they say, gay love affairs. He may, thus, have considered himself relieved from the pedantic standards of schooled consistency which apply only to lesser minds. What Hegel called the "Anstrengung des Begriffes" (roughly "notional toiling") and to what Marx appeared to have subjected himself desperately in his search of recognition from the official academic world, was not something with which Lord Keynes preoccupied himself a lot,[242] in fact, not even in a book, which he called *The General Theory of Employment, Interest and Money* and which he announced to shatter the science of economics. So, Keynes' *General Theory* became yet another unfinished great work, like Mahler's 10th symphony, Heidegger's *Sein und Zeit* or, yes, Marx's *Capital*. But what a great unfinished work it is!

Right wing libertarian, Austrian economists, *von Mises* and *von Hayek*,[243] opposed the *General Theory* from the beginning. *Henry Hazlitt,* an Austrian economist and a leading US economic journalist of the time, attacked it fervently in a systematic com-

242 *King* (2015) page 77, writes "Keynes was never greatly interested in economic theory for its own sake…"

243 E.g., *von Hayek* (1944).

mentary in 1959.[244] Having lived a professional life as a trial lawyer, the author cannot but appreciate argumentation which combines surgical attentiveness to detail with a killer instinct and the application of heavy weaponry where circumstances allow. That is what Hazlitt did to Keynes (leaving malevolent misunderstandings, which are also there, aside). After Hazlitt was done wreaking carnage on Keynes' *opus magnum*, it looked as if an iron door had fallen onto it. Unfortunately, apparent followers, such as *John R. Hicks*, were not much more helpful to the reception of Keynes' work. Hicks' influential interpretation of Keynes, which appeared a year after the *General Theory*, only served to pull Keynes back into the neoclassical camp. This direction, which was further pursued by *Alvin Harvey Hansen* in the US, indeed, remained the main line of Keynes-interpretation even if, somewhat embarrassingly, Hicks largely revoked the IS-LM-diagram,[245] the main result of his Keynes-interpretation, himself.[246]

With a view to notional, logical, argumentative consistency, admirers of Keynes, *Hyman Minsky* for instance, did not give much better grades to Keynes than his arch-enemy Hazlitt had. Keynes' work was partly "muddled",[247] Minsky wrote and his "seeds never reached full fruition". Instead, Keynes "embryonic scientific revolution was aborted".[248] Or: "The General Theory is a very clumsy statement. Much of the old theory is still there, and a great deal of the new is imprecisely stated and poorly explained." Apart from a general lack of consistency, several other moments at the time were not favorable to Keynes as a theoretician. States had always "interfered" in the economy, even in the earliest days, e.g., in ancient Athens, Rome, and China, long before programs of state interference had been systematized into "cameralism" or "mercantilism". Heavy state interference did not disappear in the heydays of British economic liberalism, but went together smoothly alongside British Colonialism.[249] Equally, the mass slaughter of World War I had only been possible because of massive state intervention in the economy and in what states mostly did, on the international and national scenes, after World War I, e.g., the reparation obligations in the Versailles treaty or the German government's policies favoring inflation,[250] continued that route. World War I had discredited the liberal po-

244 Hazlitt's work was published in 1959. Keynes had already died by 1946.

245 *Hicks* (1937) pages 147–159.

246 *Hicks* (1976) pages 135–151 (quoted after *Minsky* (1977) page 70, footnote 10). *Hicks* (1980) page 139. The IS-LM-diagram is, nevertheless, still taught in many textbooks of today. See *Keen* (2011) page 229–242.

247 *Minsky* (1975) page 67.

248 *Minsky* (1975) page 3.

249 As we shall see on page 394, even Smith praised the protectionist "Navigation Act".

250 Piketty writes "…l'inflation est dans une large mesure une invention du XX^{e} siècle. Au cours des siècles précédents, et jusqu'à la Première Guerre mondiale, l'inflation était nulle ou quasi nulle. " Even after the introduction of new currencies, such as the Dollar in 1776 or the mark in 1873 "…une foi les parités métalliques fixées, plus rien ne bouge. Au XIX^{e} et au

litical world view; rebellious mass movements grew, and the social catastrophes of the German/Hungarian inflation 1923 as well as of the Great Depression in 1929[251] encouraged more traditional political parties to shrug off limitations of economic liberalism. In fact, many state bureaucrats had never fully believed in economic liberalism in the first place. All of this evolved independently of Keynes' book. The UK, the US, imperial Japan as well as Hitler's Germany and even the Soviet union, which Keynes visited both,[252] would have applied Keynes's recipes, or similar ones, if the *General Theory* had never been written. This widespread acceptance of Keynes' proposals rendered any in-depth scrutiny of his analysis superfluous – or at least, it was not undertaken. War came. The practice of state-sponsored deficit-financed spending, thence, did not longer consist in innocently burying bottles with bank-notes and digging them up again,[253] but in destroying and burying cities (which would only later be rebuilt again), all of this occurred in a tenfold, probably, "investment"-volume than Keynes may have hoped for. A lot of things, thus, became more urgent than checking the consistency of Keynes' theory. That remained so until after WWII was over, but Keynes' recipes appeared now to be vindicated by the state-led reconstruction of the economies of the war-participants. The upcoming Cold War also necessitated new, massive state interventions in the West and in the East. Shortly before the Cold War was won, anti-interventionist or less interventionist or differently interventionist concepts, Monetarism, Thatcherism, Reaganomics, and Neoliberalism, raised their heads and Keynesianism ran out of steam. It lost its popularity for the same reasons that it had gained it forty years previously, because it no longer worked politically for the elites in a world of financialization and globalization. Keynes was already dead for a long time and could not do anything about it.

So once more, there was no push towards "hammer(ing) out" a "transition from the clumsy original [of Keynes' theory] to the better, more elegant, and polished statement of the new theory",[254] which Minsky had aspired. Nevertheless, Hyman Minsky now basically took over the responsibility himself to "fill out what Keynes

début du XX^{e} siècle, chacun sait bien une livre sterling vaut environ 5 dollars, 20 marks et 25 francs." (*Piketty* (2013) page 171, details page 174).

251 In the Great Depression, Chicago-economists argued for expansionist monetary and fiscal policies without this being integrated into the formulation of a theoretical concept of the capitalist process (*Minsky* (1975) page 5).

252 *Harrod* (1982) page 365, 394 and 478. Keynes visited the Soviet Union together with his Russian wife in 1925, 1928, and 1937.

253 *Keynes* (1936) page 129. Keynes also mentions earthquakes and pyramid and cathedral building (pages 129, 131) and points to a problem of modern substitutes, which underly a more functional rationality: "Two pyramids, two masses for the dead, are twice as good as one; but not so two railways from London to York." (page 131).

254 *Minsky* (1975) page 12, 13.

discussed in a fragmentary and casual manner".[255] Keynes, he said, had changed the focus of economic analysis. He had shifted it from a pre-crisis perspective on resource allocation to the problems of aggregate demand.[256] Keynes had found that until full employment rules, aggregate demand defines the ratio of employed to employable resources[257] and that investment demand, i.e., firms' employment-generating spending, is the crucial part of aggregate demand. The "level of output and employment as a whole depends on the amount of investment," said Keynes and Minsky labels investment in Keynes as "causa causans".[258] Or, as Minsky claims: "...the core of *The General Theory* is the theory of investment".[259] This insight brings the financial system into play. The financial system is necessary for "capitalist vitality and vigor" and "translates entrepreneurial animal spirits into effective demand for investment" (or it does not).[260] Therefore, in Minsky's view, beyond what Marx did, we need to take a step back to behind the investment M–C to the very procurement of the money *M* in the M–C–M'-sequence, and to pass over from a mere "investment theory of fluctuations in real demand", as helpful as it already is, to a "financial theory of fluctuations in real investment". Minsky, thus, accentuated the role played by wealth owner's "desired portfolio composition and ...financial relations in general" and elevated portfolio composition to the "areas of decision where changing views about the future can most quickly affect current behavior".[261] This is what Keynes was already aiming at when taking a "Wall Street-perspective" or by resting his theory "on a speculative-financial paradigm".[262] Accordingly, uncertainty must enter into the argument, not only with regard to investors' views concerning the prospective yields of the newly produced capital assets but also, and possibly more crucially, with regard to the liquidity preference and interest rate and their influence on alternative investment opportunities and portfolio decisions.[263] We are mainly interested in the aggregate theoretical contribution of the thoughts of Keynes, Kalecki, and Minsky (rather than in separating out their individual innovations), but shall still begin with Keynes' original argument.

255 *Minsky* (1975) page 60.
256 Minsky (1975) page 2, 7.
257 Minsky (1975) page 8.
258 *Keynes* (1937) page 221, reprinted in: Collected Writings XIV page 109 et seq.
259 See also *Minsky* (1975) page 92.
260 *Minsky* (1975) page 11.
261 *Minsky* (1975) page 55 and (1986) page 133.
262 *Minsky* (1975) page 55.
263 *Minsky* (1975) page 55.

Entrepreneur economy, capitalism, and M–C–M'

Keynes starts his investigation, which he connects to Book VII of Malthus' *Principles,* with the "economic organization" of society *as it really is*. It consists, as he says, "on the one hand, of a number of firms or entrepreneurs possessing a capital equipment and a command over resources in the shape of money, and, on the other hand, a number of workers seeking to be employed."[264] Keynes refers to this situation as an "entrepreneur economy".[265] In the entrepreneur economy, "the starting up of productive processes largely depends on a class of entrepreneurs who hire the factors of production for money and look for their recoupment from selling the output for money…"[266] Or: "A process of production will not be started up, unless the money proceeds expected from the sale of the output are at least equal to de money costs which could be avoided by not starting up to process."[267] In other words: "The firm… has no object in the world except to end up with more money than it has started with. That is the essential characteristics of an entrepreneurial economy."[268]

What Keynes describes here hardly differs from what Smith, Ricardo, Sismondi, Malthus, and Marx had more customarily (and in a little less friendly a tone) called "capitalism"; nevertheless, Keynes' observations are utterly correct. Indeed, Keynes' definition of the essential characteristics of his entrepreneur economy is *very* close to Marx's M–C–M'-analysis. While Keynes kept a clear distance from Marx in the *General Theory* or even overstated his distance – his main reference was negative –[269], in lectures held in 1932, he more frankly acknowledged his theory's material parallelisms with Marx's: "The distinction between co-operative economy and an entrepreneur economy bears some relation to a pregnant observation made by Karl Marx… He pointed out that the nature of production in the actual world is not, as economists often seem to suppose, a case of C–M–C', i.e., exchanging commodity (or effort) for money in order to obtain another commodity (or effort). That may be

264 *Keynes,* Collected Writings, volume XXIX, page 63 et seq.

265 Keynes was partly working on a set of classifications for economies, such as barter-economy, real wage economy, real-exchange economy, cooperative economy, entrepreneur economy, etc. shortly before he published the *General Theory*, which he did, however, not use in the end. See *Keynes,* Collected Writing, volume XIII, page 382 et seq., 408 et seq.; XXIX page 63 et seqs. 76 et seq., 87 et seq., 101 et seq.

266 *Keynes,* Collected Writings, XXIX, volume page 77.

267 *Keynes,* Collected Writings, volume XXIX, page 78.

268 *Keynes,* Collected Writings, volume XXIX, page 89. This forces Keynes to allow for the possibility of "a situation in which the marginal utility of output is greater than the marginal disutility of effort", which he regards as "a failure of organization which prevents a man from producing something, the equivalent of which he would value more highly than the effort it cost him" (loc. cit. page 101).

269 *Keynes* (1936) page 32 ("…underworlds of Karl Marx").

the standpoint of the private consumer. But it is not the attitude of *business*, which is a case of M–C–M', i.e., with parting with money for commodity (or effort) in order to obtain more money."[270]

Keynes "entrepreneur economy"[271] and Marx's "capitalism", thus, both see firms, entrepreneurs, or capitalists as complementarily intertwining consumption-driven C–M–C'-circuits with a second type of circuit, i.e., profit-driven M–C–M'-circuits, with a different entry point. They also both look at the circuits dynamically and on a time axis. Moreover, in Keynes as in Marx, the entrepreneur's first practical activities are M–outlays for equipment and inventories or to workers. They also still agree that the capitalist or entrepreneur make their M-outlays to receive the revenues of M' in return. Yet differences develop at this point. Keynes is much more interested in the exact calculus, which operates in the entrepreneur mind and all circumstances which may be of relevance here. Marx, of course, knew that not every investment is profitable and even if surplus value was generated in production, that it only physically "stuck" in the produce and still had to be "realized" through a sale, i.e., turned into money form. Marx knew about crises too; he had lived through a few of them in London, analyzed them, and was aware that they had to do with excessive production in relation to demand. Nevertheless, Marx's capitalists were basically only focused on exploiting laborers, on increasing the technical composition of capital, on increasing the absolute and relative surplus-value, etc. and they were not too concerned about selling their produce, ultimately. Keynes had just experienced the Great Depression of 1929, a category of crisis that Marx had not witnessed and saw the entrepreneur's mind as the critical place: How would this mind function when the entrepreneur made decisions about investments? How would he build his expectations – including on the salability and profitability of his produce? How would he benchmark his expected profits against alternative investment opportunities? Keynes developed a new theoretical repertoire to attack these questions; he,

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270 *Keynes*, Collected Writings XXIX, page 81. The omitted part of the quotation reads "– though the subsequent use to which he put this observation was highly illogical". Even though we have omitted it, as Keynes obviously refers to the theory of labor value and exploitation, which Marx uses to explain the M'-M gap, we fully agree with Keynes' critical insertion. A good rule of thumb to identify truth in economics might be: Look out where Malthus, Marx, and Keynes agree! *Steven Keen* holds that if Keynes had used this argument from his lecture in the *General Theory* that his argument against "Say's Law" would have been so much stronger that this could have changed Keynes' reception and avoided the "Hicksian neoclassical counter-revolution" (Keen (2011) page 218). Keen's book appears to be the strongest left-wing economics book in decades.

271 The fact that Keynes, eventually, did not mention the influence of Marx's M–C–M' in the *General Theory* induces the comment that Kalecki and Minsky were equally rather shy to admit Marx's influence upon their thinking – sometimes to a degree that violates scientific rules and good taste. (Of course, a gentleman by the name of McCarthy or similar fears may explain this). *Keen* (2011) page 218 makes a similar remark.

in particular, had a "marginal efficiency of capital (m.e.c.)" battle against "liquidity preference" leading to a strong or weak "inducement to invest".

Keynes' theory of firms' investment: the inducement to invest

Rejection of "Say's law"

In Book I of the *General Theory*, Keynes refers to what we called "Ricardo's Law of Say". He calls it conventionally "Say's law" and summarizes it as "supply creates its own demand".[272] As this law was "equivalent to the proposition that there's no obstacle to full employment",[273] Keynes needed to do away with it to gain the space to develop the *General Theory*, which was exactly to examine and explain what happens if the alleged law does not miraculously generate full employment. Ricardo's victory over Malthus (and, hence, the triumph of "Say's law" [274]), said Keynes, was as complete "as the Holy Inquisition conquered Spain".[275] Keynes sided with losing Malthus and deplored the results of Ricardo's victory: "The great puzzle of effective demand with which Malthus had wrestled vanished from economic literature…It could only live on furtively, below the surface, in the underworlds of Karl Marx, Silvio Gesell, or Major Douglas".[276] Keynes then preoccupied himself with what would have been a non-issue under the dismissed law: "the pure theory of what determines the actual employment of available resources", which has only "seldom been examined in great detail."[277] On this journey, Keynes redefined, as *Minsky* would put it later, "the problems of economic theory as the determination of aggregate demand".[278]

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272 *Keynes* (1936) page 18. He quotes John Stuart Mill's, Principles of Political Economy, Book III, chap. Xiv § 2: "What constitutes the means of payments for commodities is simply commodities. Each person's means of paying for the productions of other people consists of those which he himself possesses. All sellers are inevitably, and by the meaning of the word, buyers."

273 *Keynes* (1936) page 26, Collected Writings XXIX, page 78.

274 *Keynes* (1936) page 18 et seq See also *Keynes*, Collected Writings XIII page 422; Collected Writings XXIX page 256 et seq Keynes wrote to Lerner on 16 June 1936 concerning an article by Lerner on the General Theory: "There are two points which layed a considerable part in my own mental development, which you scarcely touch on. The first of these concerns the breaking away from the assumption in some shape or form of Say's law. This could be described as a re-discovery of there being a problem of the equilibrium of the supply and demand of output as a whole, in short of effective demand" (*Keynes*, Collected Writings XXIX page 215). Keynes also referred to the "powerful arguments" made by Malthus both inside and outside of the General Theory, e.g., *Keynes*, Collected Writings XXIX page 81.

275 *Keynes* (1936) page 32.

276 *Keynes* (1936) page 32.

277 See *Keynes* (1936) page 4. Exceptions include Sismondi and Malthus. See on pages 221 and seq. and 227 and seq.

278 *Minsky* (1975) page 2, 7.

The marginal propensity to consume, the consumption gap, and investment as a (dubitable) savior

If demand cannot be assumed to be available in sufficient volume *per se*, Keynes asks: where does demand come from?[279] Keynes begins with *consumption demand*: "The outline of our theory can be expressed as follows. When employment increases, aggregate real income is increased. The psychology of the community is such that when aggregate real income is increased aggregate consumption is increased, but not by so much as income…".[280] Increase in workers' incomes, be it because formerly unemployed people are brought into jobs or because of salary raises, will pretty much wholly go into increased consumption spending, for more and better food, presents to kids, new cars, furniture, travel, etc. If incomes fall, consumption spending will be equally directly reduced. "Dis-hoarding depends", Keynes rightly observes elsewhere, "not on businessmen trying to get out of money into goods but on widows trying to evade starvation".[281] Yet, well-earning humans will unlikely buy a second or third gourmet dish per day, or a fourth, sixth or seventh private computer, car, yacht, or residence etc., if their incomes rise, which will loosen the connection between rising income and rising consumption.

Now, what should the recipients of income increases, who do not consume more, do with their additional money? Keynes' answer is: They should make investments.

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279 Particularly in Books I and III of the *General Theory*.

280 *Keynes* (1936) page 27.

281 *Keynes*, Collected Writings XIII, page 33. Keynes almost appears to wish to define what the community is expected to consume and to invest as its "effective demand". Why is expected demand effective demand? It is because only expectations have effects on the investments of entrepreneurs who derive their business plans and production plans from it. These are the most important and quite real effects of expectations. What the community, sometime later, in the C–M'-metamorphoses really buys or does not buy only vindicates (or not) the amount of past investment, but has no more effect on past employment or unemployment. That understanding of "effective demand" would, hence, be more specific than only pointing to the fact that purchase power must join the esoteric desire to consume a commodity or service. In this book, we have decided to use "effective demand" and "effectual demand" with two different meanings: "Effective demand" is expected demand only with effects on business and production plans, investment-outlays M, and employment at the beginning of a circuit. "Effectual demand" is real demand at the end of the circuit which vindicates (or does not) such investments. Its "effectual" effects are the procurement of M' or of the cash in the entrepreneur's pocket at the end. There are several clues that Keynes may have understood "effective demand" in this sense too. "The demand, which determines the decision to employ people must necessarily concern itself with expectations" (*Keynes*, Collected Writings XIII, page 602) or "Effective demand on this reflects the current expectation of actual amount…" (*Keynes*, Collected Writings XIII, page 603); however, we do not insist to impute our uses of "effective" and "effectual" demand onto Keynes who was neither seriously interested in notional issues nor, normally, consistent in the use of his terms.

"Thus, to justify any given amount of employment there must be an amount of current investments sufficient to absorb the excess of total output over what the community chooses to consume…"[282] Investment demand must fill the gap. Effective demand *D*, says Keynes, is "the sum of two quantities, namely *D1*, the amount which the community is expected to spend on consumption, and *D2*, the amount which it is expected to devote to new investment".[283] "Hence the volume of employment in equilibrium depends on (i) the aggregate supply function Φ, (ii) the propensity to consume, *x*, and (iii) the volume of investment *D2*. This is the essence of the General Theory of Employment."[284] Keynes elaborated on this issue quite often. On 16 June 1936, he wrote to Lerner: "The second point which was important to my own thought was the discovery that, as income increases, the gap between income and consumption may be expected to widen … A higher level of income will only be possible without loss to the entrepreneur, if the widening gap between income and consumption can be filled. This can only be filled by investment. Yet it is evident that the requisite volume of investment is not necessarily there."[285] In 1934, Keynes wrote: "Consequently, our habit of withholding from consumption an increasing sum as our incomes increase means that it is impossible for incomes to increase unless either we change our habits so as to consume more or the business world calculates that it is worthwhile to produce more capital goods."[286] Keynes attributed the great depression to a lack of investment. He lectured in Chicago in 1931: "…I feel, then, no serious doubt or hesitation whatever as to the causes of the world slump. I trace it totally to the breakdown of investment throughout the world."[287] However, entrepreneurs being as they are, he also lectured in Chicago in 1931: "If our object is to remedy unemployment it is obvious that we must first of all make business more profitable. In other words, the problem is to cause business receipts to rise relativity to business costs."[288] Or: "And nothing, obviously, can restore employment which does not first restore business profits. Yet nothing, in my judgment, can restore business profits which does not first restore the volume of investment, that is to say … the volume of orders for new capital goods".[289] Or, in February 1935 he wrote: "My solution, put in a sentence, it is that, given the propensity to spend, *demand is a function of the amount of investment*."[290]

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282 *Keynes* (1936) page 27.

283 *Keynes* (1936) page 29.

284 *Keynes* (1936) page 29.

285 *Keynes*, Collected Writings XXIX, page 215.

286 *Keynes*, Collected Writings XIII, page 490.

287 *Keynes*, Collected Writings XIII, page 358.

288 *Keynes*, Collected Writings XIII, page 362.

289 *Keynes*, Collected Writings XIII, page 355.

290 *Keynes*, Collected Writings XIII, page 516, emphasis added. In Keynes, thus, investment is the savior of demand. But what if investment does not fulfil its responsibility as, e.g., "the

Keynes is aware that a very serious problem is attached to trying to solve the consumption gap with investment. We may only be kicking the can down the road. He acknowledged: "Each time we secure to-day's equilibrium by increased investment we are aggravating the difficulty to secure equilibrium tomorrow".[291] The more investment is used to create demand in order to maintain employment, the more it will later crucially surface that investment ultimately serves consumption only; the equipment and inventories produced may be hopelessly excessive compared to the necessities of consumption and of producing consumption goods. Now, we must ask: Is not this dilemma touched upon by Keynes here, so high-caliber and so poisonous that it fatally renders all hope in investment as savior obsolete? Keynes left this question, as others, unanswered, and did not venture further into this nightmare scenario. He ignored that he had ultimately not solved the problem. Would it not have to be paid for with later brutal drops of employment at the day of reckoning – when firms find no buyers for the increased volume of consumption goods, which they will have to try to produce with the additional investment goods some day? Is investment, thus, only an unsustainable, short-term strategy, that comes at a high price?[292] A concept not thought-through? Keynes moves on without ever answering these questions.

In the entrepreneur's mind before his investment decision

The General Theory describes circuits and there are several points at which circuits can be entered. In book III, Keynes chooses an entry point a bit earlier than Marx. In his "general formula of capital" M–C–M', Marx picked the moment at which the capitalist or entrepreneur departs with a sum of money as an investment, his M; Keynes goes a step back to when the entrepreneur ponders about what to do with his money[293] and looks into the entrepreneur's mind before the entrepreneur makes the

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propensity to invest has been chronically weak"? *Martin Wolf*, in a *Financial Times*-commentary, then points at "the bottom 90 percent" of the society and at "persistent fiscal deficits" to do the job, both requiring to be "fueled by debt" (*Wolf*, Inequality is behind central bank dilemma, in: *Financial Times* of 22 September 2021). We are back, where Keynes started: The consumption gap results from the marginal propensity to consume with increasing income, investment is the savior, but does not do the job, so we revert to those who have a high marginal propensity to consume (approaching 100 %) but lack money and procure them with money via debt.

291 *Keynes* (1936) page 105.

292 In this sense, Foley argues, with reference to Rosa Luxemburg, that: "Investment in productive capacity can be justified in the end only as way of producing consumption goods". However, as workers' "consumption becomes less and less important relative to total production. How …can we imagine that capitalists will continue to invest large sums of money to create productive capacity to meet shrinking final demand?" (*Foley* (1986) page 151).

293 Keynes is primarily thinking of an investment in the productive economy. This is apparent when he speaks of "current investment" as "current addition to the value of capital equip-

money-outlays.[294] Humans, to make decisions, need a rationale underneath which they can subsume information. The rationale for a merchant hero is to make profit and to accumulate wealth. Starting with a money amount M, which is available to him, he will venture through the oceans of values-in-uses (equipment, inventories, labor), only to return home with his ship filled with more cash, M'.[295] When he plans this mission, he will have to deal with uncertainty and interest twice. Higher interest raises the costs of the investment by increasing his financing costs and, generally, raises the price level of supplies. Uncertainty affects the revenues of the venture and its relation to the costs of the investment, Keynes' m.e.c. However, uncertainty and interest will also play a second role as the interest, which the investor *could draw* by loaning out the equity-part of M and which he *foregoes by investing it in his productive business* (risk adjusted), will benchmark the attractivity of his results, e.g., by discounting future surpluses.[296] Thus, higher rates of interest work twofold against investment in the productive economy.

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ment which has resulted from the productive activity of the period." (*Keynes* (1936) page 62). When he has "exchanges of old investment" cancel each other out, and defines "investment" as "increment of capital equipment, whether it consists of fixed capital, working capital…" that, too, confirms his general view of investment in the sense of a producive, employment-generating investment. However, the above quoted expression reads in full "…increment of capital equipment, whether it consists of fixed capital, working capital or liquid capital" (*Keynes* (1936) page 75), which renders things less clear again. What is, in particular, "liquid capital" supposed to be? Normally any money injection into a firm would qualify as "liquid capital", yet a money injection could also be used to merely buy a pre-existing asset. Unfortunately, we encounter this opacity at exactly the worst moment in Keynes, namely in chapters 11 and 12 of the *General Theory*, which are elementary for his theory of investment and his theory of firms' contribution to producive spending.

294 We shall see that Minsky begins his observations even further backwards by examining of how an entrepreneur got the money for prior investive drives.

295 With reference to *Slotederdijk* (2005) page 134: "Als Ware wirft sich das Geld auf das offene Meer der Märkte und muss, vergleichbar den Schiffen, auf das glückliche Einlaufen in den Heimathafen, das Besitzerkonto, hoffen; in der Warenmetamorphose is die Erdumrundung latent mitgedacht…Durch die Rückkehr des schwimmenden Kapitals von der Fernreise wird der Expansionswahnsinn zur Profitvernunft. Die Flotte des Kolumbus und seiner Nachfoger besteht aus Narrenschiffen, die zu Vernunftschiffen umgerüstet werden."

296 "It seems", according to Keynes, "then, that the rate of interest on money plays a peculiar part in setting a limit to the level of employment, since it sets a standard to which the marginal efficiency of a capital-asset must attain if it is to be newly produced." (*Keynes* (1936) page 222). Turgot already knew that investors in the productive economy will demand a surplus of profit equivalent to their effort and risk over e.g., a sterile investment in land. See *Faccarello* in: *Faccarello/ Kurz* (2016) page 76.

Marginal efficiency of capital (m.e.c.): the numerator of the fraction

While Marx's M–C–M' departs from individual commodities, Keynes thinks bigger. In book IV of the *General Theory*, he deals with machines who spit out M–C–M'-circuits straight away, i.e., with investments in assets that already generate a series of yields or quasi-rents.[297] Once planning for such assets is completed, Keynes compares the *costs* (which he calls the "supply price") of the production of the M–C–M'-machine or asset with the expected future "annuities" resulting from the investment (which he calls the "demand price" of the asset).[298] Compared to Marx, Keynes' two money amounts, a smaller one, which is outflowing, and a larger one, which is inflowing, are aggregated and are capitalized to present values.[299] Keynes then calculates the rate, by which the value (Keynes' demand price) of the investment can be discounted to its costs (Keynes' supply price) and calls the calculated discount rate the "*marginal efficiency or capital*", often abbreviated as "m.e.c.", including by Keynes himself.[300]

Uncertainty, liquidity preference and interest rate: the denominator of the fraction

While knowing the *m.e.c.* of an investment may already suffice for an entrepreneur to say "this sounds good – let's go ahead" or "this is poor – let's forget it", Keynes, though, adds a very significant moment. In book IV of the *General Theory,* he assumes that investors' decision-making is normally more complex than that. Before they come to a definite conclusion, they also consider alternative investment opportunities. This obviously corresponds to today's valuation theory, and here, once more, Keynes moves beyond Marx. In the *General Theory*, Keynes' considers mainly that an entrepreneur will benchmark his *m.e.c.* against receiving interest for loaning out money (mainly the equity-part of his M): "It is here that the rate of interest comes in. The series of annuities in prospect can be compared, after allowance for risk, with the series of annuities over a similar term which could be obtained by lending out a sum of money at interest."[301]

In order for interest to take the crucial role it is afforded in Keynes' work, the theory of interest, though, had to be revolutionized: The classical school (in Keynes'

297 Although this is not explicit, we shall continue to assume that Keynes mostly means investments in the productive economy.

298 Keynes' terms are a bit unfortunate and misleading. In our terminology, they would be *costs* or *value,* if derived from Malthus, or *M* or *M'*, if derived from Marx.

299 This is also true for the asset's "supply price", at least if a new business is founded, as that will take time and require a discounting of the costs as well. The discounting effect is less material here.

300 *Keynes*, Collected Writings, volume XIX, page 113.

301 *Keynes*, Collected Writings XIII, page 452.

use of the word) had held that the supply of capital and demand for capital regulate the interest rate as the price of capital. If economic activity was slow, such as when in a slump, then demand for capital would drop, supply would increase and, accordingly, interest rates would eventually fall. The classical school, thus, assumed a *benevolent built-in negative feedback-mechanism*, through which a downturn itself induced a recovery. Keynes challenged this idea of self-correction with his novel theory of interest. He begins by distinguishing different motives for why people hold money in cash (which bears no interest). There is a *transaction motive* (people may need the cash at times for transactions), there is a *precautionary motive* to hold reserves in case planned incoming cash flows do not arrive in time, but commitments from financial obligations must still be met. There is also a third, Keynes' most important and critical motive, which he called *speculative motive.* It attaches itself to a third part of moneys, the part which is *held in reserve in the expectation that financial assets drop in value*. This part of cash holding protects not only against suffering losses, but may also allow for profit. He who has uncommitted money available in a slump has the means to buy assets at fallen prices – in the hope to profit from a later rise in the price level. Keynes calls the advantage of holding this cash, although it does not earn interest or other cash inflows, *liquidity premium,* and he calls the inclination to hold money for the speculative motive the *propensity to hoard or to save.* Now: The higher the uncertainty, the higher the advantage of holding cash (in the expectation of falling asset prices); the higher the liquidity premium, the higher the liquidity preference and the higher the interest rate will be too. *Liquidity preference at a moment in time determines the interest rate*. Hence, in a slump, only a decrease in the liquidity preference could pave the way to new investment. Quite unfortunately, though, liquidity preference increases in a slump (at least until the bottom has definitively been reached). This is the most important point for Keynes. It gives his (formerly actually rather conventional and non-controversial) theory of investment a surprising and worrying macroeconomic turn: ↑uncertainty ↑liquidity preference ↑interest rate ↓inducement to invest.[302] It follows that depressions and unemployment can become rather stationary. In fact, positive feedback downwards can build up. The classical school's benevolent self-healing mechanism is an illusion, it needs a drop of liquidity preference for a recovery. Uncertainty, in this context, is a purely qualitative phenomenon that is affected by social psychology and all sorts of weird reflexive mechanisms. It is not as foreseeable as risk is (which can be dealt with via expectation values and

302 We also mentioned the first effect of higher interest rates, which Keynes placed less emphasis upon. This effect, though – increasing the cost of the investment or M – will also reduce the *m.e.c.* thereby also reducing the inducement to invest: ↑Uncertainty ↓expected future excesses ↓*m.e.c* ↓inducement to invest.

probability math[303]), but knows abrupt discontinuous changes; it is strictly nonlinear and, if not outright chaotic, at least potentially fast-moving.[304]

The inducement to invest: the value of the fraction

In the *General Theory*, the famous "inducement to invest"[305] is the place in which the *marginal efficiency of capital (m.e.c.)*, representing the expected profitability of the productive investment considered meets *the interest rate*, representing the profitability of the best alternative debt-investment (granting a new loan, buying an existing loan, or possibly other alternatives). It can be seen as a ratio or as a fraction. The *m.e.c.* is the numerator and the best possible alternative debt-investments, the benchmark, is the denominator. Keynes has his entrepreneur, accordingly, calculate the value of the fraction:

$$\frac{m.e.c}{interestrate}$$

That can be seen as a simple governor: The higher the value of the fraction, the more likely the entrepreneur will be to venture into the contemplated investment (of which Keynes primarily thinks of as a productive economy investment[306]). Keynes does not elaborate on by how much the fraction must increase over 1 for there to be an effective or strong inducement to invest, so we leave it with ↑m.e.c. / interest rate ↑inducement to invest.

The *General Theory* only and solely treats the interest rate as the denominator of the fraction, but why should a prospective productive economy investor only look at loaning out money at interest (or at buying existing debt) as possible alternative investment, *even* though there are clearly several other sterile investment-alternatives? For instance, why would he not consider purchasing *pre-existing assets* such as *land, real estate, stock or businesses, art, antiques, gold, crypto, etc.* and benchmark the rentability of the contemplated productive investment against their surpluses? Minsky will later make this point very big. He will argue that Keynes, in the *General Theory*, still "phrased his argument in terms of interest rates", instead of "introducing both the price of capital assets and the terms of money loans in his discussion…".[307]

303 See *Keynes* (1937) page 109 et seq., page 112 et seq.

304 *Keynes* (1936) page 154–159.

305 *Keynes* (1936) Book IV. Obviously, there must be a risk adjustment in the calculation of the planned surpluses leading to the marginal efficiency of capital.

306 To repeat: Keynes is not being very clear and consistent on this. See footnote 293 on page 295.

307 *Minsky* (1975) page 67.

But Keynes himself, as Minsky acknowledged, would already somewhat move into this direction very shortly after the *General Theory* was published.

Keynes' evolution of the inducement to invest in the Viner-Rebuttal

In November 1936, only months after the *General Theory* first appeared, *Jacob Viner* published a review in the *Quarterly Journal of Economics*.[308] Keynes rebutted the argument in the same journal in February 1937.[309] On this occasion he also shaped his theory in the direction that Minsky would later want him to go in. Accordingly, Minsky makes a great deal of Keynes' response and refers to it as the "Viner-Rebuttal". But it is true, Keynes indeed gives a clear signal of the need for an evolution, a broadening, of the "inducement to invest" in this rebuttal.

Viner had read Keynes' novel theory of liquidity preference and interest against the background of the conventional quantity theory of money. Based on it ($M^*V = P^*T$; M = money volume, V = velocity, P = price level and T = number of transactions), Viner interpreted Keynes in the sense that the liquidity preference would block some money and that, consequently, the price level would fall according to the math of this quantity theory. There was, then, according to Viner, not much new in Keynes. Keynes replied that his point had not been that the propensity to hoard or the liquidity preference would necessarily stock up idle money amounts as hoards, which would only operate through the quantity of money-theory. Rather, his mechanism would operate in a different manner: "(F)luctuations in the degree of confidence are capable of having quite a different effect, namely, not in modifying the *amount that is actually being hoarded*, but the *amount of the premium* which has to be offered to induce people not to hoard."[310] Keynes would not expect "so much in increased hoards", but that increased hoards would be avoided by "a sharp rise in the rate of interest". "A rise in the rate of interest is a means *alternative* to an increase of hoards for satisfying an increased liquidity-preference."[311] The effect or increased uncertainty and higher liquidity premium and interest rates, hence, is that "...securities fall in price until those, who would now like to get liquid if they could so at the previous price, are persuaded to give up the idea as being no longer practicable on reasonable terms."[312]

On the occasion of this clarification, Keynes generally rephrased his argument in terms of "asset prices", as demanded by Minsky, by "introducing both the price of capital assets and the terms of money loans in his discussion", at least in part.[313] Keynes now sees rising interest rates' influence on investments in the produc-

308 *Viner* (1936) page 109 et seq.
309 *Keynes* (1937) page 209 et seq.
310 *Keynes* (1937) page 216. Italics added.
311 *Keynes* (1937) page 211. Italics by Keynes.
312 *Keynes* (1937) page 211.
313 *Minsky* (1975) page 67.

tive economy in an indirect way not yet mentioned in the *General Theory*. Comparatively high market interest rates would not only compete against productive economy investments, through the fraction *m.e.c. / interest rate* (assuming the alternative investment would consist in making a loan or buying debt), *but they would also force asset market prices of pre-existing assets down*, not so much the prices for competimg investments in the denominator, but the prices for the considered investments in the numerator, expressed in the *m.e.c.* Keynes had calculated the *m.e.c.* as the "rate of discount which would make the *present value of the series of annuities* given by the returns expected from the capital-asset during its life just equal to its supply price",[314] he now added that the present value of the annuities could *never be higher than the "market capitalization" or the "prices of capital-assets"*[315] and, thus, allowed the fall of market prices to indirectly influence the *m.e.c.* "The mischief is done", Keynes said in the Viner-Rebuttal, "when the rate of interest corresponding to the degree of liquidity of a given asset leads to a market capitalization of that asset which is less than its costs of production".[316] Or: "Capital assets are capable…of being newly produced. The scale on which they are produced depends …on the relation between theirs costs of production and the prices, which they are expected to realize in the market. Thus, if the rate of interest taken in conjunction with opinion about their prospective yield raise the prices of capital-assets, the volume of current investment will be increased; while if, on the other hand, these influences reduce the prices of capital-assets, the volume of current investment will be diminished."[317]

Hence, if present market asset prices fall, due to an increase of interest rates, then the lowered asset prices will operate like a "ceiling" or a "cap" for the present value of the future yields and the present value of the series of annuities will be limited by the present prices of capital assets.[318] This has the effect that lowered market prices of pre-existing old assets demotivate new productive investment, even irrespective of their nominal future yields. Keynes, thereby, opens a new devastating inroad for rising interest rates to depress investment, not only via a competing higher rentability of loaning out money, or another sterile investment in the denominator, but already through a poorer *m.e.c.* in the numerator.

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314 *Keynes* (1936) page 135. Keynes' "supply price" is equal to "replacement costs" or production costs of the investment, see ibidem. Italics added.

315 See *Keynes* (1937), to which we have also referred to as the "Viner-Rebuttal", on page 211. Keynes refers to "the prices, which they are expected to yield in the market" when the decision of the investment was made (ibidem).

316 *Keynes* (1937) page 211.

317 *Keynes* (1937) page 217, 218.

318 He also made the formal change to switch from comparing rentabilities to comparing asset prices to costs. This formal change had no relevance as the old equation *m.e.c. / interest* rate could also have been expressed as a fraction between two present values.

The investment multiplier k

Yet another famous term found in Keynes' *General theory* is the "multiplier" or "investment multiplier *k*". We saw that Keynes believed that consumption does not suffice to reward investment and employment. When employment does increase, he wrote, "aggregate consumption is increased, but not by so much as income."[319] Accordingly, he was looking for ways for the "unused" income to return and to raise demand. He came, like the Russian "Legal Marxist" *Tugan-Baranovsky,*[320] probably without Keynes awareness, to hope for capitalists' exuberant investment demand to substitute ailing consumption demand. However, Keynes added an interesting idea here: Might investment not contain *a turbo-charger-like mechanism*, a positive feedback-mechanism which would enable a small increment of investment to, ultimately, bring about much more income, more consumption, and more investment?

Reasoning of this type is plausible and justified in principle because the economy is a reflexive system in time. Exchanges may not exhaust their effects with the consumption, and early small differences may, indeed, induce larger differences later. Let us see what Keynes makes out of his idea: If there is increased income, then some part of the increase goes into consumption. Initially, Keynes appears to see this part as the best one (if all income went into consumption, as in the case of Quesnay's *classe des propriétaires*, then circuit closure was guaranteed). Keynes defines the ratio between this more beneficial, albeit deficient, consumption increment and the whole increment of income as "*marginal propensity to consume*" *(mpc)*.[321] This is a fraction with a value < 1. He then takes this *mpc* to derive his "investment multiplier *k*" from it. This multiplier is simply the inverse of the shortfall of *mpc* to 1, i.e., *1/(1-mpc)*. We note that the multiplier is, thus, defined by a moment coming out of the past, which is relatively constant and which does not change much from circuit to circuit.[322] The investment multiplier's effect on aggregate investment, hence, depends on (i) the relatively constant marginal propensity to consume and (ii) the volume of investment. Accordingly, in Keynes' words, the multiplier "tells us that if there is an increase in aggregate investment, income will increase k times the amount of the increment of investment."[323]

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319 *Keynes* (1936) page 27.

320 See on page 283 et seq.

321 *Keynes* (1936) page 115. He sometimes also uses the marginal propensity to save; the marginal propensity to consume and the marginal propensity to save add up to 1 (mps = 1 – mpc; mpc = 1 – mps).

322 We can also foresee that the investment multiplier *k* will fall with increasing income because we already know that the marginal propensity to consume falls with increasing income; this is less relevant in our argument, but it remains relevant for Keynes' original idea.

323 *Keynes* (1936) page 115. Note that while the original problem is a shortfall of consumption to income, a further increase of income is considered as solution. However, we know that this secondary increase of income will only go into consumption to an even lesser degree as

Let us, first, try to draw corollaries from this statement: If firms spend *c*-outlays for equipment and inventories to supplier firms and *v*-outlays, salaries, to workers (we assume that Keynes' investment encompasses both), then it is evident that the income of the two recipients goes up – by the precise amount of either *c* or *v*. The multiplier can only operate if workers and firms do something with their additionally received incomes in new circuits. In the first circuit, firms may give income to other firms and workers. In the second circuit, the receiving firms may give income to other firms[324] and to other workers. Workers, with their incomes from the first circuit, may also give secondary income to firms, but workers give no income to other workers. There is, thus, asymmetricity. Workers only play ping-pong at one table; firms play at two tables. The overall value of the multiplier must yet capture the aggregate effect, which results from these asymmetrical exchanges (intra-exchanges being possible for one class, but not for the other) over a series of circuits. The multiplier *k* has to express the aggregate income effect that investment will have over time or over a series of consecutive circuits, indeed over all future circuits, *ad infinitum*.

This means that everything is pure causality, like a wave leads to smaller consecutive waves which add up to a certain series of movements or in video "*The way things go*". Nothing has to do with the anticipation of the future, teleology. Moreover, the Keynes' multiplier appears to unspecifically apply to all kind of "investment". Every Pound, Dollar, Euro, Yen, or Renminbi seems as good as any other and there is no care for the qualities of the investment, e.g., whether it is in newly produced goods or whether it consists in purchases of stock, land, or debt, etc. (in our terms, it does not matter whether the investment is in the productive or sterile economy).

Keynes' statements about the quantitative power of the multiplier are mixed. He partially says that the investment multiplier might multiply the initial increase of investment in employment, as salary income,[325] by a factor around 2, 3, or 5[326] and might theoretically go up to 10.[327] Firms, hence, could create an additional amount of income of 20, 30, 50, or even 100 million money units by employing new workers for 10 million money units; this is very material. Such a leverage would, indeed, flow

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multiplier-generated income will not have a higher mpc, but a lower one. (The issue is not crucial for our argument).

324 One must here abstract from the possibility that the first firm, where everything started, makes a new additional investment, which sets into motion a second wave extending from this firm. That second wave would have to be captured by applying the multiplier *again*, which should be kept separate from the observation of the first wave's journey.

325 Keynes speaks of the multiplier being 2 or 3 times the employment provided by a specific new investment. *Keynes* (1936) page 121 et seq.

326 *Keynes* (1936) page 121 et seq., 128.

327 *Keynes* (1936) page 116.

from the pockets of workers into consumption and, even if Keynes lacks that distinction, it would also largely go into employment-generating consumption spending. On other occasions, Keynes is more skeptical about the multiplier's effect. Just as Marx domesticated his "tendential fall or the rate of profit",[328] which pointed to disaster in order to accommodate it to the fact that capitalism was visibly not collapsing, Keynes domesticated his multiplier, which points to salvation, to accommodate it to the inverse fact that capitalism had, in the Great Depression, not shown the powerful self-healing capacity which the investment multiplier promised. Certain "adverse reactions", he argued, often keep the "average value of the multiplier" much lower than 2, 3, 5, or 10. He mentions increases of the rate of interest, confused psychology of the public, the increment going to the benefit of foreign countries, the loss of debt service of re-employed workers after they come out of debt-financed unemployment, the lower propensity to consume of entrepreneurs, or even the worker's propensity to consume falling quickly with raising income as examples of such adverse effects.[329] He also says that the investment multiplier will work the better, the lower the saving rates are, or the "poorer" the society is; thereby he reduces expectations as to what the multiplier can do for more developed countries, like the UK or US, e.g. to avoid a second Great Depression.[330]

Another point is worth noting here: Whilst one would expect that the investment multiplier, to the extent that it works at all, should primarily increase income following *original private investment*, Keynes mainly mentions it in connection with *public investment*. So, he appears to consider his multiplier-mechanism not so much as a mechanism of capitalist self-healing (which would render prosthetic public investment less necessary or obsolete), but as a mechanism that adds fuel to the fire power for (the obviously still necessary) prosthetic state intervention. That leads to the question of whether the multiplier applies to original, private investment at all. This question must be answered in the positive (why not?). If so, though, Keynes would be telling us something like: *Support from the multiplier notwithstanding*, which creates more than the same amount of income out of an original increment of original, private investment, investment in capitalism, is not powerful enough to close the gap left by deficient consumption. However, the same multiplier still, which is insufficient when applied to private investment, is a significant help to additional "artificial" public investment. Is that what is left over? Finally, Keynes emphasizes that the multiplier multiplies only *the increment* of investment, and the overall effect may, thus, remain a "comparatively small amount of the national income".[331] After this, the investment multiplier *k* remarkedly transmutes from a big theoretical thing

328 See *Marx*, Capital, volume III, chapter 13 et seq.

329 *Keynes* (1936) page 119, 120.

330 *Keynes* (1936) page 120, 121, 127.

331 *Keynes* (1936) page 122.

and great promise into a modest amplification of the benevolent effects of public investment.

We shall still take a further look at "the multiplier" to see what is wrong with it, including at a deeper theoretical level. We refer to our examination of instances in which economic units spend money.[332] We saw that in order for an economic unit to make the sacrifice of spending money, at least two conditions must be simultaneously met; the unit must have money *and* it must have esoteric demand which involves the attribution of sufficient value-in-use to a commodity. It should be clear that, except for money creation, money does *not* multiply in circulation, neither on the way from a normal emitter to a recipient nor during its stopovers in the pockets of either of them. There are things that multiply, i.e., which can be retained by the emitter, but can still be forwarded to one or several recipients, e.g., knowledge, information, infections, or illness. They can be given to others, but can still be retained by the dispatcher. Even life can be shared without its emitters having to die, but money can*not* multiply or propagate. It is an "either I have it or you have it" type of thing. Actually, as systems theoretical sociology points out, this limitation alone enables money to fulfill its function of dealing with scarcity.[333] Payments increase money-scarcity on the side of the emitter and reduce money-scarcity on the side of the recipient;[334] the sender loses the purchasing power in exchange for a commodity; the same purchasing power is picked up by the receiver. Accordingly, we may say that money, in one circuit, has a "multiplier" of exactly 1.

Now, money can of course be used and is meant to be used *many times* by different people to enable a series of transactions, one after another, in sequence. What can be multiplied, is the *frequency of the use of an existing money-stock*. The multiplier could, thus, work via keeping money active for a greater number of circuits, in which it serves, or by re-activating idle money. The multiplier would, accordingly, be greater where money is channeled into uses *with more income-generating follow up re-uses*. We might also say that a multiplier might work through an increase of the "*velocity of money*" (which obviously depends not on the physical travelling speed of coins, bank notes, or of credit money entries, but on the *quickness of the decisions* to relaunch them over several decision points or holders). This quickness in decision-making, however, depends upon properties of the recipients of money after each circuit, on their

332 See on page 39 through 54.

333 Only money creation is an exception. Commodity money can be created by finding and mining or by otherwise procuring gold or silver; credit money can be created by merchants or private banks or the central bank and fiat money can only be created by the state or central banks. If that happens, then money multiplies; beyond that, its stock and the spending-enabling capacity of money, cannot multiply.

334 *Luhmann* (1988) page 194 et seq.

"propensity" to forward money quickly to other units.[335] Had Keynes thought along these lines (which appears to be the only sound option), he ought to have to search for the "rapid-re-dispatchment units" and into what makes them inclined to re-dispatch money fast. As such, by examining fast re-dispatchment-favorable and employment-favorable uses, he might have discovered what this book calls employment-generating or productive spending, and unfavorable uses in what this book calls sterile spending. However, Keynes does not offer a distinction between employment-generating and sterile spending and he cannot use it to explain different velocities of money, from which a meaningful idea of a multiplier could be derived. That is also why Keynes does not attempt a systematic analysis of why and how an increment of initial investment is supposed to bring about significant additional quantitative effects. He cannot do this because he has no tools for that and he has no such tools as he does not possess anything similar to our Matrix I (on page 23) (consumptive-investive and sterile-productive). Furthermore, Keynes blocked himself off from seeing the issue through the way he structured his model: As everything depends on society's aggregate "propensity to consume", which comes out of the past, and, while it is slowly falling with increased income, remains rather constant for the moment, there is just no place for expectations and motivations of entrepreneurs here. Keynes greatly emphasized the role played by expectation (anticipation, prognosis, motivation etc.) as the engine of the economic system elsewhere, yet, with his multiplier he falls back into a solely causal narrative. Ultimately, as investment is neither primarily ruled from the past nor by one single moment, there cannot be one singly past-determined multiplier.

One prospect of an alternative conception of a "future-pulled" multiplier was partially already implied in our critique. It might be possible to conceive of "*productive investment multipliers*" to reflect how *special kinds* of productive investment generate more productive investment in future circuits. In fact, one could even include consumption and conceive of aggregate "*producive spending multipliers*" or "*employment-generating spending multipliers*". These ought to be either derived from *marginal propensities of different types of producive, i.e., employment-generating spending* or from *different marginal propensities of different types of consumptive spending*, e.g., to erect new houses or factories or to employ menial servants, artists, greenkeepers and the like.[336] Mathematically, an aggregate "producive spending multiplier" or "employment-generating spending multiplier" could be conceived of as the inverse of the shortfall of the marginal propensity of producive spending (mpps) to 1, i.e., as *1/(1-mpps)*. This producive spending multiplier or employment-generating spend-

335 Workers with an assumed need to buy subsistence goods are the signature example – although they also make sterile spending for debt service and rent.

336 Unless hoarded money is already a wealth asset.

ing multiplier, thus, would increase in value with the marginal propensity to bring about producive or employment-generating spending.

We still do not believe that even that kind of "multiplier-thinking" would be a great theoretical aid to reflect on the economy's systemic and reflexive moments for the reasons already given. In addition, as is implied in the numbers for the multiplier used by Keynes, the "waves" that the multiplier might generate, collapse rather quickly, so that we have to – depending on the "aggregate propensity to generate producive (or employment-generating) spending" – expect multiplier's effects to exhaust in a short time. This is so because ine ach circuit a certain part is sucked away as "tribute" in the sterile economy and not consumptively or investively re-spend in the productive economy. Worse still, some of the money, which stops at firms, may be called back by wealth-owners and dispatched into the sterile economy, as a sterile investment or for sterile consumption. The wave, ignited by initial investment, quickly gets smaller and smaller and only a few circuits, say 3, will be relevant for practical purposes. Whether wealth-owners might simultaneously equip firms with the ability to make new productive investments is a different story; they certainly never fund productive investments "just because they have the money". The crucial moment is, as Keynes so rightly teaches with his "inducement to invest", whether there are enough profitable productive investment prospects, given alternative opportunities.

Our summary of Keynes' multiplier-reasoning is as follows: First, money does not multiply, but can only be used more frequently and re-used more quickly, so a multiplier-effect does not exist in the first circuit and can only come from subsequent circuits. Second, whether it comes has nothing to do with a near-constant "mpc", but continues to depend upon the theory of firms' employment-generating investive spending, i.e., on an (improved) version of Keynes' theory of the "inducement to invest". The multiplier cannot overrule the determination of investment by the inducement to invest, including in circuit 2 or 3 etc. Third, the sequential circuits, beginning with circuit 2, will generate less and less consumptive employment-generating or investive employment-generating spending in each case than the preceding circuits. This is best explained by the loss of tributes and other investitive and consumptive spending into the sterile economy. The multiplier comes down to observing how some outlays, which were dispatched from the wealth economy via firms' employment-generating ports, into the productive economy, hence to workers and supplier firms, will source future such investments and future income in future circuits, provided that they do not sink back into the wealth economy. Keynes' multiplier is intellectually fuzzy, practically immaterial, and the whole concept (spending being a simple function of income, rather than depending greatly on expectations) is fallacious.

Keynes' identity/equality of investment and saving

I=S

We have previously observed Keynes setting out the "inducement to invest" as his investment theory. Investment demand would be triggered by entrepreneurs' profit expectations and would fill the gap left by insufficient consumption demand, at least to some degree. More specifically, in this "investment theory of employment"[337] the decision about what part of financial funds available, or to be made available, went into an actual investment depended on a calculus influenced by the *m.e.c* and the interest rate. Investment, thus, was a function of the profit motive and of the anticipation of an uncertain future in which alternative options to satisfy the profit motive were battling against each other.

Keynes' *General Theory* also deals with an identity/equality of investment and saving (I = S) repeatedly and at great length.[338] Quite obviously, if we split up this identity/equality into an I → S-direction and a S → I-direction, the latter direction may come into conflict with Keynes' prior "inducement to invest" theory of investment. If saving always *is*, or *becomes*, investment wholly and automatically (or it is and becomes it again, is the same thing wallowing around), then what do we do with the "inducement to invest" that appeared to explain when saving beomes investment? Therefore, the question arises: Is Keynes – like Rauschenberg undid a De Kooning-painting and Keynes himself, just moments ago, got into the risk of undoing his "inducement-to-invest"-based investment theory with the investment multiplier *k*– now once more undoing his investment theory by his I = S? Is he filling the space,

337 See also "As I now think, the volume of employment (and consequently of output and real income) is fixed by the entrepreneur under the motive of seeking to maximise his present and prospective profits…; whilst the volume of employment which will maximise his profit depends on the aggregate demand function given by his expectations of the sum of the proceeds resulting from consumption and investment respectively on various hypotheses." (*Keynes* (1936) page 77).

338 The notions "identity" and "equality" are neither identical nor equal. They have a peculiar relationship. Identity is more encompassing. Things may be identical as such, in general, and they may be equal only in certain regards. The content of a container may be equal with the earlier content of a jug, e.g., after the jug was poured into the container; the volume is equal because the fluid is identical, but a volume of fluid in a container may also be equal with another (either present or measured previously) volume, thanks to a mechanism that measured the first volume and allowed the inflow of precisely the same volume of water from a river, which is not the same fluid and, thus, obviously is not identical. Keynes never clarifies whether he actually means identity or equality. If we can consider Keynes' I = S as resulting from his balance sheet or his national accounting view of an aggregated economy, then the identity/equality ought to be a mechanical result of the "bilancia"-axiom, which adjusts the volume of the capital side to a changed volume of assets on the asset side. Accordingly, this would be a matter of equality rather than Identity.

where his investment theory sits, with a second competing theory? Or is he modifying it? If so, in what sense is this taking place? Or is there no contradiction? Furthermore, what can we make out of I = S at all? We shall deal with these questions in the following sections. Before we begin, though, we shall admit that the answers will not be relevant for the progress of this book in either a positive or constructive sense. Rather, the insights, at which this book hopefully arrives, could have been laid down without anybody ever having stated that I was supposed to equal S. The sole, sound justification for the treatment of I = S is, thus, to possibly help the reader to *avoid getting lost in pitfalls and in confusion, in which one is easily drawn away by I = S*. Second, the author has to warn the reader that he will lay down Keynes I = S as he understands it best. My attempts to derive a fully consistent interpretation of quotes from Keynes on I = S have failed. I felt that I would have to pull or push his quotes in one or the other direction in order to ascribe a clear and precise content to his I = S or that I would have ended up with an over-complicated text, which would almost be unreadable. So, I shall put down my views on Keynes' I = S in straightforward theses and leave it up to the reader to determine whether they want to delve into the complexities and confusions in Keynes' definitions themselves and to check whether my treatment ultimately does justice to Keynes.

First, where Keynes discusses I = S, he is in fact, without keeping them clearly separated, *dealing with two issues in two worlds*. On the one hand, Keynes offers an elementary balance model of national economies. The invention and gist of this side of Keynes' treatment of I = S consists of combining double entry bookkeeping with substantial questions of national accounting in a consistent, albeit rudimentary, way. In this context, Keynes uses the terms "investment" and "saving" as a part of, as it is called today, some kind of "expenditure approach" to deriving the GDP, hence 'inflows accounting', similar to a profit and loss statement; in this context, he derives the identity/equality I = S from there. However, Keynes' main thread was to understand employment in capitalism, in particular as it was influenced by investment, and he also uses I = S here. In this second context, investment plays a crucial role as well (in fact, more so than saving even). Now, unfortunately, my thesis is that Keynes does not manage to obtain control over these two different uses of the term "investment" in the two different worlds. He does not define the "investment" of the national accounting context and does not keep it clearly separated from the "investment" of the theory-of-investment-and-employment-context. This is where the main confusion, created by I = S, stems from (confusion will also arise from to different uses of the term "saving", as we shall see).

The second thesis is that Keynes' identity/equality-theorem in the S → I direction is neither meant to undo Keynes investment theory nor does it result in this. Rather, the "inducement to invest" survives I = S and *remains* Keynes' main contribution to the analysis of employment in capitalism. Hence, our previous discussion of the "inducement to invest" remains valid too. It is, however, not easy to explain *why and how*

the "inducement to invest" can survive the identity/equality as S → I. This was probably not even clear to Keynes himself.

Third, the identity/equality I = S looked at in the I → S-direction, as far as it does not belong into the realm of national accounting, but is actually meant as a theory of a macro-transmission, refers to an issue of *equipping and re-sourcing*. Yes, investment generates saving elsewhere and increases the possibility of investment elsewhere; invested money is not lost for the future of a capitalist economy; it returns and can be reinvested over and over again. However, already Malthus rightly observed that economic activity does not normally use the full capacities provided by the national capital stock anyhow and took this observation as his point of departure. If, though, too little is commonly made out of the saving that is already there, the most beneficial increases of the capital stock will not greatly matter and have no capacity to do away with the core-problem of the under-employment of the stock that existed previously.

We shall now briefly look at these three points, one at a time.

National accounting – where Keynes' identity/equality of "investment" and "saving" (I=S) belongs

Balance sheets are drawn up per unit and per a point in time; they show a unit's stocks (of assets and debt) at a point in time. The story of what happens between balance sheets dates is told by profit and loss statements. Balance sheets book transactions twice, as assets on the asset side and as equity or liabilities on the capital side. In national accounting, the profit-and-loss-view, looking at flows within time periods, via the three approaches to GDP-calculation (production approach, expenditure approach, and income approach) are even more important than stocks accounting. In order to set up a balance sheet, one must find, count, and value assets belonging, in a defined sense, to a subject at a moment: You can then deduct that subject's liabilities; what is left over is its equity in business accounting and its net worth in national accounting. In flows accounting, which must match stocks accounting in the result, you count and value outflows and inflows and the positive excess is the annual profit; in national accounting, the result is called – as influenced by the expenditure view – "saving". "Saving", thus, is like equity or increments in equity, bereaved of all substantial value-in-use properties. It is no more than a *counter-booking* to whatever is accepted as having had an impact on the asset side or on liabilities (with domestic liabilities being netted).[339]

339 National accounting automatically cancels out changes in ownership of assets and origination and destruction of liabilities, where the previous and subsequent owners or the creditor and debtor belong to the same economy. Keynes writes in chapter 7 of the *General Theory*: "If we reckon the sale of an investment as being negative investment, i.e., disinvestment, my own definition is in accordance with popular usage; since exchanges of old

In order for assets to appear in balance sheets, they must be considered as "existent" in a specific sense of accounting. Accounting rules determine the meaning of such an "existence". Sometimes it is also difficult to say when assets appear for the first time (percentage of completion rules and other rules deal with this). Some useful things are generally not capable of being entered as assets, e.g., the work force, education, scientific or technological insights, etc. Rules also determine when assets must disappear from balance sheets, e.g., by consumption; depreciation is another way of consumption of equipment and inventories (and certain other positions), rules on provisions are a third way of value-annihilation. What has been annihilated is no longer "there" on the balance sheet's date; it cannot be entered any longer, and down goes the equity or net worth as a right-hand-side-residual and so does the profit or saving as result of the period.

Apart from their formal structures, reflecting the methodology of double entry accounting, accounting rules, whether in commercial or national accounting, are directed towards generating specific information. States are interested in knowing their respective economy's aggregate wealth and the value of the produce of a certain period, the GDP. The basic fact here is that what you have never produced (or found or even robbed) is as little there as that which you have eaten up or that which has been destroyed or depleted. If we look at a period, this leads to $Y - C = S$ (Income minus consumption equals saving). If the result S is positive, then this means that there was an aggregate increment of net worth on the capital side in the respective period because of the cumulative effect of changes in a great number of accounts.[340] There may now be more or less equipment, more or less inventories, and more or less other wealth assets and cash. There may also be changes in external liabilities on the capital side. Commercial profit and loss statements normally have no established

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investments necessarily cancel out. We have, indeed, to adjust for the creation and discharge of debts (including changes in the quantity of credit or money); but since for the community as a whole the increase or decrease of the aggregate creditor position is always exactly equal to the increase or decrease of the aggregate debtor position, this complication also cancels out when we are dealing with aggregate investment. Thus, assuming that income in the popular sense corresponds to my net income, aggregate investment in the popular sense coincides with my definition of net investment, namely the net addition to all kinds of capital equipment, after allowing for those changes in the value of the old capital equipment which are taken into account in reckoning net income. Investment, thus defined, includes, therefore, the increment of capital equipment, whether it consists of fixed capital, working capital or liquid capital;" (*Keynes* (1936) page 75). We should note that, accordingly, the remaining cash – "liquid capital" is investment in Keynes.

340 Like equity in balance sheets of private businesses, "saving" is a counter-entry to all sorts of assets, such as money holdings, debt-claims, real estate, stocks, and equity participations in firms or other valuables. The only way to increase assets without increasing saving to also increase "liabilities to abroad". It is, thus, not justified to read into I = S that all assets entered into the national accounts beyond liabilities to abroad are *spent* on investment.

special aggregating word or term for these netted aggregate changes; commercial accounting is satisfied with the change being expressed as periodic profit or loss. This is different in national accounting. National accounting has a special second expression for the aggregated netted amount of changes on the asset side and in external liabilities. The same value, which is already known as "saving", is re-baptized from the perspective that it cannot be consumption (because then it would be no more), and hence as "investment".[341] If that is so, then it follows, by necessity, that if we deduct I from Y, we also receive C. If, however, Y – I = C and Y – C = S are both valid, then it follows that I = S.[342] So, Keynes can very plausibly state that I and S are "merely different names for the same phenomenon looked at from different points of view."[343]

From this balance sheet-origin of I = S, it should be clear that there is no way to use these terms "investment" (reflecting actions taken on the asset side and in external liabilities) and "savings" (showing their aggregate quantitative result on the capital side) for a theory of economic activity and employment in capitalism. Such a

341 If the "marked space" of the distinction called "consumption" is "consumption", then national accounting implies that its complementary "unmarked space" (non-consumption) is "investment".

342 Y–– I = C → Y–– I–– C = 0 → Y–– C = I. Hence, I = S. We prefer to show how the equality results from the axiom that C and I are complementary. This, of course, requires a wide definition of consumption. Not only must a voluntary or accidental destruction or decay of assets be consumption (in the form of depreciation), but also a sacrifice to goods, etc.

343 *Keynes*, Letter to Harrod of 27 August 1935, Collected Writings XIII, page 551. The abstract, notional, logical, and mathematical argument, which is normally given for the identity/equality, runs: "Provided it is agreed that income is equal to the value of current output, that current investment is equal to the value of that part of current output which is not consumed, and that saving is equal to the excess of income over consumption – all of which is conformable both to common sense and to the traditional usage of the great majority of economists – the equality of saving and investment necessarily follows. In short

Income = value of output = consumption + investment.
Saving = income–– consumption.

Therefore saving = investment." (*Keynes* (1936) page 63). Rather openly, however, this argument does not tell us anything about a (possible) substantial macroeconomic relationship between whatever "investment" may be and whatever saving may be; it actually does not tell us anything about the economy and investment or saving in it at all, but it could apply to anything, given that it only draws conclusions from an axiomatic or definitional presentation of quantities. (E.g., If "world" minus "God" makes 500 and "world" minus "truth" also makes 500, then God must be identical truth, etc…). The "force" and "logic" of the argument come solely from the *in-built assumption* that the two amounts, which are deducted from the same other amount, are equal to one another.

theory cannot be derived from a self-manufactured tautology or bookkeeping identity, but only from analyzing how firms, driven by profit motives – in an environment of complex impulses –put existing stocks or arriving flows into employment-relevant and productive uses – much like Keynes had attempted in his investment theory.

S → I leaves Keynes' investment theory ("inducement to invest") intact

Accordingly, I = S, including as $S \rightarrow I$, is structurally incapable of undoing Keynes' investment theory, his "inducement to invest". His insightful investment theory is not endangered by I = S, but can instead be saved from self-demolition. This is what Keynes wanted too. We have already given the main substantial reason why this is so: *I = S belongs in the realm of national accounting; it follows from the principles set up there and only and exclusively applies there*. It is not meant to state and, therefore, cannot state, in the framework of a theory of investment and employment, that whatever we call "saving" (alone or together with resources from other origins) automatically becomes "investment" (of whatever type, productive or sterile).

Before the *General Theory*, e.g., in his *Treatise on Money,* Keynes saw the relationship of saving and investment just as most people on the street do: There are incoming flows of money, income Y, which merge with an already existing stock of money or other wealth in a big basin, which stands ready for all kind of uses. A distinction must then be drawn between a part of money, which is consumed out of this basin, C, and the remainder of money, which is not consumed but instead stays there and is saved for the moment, S. Saving means simply and only the negative act of not consuming money for the time being (of, as Keynes correctly said, "not having dinner today").[344] Saving is, in fact, not a flow at all, particularly not a flow out of wealth, but *an outflow, which does not happen,* a residual between a mixed stock of pre-existing wealth and a prior inflow of income and an outflow of money for consumption. Saved money stays for later uses while consumed money is gone.[345]

Here is a quote by Keynes that expresses this view: "Of the resources of the community earned or available within a given year, a certain part is saved, a certain part spent and a certain part is kept, so far as the individual is concerned, in suspense – it is kept as free resources to be spend or saved according to future circumstances may determine."[346] While the definition is, as unfortunately is often the case in Keynes'

344 This is still so in the *General Theory*, see *Keynes* (1936) page 210.

345 As already touched upon, if money is consumed for *long-lasting consumption goods*, such as cars or self-used dwellings, then one can argue that only the loss of value-in-exchange by wear and tear is consumed while the remainder has only changed its form from money-form into used car-form or resalable dwelling-form, but that is not decisive.

346 *Keynes*, How far are bankers responsible for the alternations of crisis and depression? in: Collected Writings XIII, page 4 et seq., italics added.

work, generally not very clear, it is at least clear in the regard, which is presently crucial: Keynes saw the aggregate of "saving" and of "resources kept in suspense" as a reservoir for future uses, including for employment-generating investments and he assigned freedom to the reservoir-owners to decide on these uses.[347] That already posited the structure that investors have access to and control over a larger sample of available money/wealth and that employment conditionally depends upon *how* the means in the reservoir are used by investors. Keynes maintained this reservoir-structure when he lectured that "I see no hope of a recovery except in the revival of the high level of investment… I suggest to you, therefore, that the questions to which we have to bend our intelligences are the causes of the collapse of investment and the means of reviving investment"[348] – implying a need to activate[349] more wealth in the reservoir (as potential investment into real, actual investment). In chapters 11–14 of the *General Theory,*[350] in which Keynes worked out his "inducement to invest"-theory, he continued to use the reservoir-and-subsample-concept as its base and showed no intention to give it up.

Even after he had presented the identity I = S, that did not change. He still wrote: "Saving and investment are merely alternative names for the difference between income and consumption"[351] Alternatively: "I regard them as being merely different names for the same phenomenon looked at from different points of view. Saving is the name given to a certain quantity looked at as the excess of income over consumption. Investment is the name given to the same quantity regarded as the constituent of income other than consumption…".[352] He did not want to pull out the rug from underneath his theory of the "inducement to invest". Rather, he expressly warned against this misinterpretation: "But we must not proceed from this inevitable equality to the plausible inference, which has been commonly drawn from it, that, when an individual saves, he necessarily increases investment by an equal amount".[353] Still

347 It is less clear in two other regards: What is the difference between the "part …saved" and the "part… kept, so far as the individual is concerned, in suspense… as free resources to be spend or saved according to future circumstances may determine"? And where is "investment"? Is it part of "resources spent" or "part of resources saved"?

348 *Keynes*, An Economic Analysis of Unemployment. Lecture I "The Originating Causes of World-Unemployment", held in Chicago in June 1931 (Collected Writings XIII, page 349).

349 As we have stated previously, Keynes mostly thinks of investment as generally generating employment, without expressly saying so. See footnote 293 on page 295.

350 Keynes presents his change of mind as merely a definitional issue (see *Keynes* (1936) page 77). Keynes' novel identity/equality of investment and saving was also probably intended to counter the classical argument that both would be adjusted by changes in the interest rate. If they were identical or equal, then there would be no place for such an adjustment.

351 *Keynes*, Letter to Harrod of 27 August 1935, Collected Writings XIII, page 552.

352 *Keynes*, Letter to Harrod of 27 August 1935, Collected Writings XIII, page 551. Many similar statements can also be found in chapters 6 and 7 of the *General Theory*.

353 *Keynes*, Draft Chapter 8, Investment and Saving, in: Collected Writings XIII page 477.

Keynes does not give us a rational reason *why* we should not interpret I = S in the "forbidden" sense; the master instructs his audience "not (to) proceed" from his equality to the unwanted "plausible inference", to allow his theory of inducement to invest to survive, but he does not tell us how the apparent contradiction resolves.

Keynes returns to a discussion of saving in chapter 16 of the *General Theory*, now primarily in the theory-of-investment-and-employment-context. Here he gives us further comfort that he did not want I = S to undo his "inducement to invest". He writes: "An act of individual saving means – so to speak – a decision not to have dinner to-day. But it does not necessitate a decision to have dinner or to buy a pair of boots a week hence or a year hence or to consume any specified thing at any specified date. Thus, it depresses the business of preparing to-day's dinner without stimulating the business of making ready for some future act of consumption. It is not a substitution of future consumption-demand for present consumption-demand, – it is a net diminution of such demand. Moreover, the expectation of future consumption is so largely based on current experience of present consumption that a reduction in the latter is likely to depress the former, with the result that the act of saving will not merely depress the price of consumption-goods and leave the marginal efficiency of existing capital unaffected, but may actually tend to depress the latter also. In this event it may reduce present investment-demand as well as present consumption-demand. If saving consisted not merely in abstaining from present consumption but in placing simultaneously a specific order for future consumption, the effect might indeed be different."[354]

Keynes explains why the fact that "an individual decision to save does not… involve the placing of any specific forward order for consumption, but merely the cancellation of a present order"[355] is not overcome by some hidden abstract mechanism that operates in the background. Here is where Keynes also comes the closest to the distinction between sterile and productive investment, as suggested in our book. He declares "the absurd, though almost universal idea that an act of individual saving is just as good for effective demand as an act of individual consumption, has been fostered by the fallacy… that an increased desire to hold wealth, being much the same thing as an increased desire to hold investments, must, by increasing the demand for investments, provide a stimulus to their production; so that current investment is promoted by individual saving to the same extent as present consumption is diminished".[356] He gives us two reasons why this criticized view is fallacious, the second gets right to the heart of the matter: "Moreover, in order that an individual saver may attain his desired goal of the ownership of wealth, it is not necessary that a new capital-asset should be produced wherewith to satisfy him. The mere act of saving by

354 *Keynes* (1936) page 210.

355 *Keynes* (1936) page 211.

356 *Keynes* (1936) page 211.

one individual, being two-sided as we have shown above, forces some other individual to transfer to him some article of wealth old or new. … These transfers of wealth do not require the creation of new wealth – indeed, as we have seen, they may be actively inimical to it."[357] After all, Keynes' employment theory, which is largely an investment theory of employment, clearly survives his I = S!

I → S: Investment enables more investment

If there is a way to save Keynes' investment theory from his identity/equality of S = I (in the *S → I*-direction), we still cannot acquit Keynes from having contributed to significant confusion. In fact, he has probably, at least partially, convinced himself that he could use I = S outside of its natural national accounting turf in the theory of capitalist investment and employment. If investment is triggered by an inducement to invest, then this gives us motives (interests and expectations as causes) for investment, but it does not tell us yet what investment *does*. However, investment does do something. It is made for profit (and cost recovery) and, where it is successful, investing firms will end up with just these recovered costs and the intended profit, which will better equip them for new investments in further circuits. Before that, supplier firms will have received *c*-outlays, which also has equipped them for more future investments. This was a line of thought that *Kalecki* pursued with his "profit quotation", more or less, which had investment plus capitalist consumption re-appear as profit.[358] Keynes also writes in this sense, "S' always and necessarily accommodates itself to I. Whether I consists in housing schemes or war finance, there need be nothing to hold us back, because I always tracks S' along with it at an equal pace. S' is not the voluntary result of virtuous decisions. In fact S' is no longer the dog, which common sense believes it to be, but the tail."[359] He concedes: "Thus it might be truer to say that the amount of savings over a period of time depends on the amount of investment, than the other way round".[360] In this sense, he also said

357 *Keynes* (1936) page 212. The first argument is: "It comes from believing that the owner of wealth desires a capital-asset as such, whereas what he really desires is its prospective yield. Now, prospective yield wholly depends on the expectation of future effective demand in relation to future conditions of supply. If, therefore, an act of saving does nothing to improve prospective yield, it does nothing to stimulate investment" (loc. cit.).

358 As we shall see, Kalecki will distinguish the two questions of a theory of investment and of a theory of profit very clearly. See on page 322 and seq. and 325 and seq.

359 In this quotation, S' is saving including the saving of entepreneurs from their Q. If E is the amount of earnings without entrepreneurs profits Q, then it follows that $E + Q = E'$ (total income) and E' – F = S' (see *Keynes*, Notes on the definition of Saving, in: Collected Writings XIII, page 275, 276.) The quotation is from *Keynes*, Collected Writings XIII, page 276. *King* (2015) page 6, writes "causation runs investment to saving, not vice versa".

360 *Keynes*, An Economic Analysis of Unemployment. Lecture II 'The Road to Recovery', held in Chicago in June 1931, Collected Writings XIII, page 388. Hawtrey, in a letter, proposed an example on how an increase of investment could create a tendency for savings to catch

(mentioning profit as a source of saving) that "... the entrepreneurs' profit increases when the increase in investment is greater than the current economy and decreases when the economy is greater than the increase in investment...the increment of investment is equal to the increment of profit plus current economy".[361]

Keynes rejected Ricardo's Law of Say, but he was still looking, in much the same way as everybody else in fact, for something better to substitute it with and to connect quantities in macroeconomic tubes. Specifically, he tried to connect employment to "aggregate demand". It is here that Keynes' expected to find his identity/equality of investment and saving to make the macroeconomic contribution, which could substitute Ricardo's Law of Say. He writes: "For the proposition that supply creates its own demand, I shall substitute the proposition that expenditure creates its own income, it is an income just sufficient to meet the expenditure."[362] Now, if it was not right to state that supply in general creates its own demand, then it might be possible to state that investive spending would – at least – generate *resources* for further circuits of investive spending, or that "investment creates its own refinancing". This was some kind of a *theory of saving* with a main thread that the saving could be used for investment again and was, thus, at least not macroeconomically lost after one use or circuit. Investment, Keynes observed, does not exhaust its power by generating employment in its first use; it can do the same again and generate employment once more. The money will flow from the pockets of the first-round-investing entrepreneurs into the pockets of the second-round-entrepreneurs: from there, it will probably become re-united with other financial means and can kick-start another beneficial employment-generating voyage – good news for employment.[363]

We have found similar reasoning in other authors. Quesnay, most certainly, saw the "dépenses" of all of his classes, investive plus consumptive, as simultaneously re-sourcing the employment-generating spending of the classe productive and stérile in future circuits. We have also abbreviated Malthus as saying that "costs cannot buy value". This formulation was put in a provocative, almost paradoxical, form in order to stress that cost-outlays can never be sufficient to finance profits; still, it silently implied that costs-outlays (payments of firms to supplier firms and to

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up capital outlay and emphasized that there would be a discrepancy during an interval. Keynes did not answer this interjection in specific. See *Keynes*, Letters from Hawtrey from 12 March 1935 and reply by Keynes on 14 March 1935 in Collected Writings XIII page 565, 566.

361 *Keynes*, Collected Writings XIII, page 277. It does not matter for us that the notions used by Keynes are, once again, quite unclear.

362 *Keynes*, Collected Writings XXIX page 81 et seq.

363 In parallel, a similar beneficial process takes place with workers' salaries. It differs in so far as the laid-out salaries *v* will not go into investment, but into consumption.

workers) would at least suffice to re-fund costs. The same idea can be found in Sismondi and it could also be expressed in Marx's M–C–M' or reproduction schemes. There can be no doubt that M-outlays, which flow to suppliers, hence *c*-outlays, are their income, fill up their reservoirs, and that the aggregate reservoir of the capitalist class's savings enable new investive employment-generating spending.[364] The same is true of *v*-outlays, which enable workers' consumptive employment-generating spending (with less intermittent time – they appear as saving only very transitorily). The supplier firms and the workers receive money amounts *c* and *v*, which are equal with the firms' outlays, which can also be called M.[365] The sale of equipment or inventories by supplier firms and of labor by workers is also their purchase by investing firms; to that end, "sale" and "purchase" are only different names given thereto, only emphasizing the different views of either dispatchers or of recipients of flows. Thus, we will subscribe to the idea pursued by Keynes (or in Kalecki's profit equation, which will be discussed further below) that investment not only has conditional motives (and thus causes), but also consequences and results: The amounts that investors have paid for their investment arrive at supplier firms and workers with necessity and can be re-used.

This insight is, though, neither very new nor a great gain. Everybody who thought about macroeconomics was conscient that payments for investment are re-usable by the recipient for new investment once again. Moreover, the insight is not crucial for capitalist investment and employment, unfortunately. The problem with capitalist investment and employment is, as we said already, normally not a shortage of capital stock; therefore, it is not very material whether it is increased by "saving". We end on a terminological side note: If we look at investment outlays (*c* or *v*) in connection with a theory of investment, then it does not really make sense to call them, when looked at as incoming amounts, "saving". There is no objection, as far as supplier firms are concerned, to calling them *sales prices, sales receipts, turnover* or *revenues*; they are cost recovery plus profit, but what is left over to source new rounds of investment will be cut short by consumption because Keynes' entrepreneurs – much like Marx's capitalists – consume.

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364 This does not imply that there cannot be other resources.

365 The equality solely comes from the convention to value the purchased equipment and inventories and labor at the sales or purchase price paid. If they were valued at the present value of the investment's expected future results, then they should normally be higher. If they were valued following usual bookkeeping convention, depending on capitalization of labor costs and depreciation, they might be, or soon become, lower.

After all, Keynes honorably reintroduced the problems of Sismondi and Malthus to economics after the Great Depression. He also offered a theory of a gap in aggregate demand, caused by a propensity to consume, which was declining with rising income or wealth and which had to be complemented with investment demand in order to stimulate employment. Things became self-referential at precisely this moment; investment, a means of consumption, had to emancipate itself from its serving function, thereby forgetting about this serving function, declaring its independence and autonomy, with only this erroneous hybris protecting the society against deficient consumption demand, for the moment. Keynes hoped that his entrepreneur economy, driven by profit, would manage to detach production from consumption to create employment.

Now, investing in the expectation of further investment, also made in the expectation of further investment, meant building trust on the future being able to build trust on the further-away-future, hence, on a virtuous cycle of trust. This, though, only works if all these future generations remain oblivious on productive investment ultimately only serving consumption, hence, that they will forget that the day of reckoning in terms of a brutal consumption-test will be coming. While Keynes honestly mentioned this fatal dilemma, which is innate in elevating investment being construed as the savior for deficient consumption, he, thereafter returned to ignoring it once again. But most problems do not go away by ignoring them, and there is particularly no way to get out of the haunting shadow of this one. Profit making with investment will run dry someday if the investment goods are not purchased by somebody who can use them to produce consumption goods. Therefore, the numerator-side of the fraction of the "inducement to invest", the marginal efficiency of capital in the business plans of Keynes' entrepreneurs in investments goods must someday be hit by a dramatic collapse. This will be the end of the bail-out by investment, debunking its remaining dependency on consumption; it will prove that the artists in the investment-spiral have all put their hope in hot air only.

Second, Keynes has no way to notionally and quantitatively grasp the gap by which "aggregate demand", as he calls it, is deficient because of insufficient employment-generating consumptive and investive spending. He neither relates the problem to Marx's notations M ($c+v$) and M'-M (s), nor, more crucially, applies a distinction between productive and sterile spending to these components. He also ignores the methodological issues of circuit analysis.

Other than that, third, Keynes "inducement to invest" offers a fine and valuable theory, one which uses his microeconomic observations of investors' calculus to develop a macroeconomic theory of firms' investment and, hence, of firms' employment-generating spending (as a sub-sample of overall employment-generating spending). It plausibly describes investors' decision-making and largely corresponds to today's insights in business valuation. In so doing, though, Keynes actually discovered a novel impediment to investment. He cancels out the possibility for a

depression to benevolently induce a recovery through an automatic fall of the interest rate. Uncertainty, the new element operating via liquidity preference and rising interest rates, does away with the possibility of a self-healing and Keynes, through his innovation, actually worsened the prospects for investment to recover if it gets into trouble; investment, therefore, becomes even more unreliable as a substitute for consumption.

Keynes still underestimated the depressive effects of his discovery twofold. He cannot ascertain that only truly employment-generating-investment enters into his "marginal efficiency of capital" on the *numerator-side* of the "inducement to invest"-fraction. This is so because he did not clearly and strictly limit the numerator to productive investment but allows sterile investment to creep in; accordingly, his numerator is too loose. The *denominator-side* of his fraction, which reflects competing possible uses for money, which do not generate employment, on the other hand, is too narrow because it does not include all possible sterile investments. In particular, Keynes' denominator only looks at debt-investments, but forgets about investment in land, pre-existing buildings, stock, and pre-existing businesses (e.g., as private equity), gold, crypto, antiques, art, etc. For productive investments to come through, though, the numerator of the inducement to invest, i.e., the *m.e.c.* of a contemplated productive investment would also have to beat these. Therefore, overall, Keynes' theory, of when entrepreneurs will make employment-generating investments, if valuable and eyes-opening, is incomplete. Things are worse than he makes us believe.

Fourth, Keynes confronts his patient and willing reader with two irritating surprises by almost pulling the carpet out from under the place upon which his "inducement to invest" rests. All of a sudden, he proclaims a theory of a multiplier that explains the relationship of first and second circuit investments (and third and fourth circuits…) with a narrative that is essentially incompatible with the inducement to invest. He also posits the axiom of an identity or equality of investment and saving (I = S), which involves the same contradiction, albeit in an even more aggressive way in fact. So, he burdens us with two explanations too many of firms' investments and leaves it up to his reader to save his "inducement to invest" against destruction by the inventor himself. There is a clear parallel here to Marx overburdening his economics with the theory of labor value. After all, like Marx, Keynes cannot be said to have theoretically succeeded in the task that he set for himself, and like Marx, he became a hero mostly to those who aspire his political solutions.

Fifth, there is another problem in Keynes' thinking, which Keynes did not manage to control and which will be consequential for the remainder of this book. Just as Smith, in essence, has assumed markets for capitalist production to be inexhaustible primordial oceans, Keynes *assumed private debt financing for public deficit spending to be inexhaustible* and did not think through the question of where the money for the prosthetic employment-generating deficit spending would come from in the long run. Marx pointed to the problems and limits of prosthetics financing to unfairly

fight Malthus' (and Sismondi's) theory of a *need* of prosthetics for circuit closure; Keynes made the opposite mistake and did not consider these limits.

Section 9. Kalecki: Only capitalists can save capitalists

Michal Kalecki

Michal Kalecki, a native Polish with Jewish origins, was an independent and cosmopolitical mind. He had a very interesting life as a scholar and world-touring economic adviser, in war and peace, to different capitalist and socialist countries, even if though his life also involved fleeing from the Nazis and leaving the US during McCarthyism. Born in 1899, he studied engineering and mathematics in Poland. After reading Marx, Rosa Luxemburg, and Tugan-Baranovsky,[366] without ever formally having studied economics, he first travelled through Europe on grants or self-financed his way by teaching. He was in Stockholm when the *General Theory* first appeared. Joan Robinson recollects what Kalecki told her: "Someone gave him Keynes' book. He began to read it – it was the book that he intended to write. He thought that perhaps further on there would be something different. No, all the way – it was his book. He said: "I confess, I was ill. Three days I lay in bed. Then I thought – Keynes is more known than I am. These ideas will get across much quicker with him and then we can get on to the interesting question, which is their application. Then I got up"."[367]

Soon afterwards, he arrived at the UK and spent time at several universities, including Cambridge and Oxford. Although he made friends with members of Keynes' Cambridge circle, Joan Robinson, Richard Kahn, Maurice Dobb, and Piero Sraffa, he had only one "cold" meeting with Keynes himself in 1937. Although she was close friends with Keynes, Joan Robinson still acknowledged a precedence of Kalecki's work over Keynes' work in major regards.[368] Kalecki remained in the UK during World War II, teaching and working as a statistician in the war economy. After the war, he took on tasks in Montreal and New York and worked for the UN and US institutions until McCarthyism made him return to communist Poland in

366 *López/Assous* (2010) footnote 2, page 226.

367 *Robinson* (1977) page 8, 9.

368 She writes on the major contents of Keynes' theory: "Michal Kaleck"s claim to priority of publication is indisputable. With proper scholarly dignity (which, however, is unfortunately rather rare among scholars) he never mentioned this fact. And, indeed, except for the authors concerned, it is not particularly interesting to know who first got into print. The interesting thing is that two thinkers, from completely different political and intellectual starting points, should come to the same conclusion. For us in Cambridge it was a great comfort." (*Robinson* (1966) page 337).