

for the capitalist class in the aggregate are not a sufficient motive for investment for individual capitalists. His profit equation describes a macro-transmission through the economy, one comparable, if more concise, to Keynes' identity of S and I, but in the end he only gives us that capitalists' prior investment, and consumption will enable the receiving supplier capitalists to make new investments. Whether this potentiality becomes a reality remains open-ended.

## Section 10. Minsky: Liquidity and firms' employment-generating spending

### Hyman P. Minsky

Hyman Philip Minsky (1919 – 1996) was a student of both Henry Simmons and Josef Schumpeter, and influenced by their views on credit<sup>398</sup> and financial instability. Furthermore, he was influenced by Irving Fisher's debt-deflation theory.<sup>399</sup> Moreover, he was particularly impressed with Keynes. He must have known Marx, partly used his insights, but he was careful when referring to him; he commonly made reference to Marx's ideas via Kalecki.

Minsky's starting point was where Marx and Keynes agree: "For a capitalist system to function well, prices must carry profits. Prices are also vehicles for recovering costs... Firms try to build into their supply prices an excess of cashflows over operating costs... This building takes the form of markups on technologically determined costs...".<sup>400</sup> "The capital development of a capitalist economy is accompanied by exchanges of present money for future money, the present money pays for resources that go into the production of investment output, whereas the future money is the 'profits'".<sup>401</sup> "For output to be produced over a succession of periods, prices must exceed the per-unit costs of those inputs that directly vary with production"<sup>402</sup> "Business investment involves spending money to produce goods that are to be used in a production process that are expected to yield revenues in excess of current out-

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398 Schumpeter writes, for instance, that: "Der Unternehmer "kann nur Unternehmer werden, indem er vorher Schuldner wird. Er wird zum Schuldner infolge einer innern Notwendigkeit... und ist nicht etwas abnormales, ein durch akzidentielle Umstände zu erklärendes, missliches Ereignis. Sein erstes Bedürfnis ist ein Kreditbedürfnis." (*Schumpeter* (1912) page 208). On Schumpeter see also *Beinhocker* (2006) page 39.

399 *Fisher* (1933) page 337.

400 *Minsky* (1986) page 158 et seq

401 *Minsky* (1993) page 2.

402 *Minsky* (1986) page 161.

of-pocket-costs....this excess is imputed to capital assets and becomes the return on investment... is like a bond... a money-now-for-a-money-later exchange"<sup>403</sup>

Minsky had been interested in business cycles and the dynamics of capitalism since the 1960ties, much like Schumpeter. In this context, he preoccupied himself especially with Keynes. In 1972, he published an article on him<sup>404</sup> and in 1975 a comprehensive book, *John Maynard Keynes*, followed. Minsky chose to play the role of the concise, systematic thinker, he would have wished to have been with Keynes as his aid and comrade-in-arms when Keynes originally phrased his ideas. Convinced that Keynes was basically right, he went through Keynes' text with the aim of clarifying loose and vague terms and reconciling contradictions. It was certainly to Minsky's advantage that he saw himself more as a diagnostician than a prescriber of remedies<sup>405</sup> – just the opposite of Keynes. Thus, he produced an improved, more consistent, and clarified Keynesian framework. But there was an additional wrinkle. Keynes had already thought of capitalism as a monetary economy. Minsky – on the tracks of Simmons, Schumpeter, and Irving Fisher – pulled Keynes further in this direction, in particular by connecting considerations on how finance, via limited budgets and liquidity, can impact firms' employment-generating spending – in the negative and in the positive. Here Minsky added material of his own and, as his article "The Financial Instability Hypothesis: An Interpretation of Keynes an Alternative to 'Standard' Theory" of 1977<sup>406</sup> shows, went beyond a precise reconstruction of Keynes only. Rather, he let Keynes' thoughts and his own financial contributions merge into something, which almost became one thing for Minsky, and which he baptized the "Financial Instability Hypothesis". He stayed on this track until his last book *Stabilizing an unstable economy* (1986) and his paper "The Financial Instability Hypothesis" (May 1992). He now admitted "... the Financial instability Hypothesis is an interpretation of the substance of Keynes' 'General Theory.'"<sup>407</sup>

In this Minsky's view, the financial system was not a peripheral, subservient, and neutral subsystem of the economy, which only emits disturbing waves of instability from the outside on the basis of occasional malfunctions, like bushfires in a countryside region, an erupting volcano, or the collapse of a network of computers. Rather, the financial system sits *in the center of the economy*, and it steers firms' investment both generally and permanently. It does this for the good or the bad of the economy, which becomes only especially visible in booms, crises, and busts. A theory of capitalism that accepted this central spot of finance, hence, had to be able to show how finance generates instability – something which the model of the neoclassical

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403 Minsky (1986) page 192.

404 Minsky (1972).

405 Minsky (1982), Introduction, page viii.

406 Also reprinted in Minsky (1982). See also Minsky (1980).

407 Minsky (1993) page 1.

synthesis could not do.<sup>408</sup> Working this out was what Minsky saw as his task and he accepted this challenge.

### The “Financial Instability Hypothesis I”: Asset prices, interest rate, investment, and soft macro transmissions

“Keynes’ system consists”, Minsky generalized, “of an analysis of capitalist finance in the context of uncertainty and how capitalist finance affects the valuation of items in the stock of capital assets and thus affects the pace of investment.”<sup>409</sup> The “core” of the *General Theory*, according to Minsky, “...is the theory of investment and why it is so prone to fluctuate...” (Note the difference to Kalecki who denied the existence of a theory of investment). In this regard, Minsky goes on, “...Keynes’ theory of investment links the fluctuating pace of investment, which is an output (real sector) concept, to variables, which are determined in financial markets.”<sup>410</sup> As we have seen, this line of argument began with Keynes in the *General Theory* with uncertainty, an increased propensity to hoard, liquidity preference, and interest rates; we have also seen how it was further evolved by Keynes himself in the Viner-rebuttal to capital assets’ falling prices as a crucial intermediate step.<sup>411</sup> What Minsky now added, in order to arrive at his “Financial Instability Hypothesis”, on the one side mainly consisted of an elaboration and systematization of Keynes’ Viner-rebuttal: Values of capital assets are shown as being in juxtaposition to current production or replacement costs of such assets; their relationship determines the fate of the production of new assets. It does this on the positive upward side, by allowing and enabling creative “upward instability”.<sup>412</sup> In the upswing, improved financing terms lead to higher profits, which lead to expected higher future annuities, and which lead to higher present values that again lead to improved financing terms. Better financial terms, enabled by almost any financial innovation whatsoever, raise the value/price of capital assets in two ways: They increase the future quasi-rents (through lower financing costs) and by the market’s raised valuation of these quasi-rents.<sup>413</sup> Bankers are as ready and eager as firms to transition into euphoric states or even to “explode” and to jointly glide into irrational exuberances. Bankers tend to discover that in booms their “margin(s) of safety” grow higher than they had originally required.

408 Minsky (1982) Introduction, page xii.

409 Minsky (1975) page 129 (italics by Minsky).

410 Minsky (1975) page 92. Minsky silently, quite rightly, reads a focus on the productive economy into Keynes, although Keynes (like Minsky) did not apply the distinction between the productive and sterile economy.

411 Viner (1936); Keynes (1937).

412 Minsky (1977) page 66, 78, 83 and Minsky (1966) page 118. “Capitalism”, says Minsky beautifully, “reacts to past success by trying to explode” (Minsky (1966) page 149).

413 See Minsky (1978) page 83. See also Minsky (1986) page 199.

Hence, even if they stay with the same “margin of safety”-requirement in the next round of loans, their financing will expand as they can calculate with higher asset values. It is very likely, though, that they will now, in the interest of increasing the profits of their banks, somewhat reduce their “margin of safety”. This makes money even more abundant and adds a further impulse to low interest rates. The outlook onto new investments (including in the productive economy) becomes brighter. Entrepreneurs will, thus, be very eager to pick up newly offered money and to invest it, setting in motion further stimuli to employment and growth.

Much of the preceding Minsky narrative of the upswing-part of the business cycle is familiar and had already been present in Irving Fisher, Keynes, and others. Minsky spoke of it as a “peculiar circularity of a capitalist economy”, which is “that sufficient investment to assure the economy does well now will be forthcoming only as it is believed that sufficient investment to assure the economy will be forthcoming in the future”.<sup>414</sup> Here we are again: Firms must believe that firms will invest in the future in order for things to go smoothly in the present.

We have seen that Keynes, in the *General Theory*, introduced his marginal efficiency of capital (m.e.c.) as the discount rate that would make “the present value of a series of annuities given by the return expected from the capital asset” equal to its “supply price”, which was the “replacement costs” for the capital asset or “costs of producing that unit”<sup>415</sup> and that Keynes compared this discount rate with the interest rate to derive the inducement to invest as some kind of a “governor” for investment. Minsky had, as mentioned previously, called the original m.e.c./interest rate-version of the “inducement to invest” in the *General Theory* “muddled” because Keynes only “phrased his argument in terms of interest rates” and “...chose to suppress the price of capital assets in his statement of his liquidity-preference function”.<sup>416</sup> Minsky even blamed Keynes for retrogressing from a “cyclical perspective” to an “equilibrium-growth perspective” here and in other parts of the *General Theory*, especially in chapter 17. “As a result of these flaws”, according to Minsky, “the full power of his argument was obscured and lost...”<sup>417</sup> Yet, luckily, Keynes had already himself refined this deficient original view in the Viner-Rebuttal by redefining the ratio between the (fallen) prices of preexisting (productive) investments and the production costs of new (productive) investments as the critical value. Minsky supported this: “...it is necessary to explicitly introduce the price level of capital assets PK as a determinant for the demand for money so that changes in the quantity of money... or changes in uncertainty or speculative expectations can affect the price of

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414 Minsky (1986) page 254.

415 Keynes (1936) page 135.

416 Minsky (1975) page 67.

417 Minsky (1975) page 67.

capital assets".<sup>418</sup> Accordingly, adjustments operate largely via values of "preexisting assets".<sup>419</sup> "An investment good, once delivered and 'at work' in a production process, is a capital asset. As a capital asset, its value is the present value of the anticipated gross profits after taxes (quasi rents) that are imputed to its participation in economic activity. The present value of a capital asset is an inverse function of the (long term) interest rate."<sup>420</sup> The problem are "market prices for reproducible assets that are far below their current cost of production."<sup>421</sup> "Investment consists of producing substitutes for items in the stock of real capital; the price of the units in the stock is the demand price for the units to be produced."<sup>422</sup> Accordingly, "...normal functioning requires that the price level, perhaps implicit, of the stock of real capital assets be consistent with the supply price of investment goods at the ongoing wage level. The euphoric boom occurs when portfolio preferences change so that the price level of the stock rises relatively to the wage level, causing an increase in the output of investment goods. A sharp fall in the price level of the stock of real capital assets will lead to a marked decline in investment and thus, in income..."<sup>423</sup>

Minsky also makes a distinction between safer "*outside assets*" (money and government bonds), the value of which is not likely to fall much, and riskier and more volatile "*inside assets*" (real capital, meaning land, valuables, real estate, businesses and equities),<sup>424</sup> whose value may fall drastically quickly. In any case, "the relative prices of different assets change." "An increase of uncertainty will see the price of inside assets – real capital and equities – fall relative to the price of outside assets – government debt – and money..."<sup>425</sup> This even allows to give a criterion for more and less stable economies as a whole: "The domain of stability of the system depends upon the ratio of the value of those assets whose market value is independent of system behavior to the value of those assets whose market value reflects expected system behavior."<sup>426</sup> While Minsky re-phrases Keynes' Viner-Rebuttal, and makes

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418 Minsky (1975) page 72.

419 Minsky (1986) page 166.

420 Minsky (1980) page 107.

421 Minsky (1966) page 128.

422 Minsky (1966) page 134.

423 Minsky (1966) page 143.

424 Minsky (1966) page 130–132.

425 Minsky (1966) page 132. This is also supported by there being two different, albeit connected, "price levels" in capitalism, one for current output and one for capital assets; if the price level for current produce is low compared to the price level for capital assets, then conditions for investment are favorable; if the opposite is true, then they are unfavorable. (Minsky (1978) page 79 and 94; Minsky (1986) page 160 et seq., page 200 et seq.).

426 Minsky (1966) page 149. One might challenge the implication that assets exist, the value of which are wholly and eternally independent of system behavior.

it much stronger, it is arguable whether he here adds much substance to Keynes' arguments.

### **"Financial instability hypothesis II": Asset prices, interest rates and hard macro transmissions**

Minsky described how the generous availability of credit "softly" supports new investment. It does so as low rates reduce the costs of investment and raise the prices of competing old pre-exiting assets. The mechanism, of course, also works downwards. This was the main subject of our preceding treatment of Minsky, which we referred to as Minsky's "Financial instability hypothesis I". But Minsky, also regards *specific old debt of an individual firm*, inherited from its prior investment circuits, as affecting this firms' future investment. This operates via the debt service on the old debt, which must be paid out of the annuities from the individual firm's ongoing present operations. This debt service is a postponed part of M-outlays for prior circuits. Outlays, which had been cleverly avoided at the time of the investment, had first become patient balance sheet structures, but now, nastily, limit budgets and demand liquidity. They, too, co-determine whether new M-outlays in new circuits, i.e., new investments, are feasible. Minsky deals with them in what we call his "Financial instability hypothesis II".

Minsky says himself that he "makes much of the way in which ownership or operative control of the asset are financed"<sup>427</sup> and here he is adding new substance to Keynes. Old debt in balance sheets becomes the great downward amplifier and accelerator in depressions. Old "debt contracts", the inherited "debt structure" or "debt portfolio", which firms carry along and which express their financing-methods of earlier investments, cripple and block new investment in new circuits or even kill the firms. "The financial instability hypothesis", declares Minsky, "goes beyond what is explicit in the *General Theory* by integrating the liability structure and the cash payment commitments they imply into the analysis of the determination capital asset prices and the financing of investment".<sup>428</sup>

The debt obligations from the past now simply and straightforwardly absorb available cash flows and "physically" (in a "hard" way) disenable investment. Like workers must consume, firms must honor their debt. Minsky's interest in doing this is, of course, not so much that his old financing methods affect the individual entrepreneur in his individual investment decision (obviously borrowed money will enable him to invest more first, but the debt service on it will restrict his liquidity later), but he elevates the issue from a business schools subject into a macroeconomics subject. The existing financing structure upon asset values in the aggregate

427 Minsky (1986) page 194.

428 Minsky (1980) page 102.

has macroeconomic power, in particular, when the financing structure of firms is hit by a downswing. The liquidity effects of old debt boosts the “soft” effects of falls of asset values following increased uncertainty etc. Debt plus rising uncertainty is, in fact, a positive feedback-mechanism to render original losses of asset value more poisonous.<sup>429</sup> In chapter 4 of his *John Maynard Keynes*, Minsky gives a factual description of financial aspects of the corporate world. Economic units make portfolio decisions, which always encompass “what assets are to be held” on the one side and “how the position...is to be financed” on the other side. Both sides involve “annuities”, which are cash flows, incoming and outgoing. “The well-being of an ordinary business firm depends not only on the behavior of the market for its output and the terms upon which it can hire inputs but also on the behavior of financial markets on the terms on which it can borrow, sell assets or float shares.”<sup>430</sup> The financial market, together with the structure of the old debt, determine how costly the old debt is. The remnants of past financing thus become the main entry road for bad hard causal effects. Profits are not only “the signal for investments...” but also “that part of prices that supports the financial system and the structure of financial relations by providing the cash flows that validate past financial commitments”<sup>431</sup> Accordingly, if profits lack in a downswing, financial commitments of the past cannot be validated, and the “position making” of debtor-firms, in particular of (already) speculative and Ponzi financing firms, will be hit hard.<sup>432</sup> Minsky “by emphasizing the way in which investment demand is generated by the combination of the value of stock of assets,<sup>433</sup> the financing available from internal funds and financial markets, and the supply price of investment output...” shows “how a collapse of asset values, that occurs because of position making problems of units engaged in speculative and Ponzi finance, leads to a collapse of investment.”<sup>434</sup> In other words, rising uncertainty and

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429 The whole line of argument can be seen in the context of general considerations on complexity. Evolution builds up complex systems to deliver better results at lower costs. This, though, only comes at the price of higher fragility and of greater damage in cases of malfunction. Atomic plants are more effective than windmills and airplanes are more effective than horse-drawn carriages, but both entail more preconditions and have a higher potential for damage. Minsky applies that view in a specific way to the credit system, banking and the financial system as a whole. Increasing one potential for investment in good times becomes a millstone around one's neck in bad times.

430 Minsky (1975) page 68, 69 with the quote on page 69.

431 Minsky (1980) page 92.

432 One can see that here Minsky thinks of profit before interest payments (“earnings before interest”). They are also before principal repayment, but this is always so – taking out a loan is no expense and no revenue.

433 The mechanism runs via the existence of two price levels, the price level for current output and for capital assets and money (See Minsky (1986) page 160, 195) and via “the fall in the price level of the stock of real capital assets” (Minsky (1966) page 143).

434 Minsky (1980) page 101.

interest rates, falling asset values<sup>435</sup> not only dissolve “soft” pro-investment animal spirits by “soft” means – operating on the profit calculus of firms, but they disenable investment, in a brachial, causal manner, by blocking and sucking away financial means needed for it.

Minsky categorizes the quantitative relation between outgoing cashflows on old debt and incoming cashflows from firms’ annuities in a famous triple terminological invention. There is *hedge financing* (interest and principle payment can be financed with current inflows), *speculative financing* (interest payment can be financed with current inflows, principle repayment cannot; hence, debt must be “rolled over” or financed out of the sale of other assets) or *Ponzi-financing* (neither interest payment nor principle repayment can be financed with current inflows – principle repayment is only possible by increases of the value of the financed asset, disposal of other assets, if at all).<sup>436</sup> As we already know, banks and the financial system as a whole show different degrees of acceptance of these types of financing depending on their momentary perception of a more favorable or unfavorable relation between expected incoming quasi-rents, asset values and debt-payment commitments.

Most children know that you need to honor due payment obligations or you will run into trouble. If there is no liquidity left and it cannot be created, very bad things happen. There will likely be executions against the debtor, which will force him to fire-sell assets below their market value and will burden him with additional costs. And, no doubt, the debtor will, partly because he is struggling to meet his existing payment obligations, and partly because his money is gone, cut back on his expenditures. Remarkably, these rather obvious children’s insights appear to have been forgotten in mainstreams macroeconomics when Minsky pointed at them twenty or thirty years ago; astonishingly, but they were afterwards forgotten again – so that economists and bankers, in their desperation after the financial crisis of 2008, re-discovered Minsky as revelation. They spoke of a “Minsky moment” when uncertainty increased interest rates and the resulting lower business values made inherited finance structure unbearable and over-stretched old debt service. A formerly tolerated Ponzi financing or even a speculative financing will then be rapidly terminated by banks. Moreover, debt contracts, which had originally been conservative hedge financing instruments, may now degenerate into unsustainable speculative or Ponzi instruments. While asset values smelt away, the payment commitments

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435 “A rise of investment, due to improved financing terms, leads to an increase in profits. As the level and trend of profits enter into the determination of the price of capital assets, the “evolutionary” expansion of financing forms increases the prices of capital assets in two ways: It increases both expected quasi rents and the price that will be paid on the market for a given time series of expected quasi rents.” *Minsky* (1980/2) page 83. See also on the twofold negative effect of rising interest rates: *Minsky* (1980/2) page 27.

436 *Minsky* (1977) page 66 and *Minsky* (1980) page 105.

and the value of the debt, which financed them, unfortunately, do not. Firms, which are no longer able to finance their debt commitments out of normal current annuities, are forced to revert to alternative exceptional means, such as pledging, mortgaging, hypothecation or sale of assets. If you hold the wrong assets, “inside assets” (e.g., stock) instead of “outside assets” (e.g., state bonds) or “not protected assets” instead of “protected assets”,<sup>437</sup> that will expedite your downwards glide as you will find the value of these assets particularly diminished. This is “hard” stuff, there are “hard” macro transmissions. Summarizes Minsky: “The adequacy of cash flows from income relative to debt, the adequacy of refinancing possibilities relative to position, and the ratio of unprotected to protected financial assets are determinants of the stability of the financial system.”<sup>438</sup> Or: “The financial instability hypothesis by emphasizing the way in which investment demand is generated by the combination of the valuation of the stock of assets, the financing available from internal funds and financial markets and the supply price of investment output shows how a collapse of asset values, that occurs because of position making problems of units engaged in speculative and Ponzi-financing, leads to a collapse in investment.”<sup>439</sup> The financial instability integrates “the liability structure and the cash payment commitments they imply into the analysis of the determination of capital asset prices and the financing of investment”<sup>440</sup> This hard downside transmission is the original contribution, which Minsky adds to Keynes.

Yet, there is also something, which could be called a “hard” upside macro transmission. Alike Sismondi and Malthus, Keynes was aware that salary outlays increase aggregate demand and exert positive feedback on the economy and future investment. Minsky starts from here and adds insights from Marx’s reproduction schemes and shifts the perspective from the benevolent effect of salaries as employment-generating spending to their effects on profits. He is looking for a certain cross-wise numeric equality between a part of salary outlays and firms’ profits. The argument goes as follows: All salary outlays of firms of investment and consumption industry departments become employment-generating spending of workers to consumption goods firms catering workers. However, as the salaries paid to workers by consumption goods firms are also costs of these firms, in the aggregate they offset. Yet, salaries paid out by investment goods firms to their workers also end up in the pockets of consumption goods firms, but they are no costs of consumption

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437 “Protected assets” are money, gold, near money (as government debt), which he also extends to bank deposits with deposit insurance. Minsky also acknowledges different shades of protection, with even bank deposits without deposit insurance, depending on inter-bank markets and a central bank acting as lender of last resort. being factually more protected than corporate or consumer debt. (*Minsky* (1966) page 133).

438 *Minsky* (1966) page 128.

439 *Minsky* (1980) page 101.

440 *Minsky* (1980) page 102.

goods firms, but only of investment goods firms. Thus, consumption goods purchases by investment goods industry workers will be profits of consumption goods firms. "...the mark-up on labor costs in the production of consumer goods will be the wage bill in the production of investment goods,"<sup>441</sup> In other words, investment in investment industries – in the amount of salaries paid to workers in those investment industries – is macroeconomically transmitted, via consumption of these salaries for consumption goods by workers, into consumer goods industries firms profits. Investment industry salary pay-outs, thus, will – at least if inventories with stocks in consumption goods are exhausted – result in a positive hard macro-transmission increasing employment-generating spending and generating new investment and employment and enabling circuit closure. This is a noteworthy hard upside effect (while, of course, the hard downside transmission in crises is the more crucial one).

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Although his insights are almost half a century old, Minsky still provides the most developed theory of firms' employment-generating spending. Accordingly, his thinking became the most important reference point for the debates on the "lost decade" in Japan and on the financial crisis of 2008, e.g., in authors such as *Richard Koo*, *Adair Turner*, or *Steve Keen*. Let us relate Minsky's insights, on the euphoric impact of low interest debt and high assets values in upswings and the depressing or crippling impact of the resulting unbearable debt-service in a downswing, to our standard question coming from the "third interpretation of Ricardo's Law of Say", Sismondi, Malthus, and Marx's  $M-C-M'$ : Will firms mobilize/use their expected  $M'-M$ -profits to mutually buy their produce, thereby representing  $M'-M$ ? The answer of the "financial instability hypothesis" reads: They may do it (or might even wish to overshoot) if, due to generous finance and low interest rates, asset prices are high in an upswing or boom, and firms will most likely not do it if asset prices fall in a downswing or bust due to rising interest rates and crippling debt structures. Concerning Minsky's insights, we might first add an *important time-moment* or *cyclical moment* to the analysis. Minsky, more than any of his predecessors, acknowledged the relevance of pre-existing assets for the productive economy, macroeconomically through the impact of lower or higher asset prices depressing or triggering investments, and at the level of individual firms through the impact of its own debt structures. The wealth economy is beginning to claim center stage as explanans for action in the productive economy. Yet, Minsky did neither posit nor work out the fundamental distinction between the productive economy and the wealth economy and did not pursue the trace of the wealth economy sucking away investment from the productive economy and why, apart from cyclical movements, there will be an

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441 Minsky (1977) page 64 with reference to Kalecki (but not to Marx).

aggregate loss to the wealth economy which renders investment in the productive economy deficient, even across the cycles.

