

# A COMPARISON OF DIRECT INVESTMENT OF SAVINGS AND CASH BUILDING OF SAVINGS: A RESPONSE TO ALEXANDRU PĂTRUȚI

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*ABSTRACT:* When individuals save more and invest directly in projects there results capital accumulation and growth. When individuals save more in order to add to their cash holdings, consumer goods are liberated that can be used for capital accumulation causing also economic growth. At first sight, the processes seem similar. But are there differences? And if so, what are they? In this article and responding to Pătruți (2016), we will first emphasize that cash building does not necessarily stem from saving. Second, we will argue that cash building by saving does not necessarily imply a longer time period for capital accumulation to materialize. Third, we will criticize the argument that hoarding would be suboptimal vis-à-vis direct investment. Finally, we will analyze the differences between cash building by saving and saving through investing.

*KEYWORDS:* Austrian school, capital theory, structure of production, investment, interest, hoarding

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## INTRODUCTION

Pătruți in “An Analysis on the Relationship between Hoarding, Investment, and Economic Growth” (2016) delves into the complex relationship between investment, cash building and capital accumulation. When individuals save more and invest directly in projects, there results capital accumulation and economic growth. When individuals save more in order to add to their cash holdings, consumer goods are liberated that can be used for capital accumulation, causing also economic growth. At first sight, the processes seem similar. But are there differences? And if so, what are they? It appears that a detailed analysis of the difference is still missing.

I am very grateful for Pătruți’s article for raising these questions, and agree with Pătruți’s assessment that “there seems to be a lack of economic literature which comparatively analyzes whether in a monetary economy hoarding is in any way different from investment with regards to economic growth.” (p. 252)

Yet, and not mentioned by Pătruți, there have been some (albeit scarce) discussions in the literature on the effects of saving in form of cash building, comparing them with the direct investment of savings.

The authors agree that cash building by saving allows for capital accumulation and economic growth, and that its effects are similar to those of a direct investment of savings. For instance, Mises states (1998, pp. 518–519):

If an individual employs a sum of money not for consumption but for the purchase of factors of production, saving is directly turned into capital accumulation. If the individual saver employs his additional savings for increasing his cash holding because this is in his eyes the most advantageous mode of using them, he brings about a tendency toward a fall in commodity prices and a rise in the monetary unit’s purchasing power.... If nobody employs the goods—the nonconsumption of which brought about the additional saving—for an expansion of his consumptive spending, they remain as an increment in the account of capital goods available, whatever their prices may be. The two processes—increased cash holding and increased capital accumulation—take place side by side.

Thus, Mises notes that saving and cash building is a more indirect way than direct investing. Both lead to capital accumulation. He does not say anything on the comparative speed of the processes.

Similarly, I have argued elsewhere (Bagus [2015a, pp. 65–66])

that an increased demand for money (hoarding) by a reduction of consumption has the same effects on the structure of production as in the case of an increase in savings and direct investment: the structure of production becomes more capital intensive. In both cases, consumer goods are liberated to enlarge and widen the structure of production. The difference to an increase in savings and direct investment is, that in the case of an increase in cash holding by an abstention from consumption, the funds are not directly invested in an enlargement of the structure of production, but they are directed to this effect indirectly by a change of relative prices.

Huerta de Soto (2009, p. 449) also regards the two situations as quite similar and remarks,

[t]he only difference between this situation [refraining from consumption in order to increase cash balances] and that of an increase in voluntary saving which is immediately and directly invested in the productive structure or capital markets is as follows: when saving manifests itself as a rise in cash balances, there is a necessary decline in the price of consumer goods and services and in the price of products in the intermediate stages, as well as an inevitable reduction in the nominal income of the original means of production and in wages, all of which adapt to the increase purchasing power of money.

While Pătruți agrees that both direct investment of saving and cash building through saving cause growth in the long run, Pătruți is confident to have found one important difference, claiming that

hoarding necessarily implies a longer period of time between the moment when resources are saved and the moment when new consumer goods reach the market (economic growth), as opposed to the case in which the same amount of resources would be invested through the banking system. (p. 248)

In short, in the case of cash building by saving we would have to wait longer for beneficial economic growth. Therefore, Pătruți

concludes that “increasing monetary cash balances does not represent the optimal growth promoting tool.” (p. 253)

In our response, we will first clarify that cash building does not necessarily lead to growth as it can stem from disinvestment. Second, we will argue that cash building by saving does not necessarily imply a longer time period for capital accumulation to materialize. Third, we will criticize the argument that cash building (“hoarding”) is suboptimal. Finally, we will analyze the true differences between cash building by saving and investing by saving.

## THE INFLUENCE OF CASH BUILDING ON THE STRUCTURE OF PRODUCTION

Pătruți claims that “[w]hen people hoard, they normally [fn. omitted] withdraw a certain sum of money from their present income, a sum which they would have previously used for consumption purposes, and hold on to it for future use.” (p. 254)

Yet, cash building, i.e. the increase of cash holdings, does not imply a simultaneous increase in saving. A person can increase her cash holdings by abstaining from consuming or from investing funds, by selling consumer or capital goods. As Rothbard (2001, p. 690) puts it:

A greater proportion of funds hoarded can be drawn from three alternative sources: (a) from funds that formerly went into consumption, (b) from funds that went into investment, and (c) from a mixture of both that leaves the old consumption-investment proportion unchanged.

Consequently, Rothbard claims that when people “hoard” real cash balances increase but “no other significant economic relation—real income, capital structure, etc.—need be changed at all.” (2001, p. 680).<sup>1</sup> Rothbard simply does not share Pătruți’s assumption on the origin of cash building.

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<sup>1</sup> Pătruți criticizes Rothbard for this statement, because Pătruți assumes that cash building stems always from additional saving. Yet, there is no need at all that cash building must stem from an abstention from consumption. For this reason, we cannot say cash building necessarily results in capital accumulation. It all depends on the consumption-investment proportion that may not be affected by cash building.

Pătruți assumes that cash building comes from saving. He justifies this assumption by stating that cash building coming from disinvestment is very unlikely. Yet, there are important reasons that an investor may disinvest and hold on to the money. One of the main reasons to hold money is that it reduces uncertainty.

There are plenty of situations where individuals may want to be more liquid, hold a higher cash balance, and at the same time disinvest. Take the example of a looming banking crisis, where investors withdraw their time deposits (i.e., fail to renew their short-term loans to the banking system) increasing their cash balances. Similarly, in times of looming war, internal riots, or greater chances of natural catastrophes, individuals may cut back on their investments, increasing their cash balances. Indeed, it would not make much sense to maintain and reinvest into a factory that is close to a battlefield. Disinvestment and cash building seems to be wiser in such a case.

Moreover, cash building in a recession can be a response to and a protest against a distorted structure of production.<sup>2</sup> A distorted structure of production offers consumer and capital goods that do not adjust to actors' most urgent needs. If governments prop up (via fiscal and monetary policies) struggling companies producing these goods, people may simply abstain from buying consumer and capital goods at all and increase their cash holdings until the structure of production is adjusted and starts to produce the consumer and capital goods they most urgently demand.

## **THE ALLEGED LOSS OF TIME WHEN CAPITAL ACCUMULATION STEMS FROM CASH BUILDING**

Pătruți maintains that it will take longer for economic growth to materialize when savings are not invested but used to increase cash holdings. He writes:

I argue that increasing a society's cash balances will generate economic growth, but at a later date as compared to the situation in which the same amount of money would be directly invested.... Output growth will lag behind its potential rate in the short run if people increase their

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<sup>2</sup> See Rallo (2011).

cash balances because of the inability of factors' costs, especially the market rate of interest, to rapidly adjust to the variations in the demand for money. (p. 249)

I beg to differ. Both investment of savings in capital markets and cash building by saving (investing in money balances) lead to capital accumulation. We simply cannot say with certainty which of the two processes is faster.

Let us examine the two scenarios that Pătruți offers to make his point. In his first scenario, actors save more and invest the money through the banking system. Market interest rates fall, signaling the greater availability of present goods. In a response to the fall of the market interest rate, entrepreneurs invest in longer production processes, resulting in economic growth. The main focus in the adjustment process is on the interest rate.

In Pătruți's second scenario, i.e., in the case of cash building (hoarding), the market rate of interest does not fall in the short run according to Pătruți because the saved money is not injected into credit markets.

Pătruți argues "[h]owever, in order for this increase in the structure of production to take place in real life, there must be a prior decrease in the *market rate of interest*." (p. 260) Yet, in the second scenario, according to Pătruți, the market rate of interest takes some time to fall. There would be a "short run discrepancy between the *market rate of interest* and the *pure rate of interest*." (p. 261)

The discrepancy would be eliminated since "the market has a natural tendency to eliminate such discrepancies." Yet, this takes time and explains why, in Pătruți's eyes, it takes longer for the increase in the structure of production to take place in the case of cash building by saving.

The real adjustment process in Pătruți's second scenario, leading to an expanded structure of production, remains vague. The adjustment is summed up in the following way: "For every penny saved, there will be, in the long run, an entrepreneur who will marginally alter the structure of production, in the sense of making it more *roundabout*, and thus, more productive." (p. 261)

In both of Pătruți's scenarios, the variable that triggers the adjustment toward the new equilibrium point is the interest rate.

The change of the market rate of interest just takes longer in the second scenario. In his view, the expansion of the structure of production depends on a reduction of the market rate of interest. It is Pătruți's undue focus on the market rate of interest that is responsible for his belief that cash building by saving takes longer to expand the structure of production than direct investment.

Let us illustrate with a third scenario that the market interest rate does not need to change first before the structure of production adapts to changes in time preference rates. Let us assume that capitalists reduce their consumption spending and invest directly into their own projects. In this scenario, capitalists do not invest through the banking system or capital markets but directly into the expansion of their own companies.

Due to the reduction of consumption spending, the accounting profits of the consumption stage and the stages closest to consumption will fall. Accounting profits in the stages furthest from consumption will remain comparatively higher. Entrepreneurs will consequently invest in the stages furthest from consumption. A lengthening and widening of the structure of production takes place. Accounting profits in the higher stages of production will fall due to the additional investments there. Once the adjustment process has been completed, accounting profits on all stages will be equal and at a lower level than before the increase in saving took place and consumer goods prices fell.

These lower accounting profits reflect the lower time preference rate. Once entrepreneurial profit is eliminated, the spreads between buying and selling prices in the stages of production reflect the interest rate. The price differentials between the stages are determined by the social time preference rate. These spreads between buying and selling prices are the most fundamental phenomenon.<sup>3</sup> The market rate of interest is just a derivative of this phenomenon.

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<sup>3</sup> As Rothbard (2001, p. 317) puts it: "It is important to realize that the *interest rate is equal to the rate of price spread in the various stages*. Too many writers consider the rate of interest as only the price of loans on the loan market. In reality... the rate of interest pervades all time markets, and the productive loan market is a strictly subsidiary time market of only derivative importance."

In the words of Huerta de Soto (2009, p. 323):

Consequently growth in saving gives rise to a disparity between the “rates of profit” in the different stages of the productive structure. This leads entrepreneurs to reduce immediate production of consumer goods and to increase production in the stages furthest from consumption. A *lengthening* of production processes tends to ensue, lasting until the new social rate of time preference or interest rate, in the form of differentials between accounting income and expenditures in each stage, now appreciably lower as a result of the substantial increase in saving, spreads uniformly, throughout the entire productive structure.

Thus, we do not need the market interest rate to decrease before an expansion of the structure of production can take place. The market rate of interest is only a derivative of the interest rate prevailing in the time market. In our third scenario, a banking sector may not even exist. Nevertheless, the savings and direct investments of capitalists lengthen immediately the structure of production. The adjustment process does not depend on a prior fall in the market rate of interest.

The process in this third scenario may be even faster than the one of the first scenario. If individuals save and do not invest in their projects directly but through financial markets, they have to find an intermediary such as a bank first. The intermediary in turn must find entrepreneurs with guarantees and promising projects. All this takes time. The direct investment is faster even though it does not imply “a prior decrease in the *market rate of interest*.”

Let us go back to the second scenario, where individuals save and increase their cash holding to see if we can say anything on the length of the adjustment process. As individuals abstain from consumption, consumer goods prices will fall immediately. More specifically, consumer goods prices will fall relative to producer goods prices, which makes the production of the latter comparatively more attractive.

As the consumption sector and stages closest to consumption shrink, factors of production are liberated. These factors of production may be used to expand stages further from consumption where accounting profits are still higher. Due to the reduction of consumption, factors of production are transferred from stages close to consumption to stages further from consumption. Price



spreads will tend to become equal in all stages with a smaller spread than before the increase in saving. The new rate of price spreads reflects the lower time preference rate.

The main difference between the second and the third scenario is, that in the second one, savers do not invest themselves but enable third parties to do so thanks to their abstention from consumption. But how fast is this? The abstention from consumption makes consumer goods prices to fall in comparison to producer goods prices (i.e. prices of the goods produced in stages furthest from consumption) directly. It is hard to see why this immediate price signal would necessarily trigger a slower adjustment process than the fall of the market rate of interest, i.e., the exclusive price signal in Pătruți's scenario 1.

Let us come back to Pătruți's reasoning for why capital accumulation due to cash building by saving takes longer than investment through intermediaries. For Pătruți, the important variable that triggers the adjustment is the interest rate. In scenario 1 the market interest rate falls almost immediately due to the additional saving. In contrast, Pătruți maintains that in the second scenario there is a lag in the adjustment of the market rate of interest (MRI) that only slowly adapts to the pure rate of interest (PRI). Due to the cash building up, prices tend to fall. According to Pătruți a negative price premium will be incorporated in the market rate of interest only later, indicating entrepreneurs to lengthen the structure of production. In Pătruți's words:

However, in the second scenario, there will be a short run deviation between the MRI and the PRI. This deviation *will be* corrected through the purchasing power component. When people hoard money, the purchasing power of the monetary unit *steadily* increases and the price structure *gradually* changes. However, this is a complicated process through which every price in the economy must be altered, and the adjustment of the MRI through the purchasing power component *will always lag behind the price movements.* (p. 262)

But why must the price premium always lag behind prices?<sup>4</sup> The price premium that is bid into the market rate of interest

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<sup>4</sup> We use price premium here, which is the term that Mises uses, and assume that price premium and purchasing power component are synonyms.

depends on the expectations regarding the future evolution of the purchasing power, i.e. the price premium does not depend on the past evolution of money's purchasing power. As Mises (1949, p. 541) puts it: "It is necessary to realize that the price premium is the outgrowth of speculations having regard for anticipated changes in the money relation."<sup>5</sup> Market participants can anticipate effects of cash building on prices and bid a negative price premium into the market rate of interest. Therefore, there is no necessary time lag. In the case of cash building through an increase in saving, the market rate of interest rate can fall immediately if the increase in purchasing power is correctly anticipated.<sup>6</sup>

## IS HOARDING SUB-OPTIMAL VIS-À-VIS INVESTMENT?

Pătruți states that "...both hoarding and investments are growth promoting tools in the long run, but the latter appears to be the

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<sup>5</sup> Pătruți cites also Mises on the price premium to support his case. Yet, we believe that he cites Mises out of context, when he is citing him in the following way (Mises, 1998, p. 542):

The price premium always lags behind the changes in purchasing power because what generates it is not the change in the supply of money [...] but the—necessarily later-occurring—effects of these changes upon the price structure.

Here Mises seems to talk not about price deflation, but about the specific case of price inflation in the early stages of a monetary inflation. Indeed Mises continues (uncited by Pătruți):

Only in the final state of a ceaseless inflation do things become different. The panic of the currency catastrophe, the crack-up, boom, is not only characterized by a tendency for prices to rise beyond all measure, but also by a rise beyond all measure of the positive price premium. No gross rate of interest, however great, appears to a prospective lender high enough to compensate for the losses expected from the progressing drop in the monetary unit's purchasing power.

In other words, in Mises's view it is possible that the price premium rises faster than actual prices. Then, it is also possible that the negative price premium falls faster than prices and is included in the market rate of interest even before prices fall.

<sup>6</sup> It is another question if the price premium is likely to be anticipated correctly. In any case, Pătruți maintains that there is always a time lag, which is not necessarily the case.

optimal one because of its additional short run positive effects." (p. 256) As he thinks that investments cause growth to materialize faster than cash building by saving, he identifies a "time-efficiency" problem." (p. 262)

But who is to say what is optimal and what is not? From whose perspective is an action optimal? If actors save and do not invest but prefer to add to their cash balance, they have a reason for this. Money is the most liquid good.<sup>7</sup> Cash holdings are a protection against uncertainty.<sup>8</sup> The money held is, therefore, not idle but provides important services.<sup>9</sup> To hold money makes it easier to acquire goods and services when needed.

Strictly speaking, cash building is also an investment. It is an investment in the most liquid good. Obliging savers to invest into projects instead of cash building certainly reduces their utility. From the savers point of view, the forced investment is sub-optimal, otherwise they would have invested themselves.

As indicated above, in a recession hoarding may be a protest against a distorted structure of production. Companies must be liquidated in order to make room for new ones. Obliging savers to invest in existing companies maintains the distortion. Similarly, in the case of a looming banking crisis, a looming natural catastrophe, internal or external violence, it is prudent to increase one's cash balance and not to invest. Waiting for uncertainty to fall again is the optimal decision from the point of view of voluntarily interacting people. Imagine that the "hoarder" is obliged to invest in a new factory that is destroyed shortly after by a natural catastrophe or war.

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<sup>7</sup> Cash building also forms part of the evolutionary process in which money arises. Actors hoard a good that they expect to become a medium of exchange. We may distinguish different types of cash building. There is speculative cash building when the purchasing power of a medium of exchange is expected to rise. Uncertainty cash building occurs when uncertainty surges. Qualitative cash building appears when the quality of money increases. On these types of cash building see Bagus (2015a). On the importance of the quality of money see Bagus (2009) and Bagus (2015b).

<sup>8</sup> When actors try to increase their real cash balances with a constant money supply, prices tend to fall, accomplishing the desire of increasing real cash balances. On the productivity and welfare gain through a cash building deflation see Sima (2002), Salerno (2003), and Bagus (2015a).

<sup>9</sup> See Hutt (1956) and also Hoppe (2009).

Indeed, being liquid is very important when demand changes. A company that is liquid may react to unexpected changes in demand, survive and even profit from the change in demand. Especially in a recession, a higher cash balance is a competitive advantage. If cash balances are very low, companies may become very fragile and vulnerable to unexpected changes in demand. This fragility can cause economic crises and hamper economic growth in the long run. An adequate amount of cash holdings may foster growth in the long run. Thus, voluntary cash building cannot be considered scientifically to be a non-optimal choice.

## **DIFFERENCES BETWEEN CASH BUILDING BY SAVING AND INVESTMENT OF SAVING**

We have shown that it is not true that cash building by saving necessarily implies a time lag in triggering growth compared to investment of saving. But are the processes identical? If not, what are the differences?

There remain important differences between the capital accumulation caused by cash building through saving and the one caused by investment of saving.

First, cash building through saving implies a tendency for prices to fall. In a commodity standard, falling prices will cause money production to increase, i.e., the mining sector will expand while other sectors will contract.<sup>10</sup> In contrast, when people invest their savings through financial markets, financial markets expand. The banking sector will be bigger than otherwise.

The tendency for prices to fall has other effects besides affecting the financial sector.<sup>11</sup> Price deflation fosters saving in the form of cash building. The expectation of falling prices makes cash building more attractive. There is a positive feedback loop, as cash holdings increase in value over time due to cash building. In a world of price deflation, debts become less attractive as they have to be paid

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<sup>10</sup> See Bagus (2015, p. 66, fn. 184)

<sup>11</sup> There are also distributional effects in a price deflation. The relative wealth positions of actors change. As they have different time preferences, the social time preference rate may change due to this redistribution.

in a currency for which purchasing power tends to increase over time. Actors may be less willing to indebted themselves.<sup>12</sup> If actors lower their level of indebtedness, people will be more independent as they depend less on lenders.<sup>13</sup>

Second, in the case of investment of savings through financial markets, savers determine who will invest the money—at least indirectly.<sup>14</sup> Savers may delegate the decision on where their savings will go to specialized intermediaries that select who will receive the new savings. These intermediaries tend to choose carefully, because they specialize in picking good investment opportunities. However, savers can also directly invest through equity or loan arrangements. Savers will try to channel their savings only into investments that they regard as promising.

In contrast, in the case of cash building by saving we do not have this kind of selection. All (potential) entrepreneurs may benefit from cash building when factors of production are liberated in the consumption stage and stages close to consumption. When savers abstain from consumption and increase their cash balances, factors of production are liberated and their prices fall. All entrepreneurs, indiscriminately, benefit from a fall in factor prices.<sup>15</sup> Therefore, by pre-selection, the investment of savings may better prevent *bad* entrepreneurs from expanding their business than cash building.

In short, cash building by abstaining from consumption is a boon for all entrepreneurs in the stages further from consumption, while investment of savings can be directed to specific entrepreneurs. Also, investment of savings can be concentrated and channeled in

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<sup>12</sup> They will only indebted themselves at lower market rates of interest.

<sup>13</sup> For cultural effects of indebtedness in an inflationary environment see Hülsmann (2013). Thus, there may be also marginal cultural differences between a society where there prevails saving in form of cash vis-a-vis a society where people invest their saving through financial intermediaries. In an inflationary fiat money regime, cash building by saving is not very attractive. Thus, we can predict that in a free commodity money system people would save in the form of cash more than they do today in fiat money systems.

<sup>14</sup> Pătruți states something similar when he maintains that organized markets decrease transaction costs vis-a-vis non-organized markets.

<sup>15</sup> Companies close to consumption, of course, may be worse off due to quickly falling selling prices.

large amounts to specific entrepreneurs, while in the case of cash building by saving the gain in purchasing power for entrepreneurs is more diluted.<sup>16</sup>

Third, the lengthening of the structure of production in the case of cash building by saving is more risky than in the case of investment of saving.<sup>17</sup> This is so because cash building can be undone and reversed immediately in order to increase consumption, thereby reflecting an increase in time preference rates. If actors suddenly decrease their cash holdings and increase consumption, consumer goods prices will rise in comparison to producer goods prices. If the lengthening of the structure of production is not yet completed, there will arise problems for the new investment projects in the stages furthest from consumption.

Entrepreneurs must try to anticipate correctly how long the increase in cash holdings will last. Cash holdings have, so to speak, zero maturity.<sup>18</sup> In the case of investment of savings, it may be easier for entrepreneurs to anticipate correctly changes in saving behavior. This is so, because the kind of investment chosen by savers can be a good indicator for their willingness to maintain their saving rates. For instance, if savers invest in a 10-year bond or in equity, from the outset it seems to be more likely that they will not increase their time preference quickly, compared to the case of savers that increase their cash holdings.

Savers that have invested long term in illiquid projects may face important costs when they disinvest. In contrast, cash builders face very low costs when they reduce their cash holdings, as they hold the most liquid good. Therefore, investors tend to be more committed to their savings than cash builders.

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<sup>16</sup> Pătruți relates to this advantage by mentioning the “wholesaler” advantage of banks.

<sup>17</sup> See Bagus (2015, p. 66, fn. 184)

<sup>18</sup> We are faced with a situation similar to maturity mismatching. Cash holdings have zero maturity. Increasing cash holding by abstaining from consumption enables the start of investment projects that mature only in the future. Entrepreneurs must forecast if the increase in cash holding is sustainable or not. On maturity mismatching see Bagus (2010), Bagus and Howden (2010), and Bagus, Howden and Huerta de Soto (forthcoming).

## CONCLUSION

I am very grateful for Pătruți to have raised the question on the differences between cash building by saving and investment of saving. Yet I do not agree with his main assumption and conclusion. Cash building does not tell us anything about changes in time preference as cash building may also stem from disinvestment. Moreover, there is no reason to think that the adjustment of the structure of production is faster in the case of investment of savings. The interest rate is not the only variable relevant for the adjustment of the structure of production.

When individuals abstain from consumption, accounting profits in the consumption sector fall immediately, causing an adjustment process that expands the structure of production. And even if the market rate of interest rate were the only relevant variable, it may include a negative price premium very quickly depending on the correct anticipation of entrepreneurs.

Which decision is optimal, cash building or investment is decided on the free market by actors. The scientist cannot judge them. We may point out though, that this decision in today's fiat money systems is biased in favor of investment and against cash building due to their inherent inflationary character.

Finally, we have found several differences between cash building by saving and investment by saving. In the case of cash building prices tend to fall, making cash building, money production and low indebtedness more attractive. Investment by saving directs the purchasing power to specific entrepreneurs, while cash building dilutes the effect in form of an increase in the purchasing power of money that benefits everyone. Lastly, a lengthening of the structure of production in the case of investment by saving tends to be more sustainable than in the case of cash building by saving because the latter one can be undone more quickly and at lower costs.

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