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The interpretation of working capital and its elements, working capital management

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Abstract

Those literary sources, which are about the interpretation of the working capital in a context with the financing strategies of the companies, about the related financial indices, and the counting methodological questions of all these, could not be called poor, nor unified. The deficiency of defining the concepts that give the theoretical basis and their vocational tenability, the controversial interpretation and the unclearness of the related methodological questions creates several problems. The problematic concepts are working capital, net working capital, working (operational) capital, the circulation of current assets and working capital management etc. The root of the problems could be found on the other hand in the unclearness of the theoretical contexts, in the deficiency and vocational tenability of the defining of the related concepts and categories. We define the concepts of working capital, net working capital, working (operating) capital based on the results of our several years of research work. We prove the theoretical basis of the concepts and we open up the causal connections, the interactions of the different elements, and we prove that the sectorial peculiarities cannot be separated from attention to defining the elements and the interpretation of the contexts.

Keywords

working capital, net working capital, working (operating) capital, product production system, current assets tied up permanently

Introduction

Our research results, achieved since the beginning of the 1990s, were the motivational factors that led our research work to the development of methods and procedures which can further the financial foundation and check of the companies' function and the testing of the proposed analysis techniques and methods which can be found in the literature. We confronted it in the course of the examination of the literature that the examination methods of the companies' financing system, the interpretation of the related concepts and indices cannot be called uniform, and their practical application brings up more problems because of the deficiency of their theoretical basis. The publications on the topic are at a general level in most cases. The interpretations of the concepts are incomplete or controversial and the concept of working capital and its elements are not clarified. It has not been studied whether the sectorial peculiarities (as for example the known peculiarities of agriculture) modify the theoretical contexts or not, or totally overwrite them or not.

We outlined the problematic contexts and concepts in our earlier publications (Pupos and Demeter, 2004; Pupos, 2005; Pupos et al., 2008). We did not consider the published results mature ones; we rather marked them for raising the question. Newer and newer problems came to light in the course of the deeper exploration of the causal connections. We judged that for the clarification of the contexts considered problematic, the scientific responding to the following questions give the answer:

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1. What constitutes/may constitute the grounds for defining working capital and its elements?
2. If we accept the definitions given in the literature, namely, that working capital is equal to net working capital, how is it possible to interpret the concepts of the current assets coming forward seasonally, the current investment and working capital management?
3. Why did the authors dealing with the issue interpret the concepts based on the contexts of the balance sheet only, and what kind of context is there between the interpreted concepts and the different financing strategies?
4. Do the sectorial peculiarities – here the agricultural production – modify the theoretical contexts?

The production process as a product production system

It is known that the differentiation of production according to needs manifests itself in the production processes manufacturing the different products and services. The outputs, which may be a product or a service, are generally the end products of the production process. Henceforth, the concept of production we equally understand as product and service production.

We judge it in such a way that the approach manner being based on the system theory is the one that is suitable for the clarification of the unanswered questions mostly, because “...the fundamental idea of a system theory is that the phenomena or things should be studied in their complex context” (Csáki, 1982). It is known that a system consists of particular elements and it is able to operate only if its elements interact with each other. The production process can be also interpreted as a system. Let us define the production process as the factors and elements of a product production system. The factors of the production process can be the following if we take the definition of the production as a starting point and we compose in the most general way:

1. The technical factors
2. The physical factors
3. The chemical factors
4. The biological factors
5. The human factors

The inputs of the production process form the elements of the system of the production process. These inputs as the elements of the system transform and build in the product and service during the production process. The requirement of the transformation on the other hand is to get the elements into an interaction with each other. It is clearly reasonable that it can be only ensured by one of the elements of the system, the human factor. Figure 1 exemplifies the statements above. In spite of the deficiencies of the delineation, the contexts and the conditions of the function of the system are traceable in the figure.

So the figure includes the listed factors above and the common set of the single factors and its interactions by making use of the depictions known in the set theory. We get to the output only if the person, who is one of the indispensable factors of the system, ensures the interaction. The quality of the output (product/service) resides in this interaction. This interaction though is not anything other than the technology of the product/service production. The technology – in a system-based notion – is not anything other than the execution manner and procedure of the production process of the

necessary factors (elements) which is ensured by the linking of the algorithms defined in advance. Let us take the production process of bread as an example. The elements of the production process will be the following:

1. The Technical factors: machines, equipment
2. The Physical factors: temperature of the baking
3. The Chemical factors: additives
4. The Biological factors: the application of yeast
5. The Human factors: the baker as a skilled worker

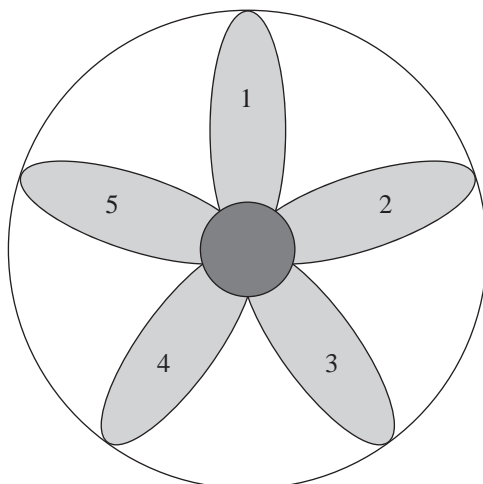


Figure 1: The production process as a product producing system

Source: own work

The quality of the product, will there be any waste product, how large will be the loss, how much will be the output etc. depends on the quality and the technology of the input factors of the system. It is reasonable that enforcement of the management functions at the level of the execution is also needed in the interest of the tranquillity of the process. The same functions come forward as in the company level, but understandably with another content.

The production process as the economic aspects of the product production system

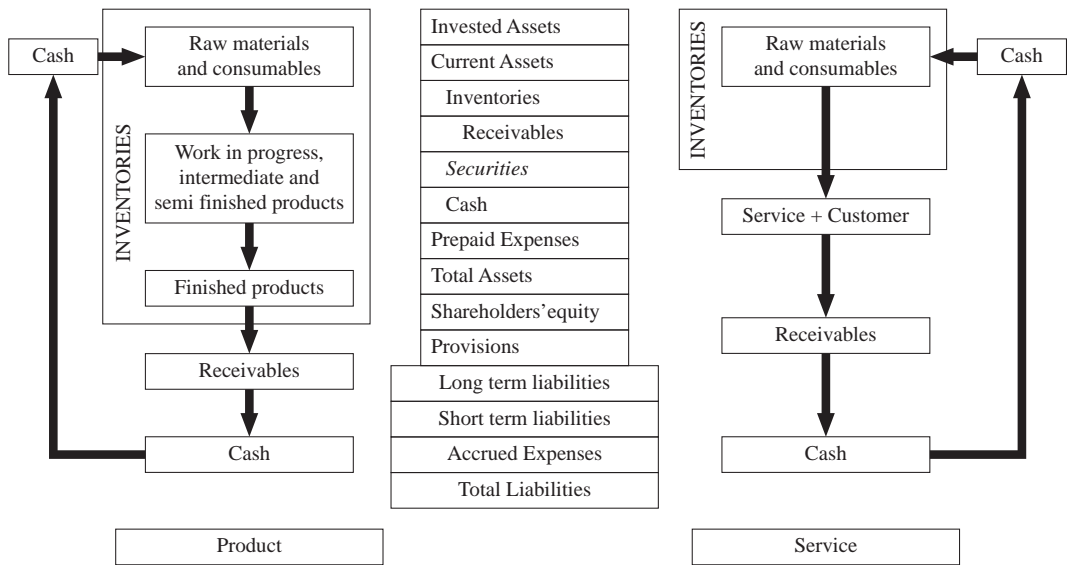
In the following we examine the general peculiarities of the companies manufacturing material goods (products) and service. Let us take a products producing company and a hotel that deals with accommodation and catering – in harmony with its basic function – as a basis. It is reasonable that both companies need inputs. There is no difference between the inputs regarding the role played in the production between the two companies, but their actual form of appearance is already output dependent. Namely it means that both companies need money, invested or fixed assets, current assets and human resources. That these inputs mean a lathe, sphere iron, workforce with academic specialization qualifications, refrigerator, pork chop, or a human resource with master cook qualification, it already output dependent. It is also not necessary to prove that the scene of the transformation of the inputs is the production process in the case of both companies. However the procession of the production process is an output dependent too. The aim of the two companies can be the same,

like the realization of profit, despite a different mission. The conditions of the realization and the bars of profit are also the same for both companies. We receive the contexts of Figure 2 if we make the economic content of the production process the object of an examination.

As is traceable on the figure, the circulation of the current assets is going on among the inputs in the course of the production process, so the production of the outputs comes true through the circulation of the current assets. In the course of the circulation the current assets lose their original appearance partly or completely, their value turns into the value of the output. The invested devices take part in the process of the production naturally to ensure the conditions of the production, but they do not lose their original appearance. However, the human resource brings the inputs into an interaction with each other. The concrete product and service are suitable for the satisfaction of the human needs. The customer visualizes and conveys it on the figure. Based on the figure it is traceable that the process of the supply chain of the need satisfaction is the same until the product or service production in that sense, that the production of the product and service is possible equally with the use of inputs, so the service is also the result of a given production process. However essential peculiarities can be discovered in the need satisfaction process. The transport of the product to the consumer comes true through the supply chain. The supply chain is the vertical linking of the activities between the companies in the interest of satisfaction of the needs. One of the important peculiarities of the need satisfaction process fulfilled by the product and service is that the product gets to the consumer through different sales channels, like wholesale and retail trades. The need on the other hand cannot be taken because of its peculiarities, so the consumer goes to the place of production. This is one of the peculiarities that it is necessary to take into consideration in the course of the practical realization of the different leadership functions. In the case of the service the production of the output and its consumption partly or fully cover each other in time, so the service cannot be reserved.

In the following let us track the circulation taking the production of the nut as a starting point. Based on the figure it is verifiable that the money is the first form of appearance of the current assets, which is the same in reality. The money makes it possible to buy inputs, in this case to buy the necessary current assets for production, like sphere iron, energy etc. so we convert money into current assets. The production process did not begin yet, but we have prepared ourselves for its launch. We call this section an ever-ready section. The production begins with the slicing of the sphere iron. The end product of this is the chopped sphere iron, which is a semi-finished product. The nut will be the result of the production process, as the finished product. The production section lasts from the launch of the production to the appearance of the finished product. The realization follows it.

Receivables stock also arises until the financial realization of the income from sales. This section is the return section, which result will be money again. The real flows going on inside the company generate financial processes which come true simultaneously or with some time lag with the real flows. So we need the knowledge of financial processes of the circulation and its attached elements, because these financial processes appear in cash flows. Figure 3 exemplifies the contexts of the real and financial processes. Based on the figure, the stockpiling period begins with the purchasing of materials and lasts until the realization of the finished product. The supplier debt finances the purchasing as commercial credit until the equalisation of the debt. The sums of stockpiling and realization of the equalisation of the supplier debts, the production and the finished product get the source demand of the circulation. As a return, the financial realization of the claims moderates this sum. All of these constitute the financial cycle of the circulation of the current assets collectively. The continuous production comes true in the manner that the sketched processes are reproduced, so they are repeated, if the money is at present as a connecting link. The sketched contexts constitute the conceptual basis which is needed to take into consideration for short-term investment and financing decisions of the current assets.



AIE: Prepayments, **HLK:** Long term liabilities, **RLK:** Short term liabilities, **PIE:** Accruals

Figure 2: The cycle model of current assets, and product and service production in the production process

Source: own work

The interpretation of working capital and working capital management

Earlier we have written about the circulation of current assets. We saw that the production process is not other than the continuous recurrence of the circulation of current assets. We interpreted the function cycle and its financial effects. However, only the interpretation of the circulation and the knowledge about its elements is not enough. We need the clarification and interpretation of the role of the elements of the circulation in the interest of the exploration of the causal connections and in the interest of the insurance of the continuity of production. Providing the harmony of the real and nominal processes is an important requirement to the company's long-term financial stability according to the principle of the temporal. The temporal principle expresses the requirement of the harmony between the blocking period of the inputs in production and the expiry date of the resources. Namely it means that the assets functioning as capital should be financed by own capital or by beyond-a-year (long-term) liabilities. It is known that investment decisions have an effect on the establishment and construction of the company's assets. If these decisions also seem good from the financial viewpoint, we find ourselves confronted by a newer decision problem, namely, that from where and in what form we shall ensure the resource demand and how to finance it. So it is needed to bring our financing decision. The company's desired property structure and financial and capital structure takes shape and changes as the result of our mentioned decisions. The vocational tenability of the investment and financing decisions cannot avoid the definition of working capital and its elements, their interpretation and the examination of their interaction. The interpretation of related concepts cannot be entered uniform ones; we alluded to this already in the literature. Working capital is considered as identical with either the full substance of the current assets or with net working capital. According to the Economical Alphabet (1973:158): "The working capital is the elements of production capital that are used up in the production period and their value is conveyed

to the new product”. This wording considers working capital as being identical with current assets. We find identical definitions in the following sources: Economic concise lexicon (1987:173); Hungarian encyclopaedia (2003:628). According to Hámori (2000:46): “working capital is the other part of a company’s property beside the fixed capital.” The working capital has three main components.

The first component is the capital stock, including the finished goods, the semi-finished goods and raw materials; the second is the account receivables and short term debtors. The third is the cash and the short-term investments. The size of working capital is the main indicator of the company’s liquidity especially in terms of the financial proportions. The author regards the full substance of the current assets as working capital. That is how working capital can be regarded as the indicator of the liquidity, for the reader this cannot be judged based on the source only.

Essential difference can be discovered in the work of those authors who consider working capital identical with net working capital. In connection with the topic Brealey and Myers (1993:464-473) reckon as basis literature in which the authors interpret working capital as the summation of the tied up current assets and the current liabilities, as the components of working capital.

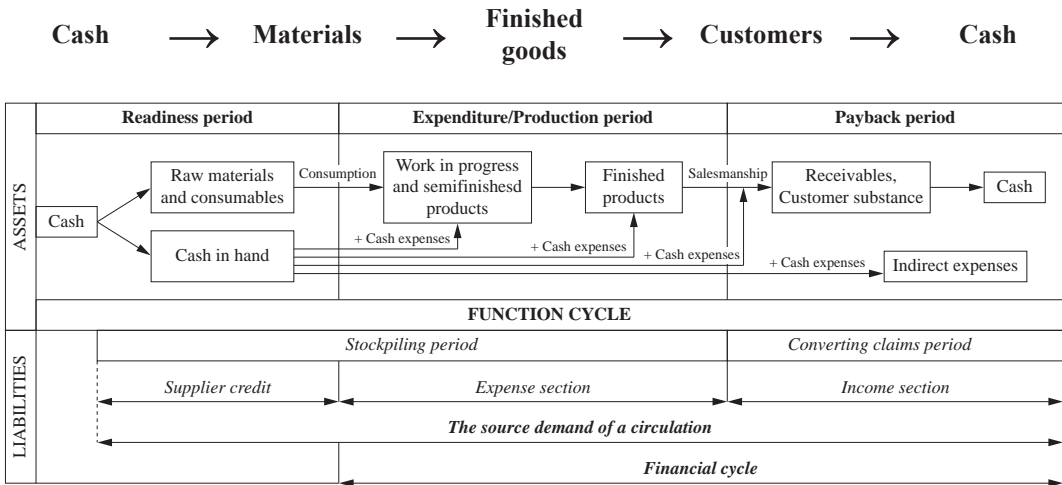


Figure 3: The general model of the cycle of current assets and liabilities needs

Source: own work

The working cycle of working capital is indicated for the series of continuous metamorphoses. Would it be true based on the above context that the working capital is equal to the amount that is necessary for the realisation of a circulation? Related to the peculiarities of the function cycle the authors compose the following: Only one constant element is in this process – namely working capital. The components of working capital change continuously. This is one of the reasons wherefore net working capital is considered a good comprehensive indicator of the current assets and the current liabilities. The definition of working capital would be unambiguous if the net attribute would not be there in brackets and, referring to the current liabilities, if we speak about the function cycle of the working capital only. In our opinion the capital demand of the function cycle and the source demand of the cycle, and its structure, should be examined separately. Later we justify the tenability of this statement.

The authors compose according to the undermentioned statements in the following: “The strength of working capital – as an index-number – is hidden in the fact that the different current assets and the temporary or seasonal changes of current liabilities do not have an effect on it. If this is in this manner, then working capital points to the fact of capital binding with a constant sum between the frameworks of typical production process conditions.”

Matching in accordance with the opinion of cited authors, Illésné (1994) judges that the current assets are called working capital, referring to the Anglo-Saxon countries’ practice, then composes according to the undermentioned statement: “The net working capital plays a honoured role, which is the difference of current assets and current liabilities.” So the net working capital is the surplus of the current assets that is necessary to be financed with long-term liabilities (with own capital and long-term liabilities). It is not possible to agree with this wording. In our opinion it is not the surplus of the current assets, but it is concerned with its proportion. The author – in his previously cited work – writes in detail about the importance of the validation of the time principle in connection with choosing financing strategies. He stated that invested or fixed assets, long-term tied up current assets and temporarily necessary current assets are needed for the undisturbed function of the developing company. These latter “... change around the trend with certain regularity because of the cyclical nature of the economy and the seasonality of the production or realization. Its other part cannot be predicted in advance, it fluctuates day by day, month by month.” Would it be true based on the above mentioned statement that the working capital is the same with the long-term tied up current assets? Markham Collins and Collins (1963); Dambolena and Shulman (1988) and Cohen (1997) concretize and interpret the net working capital on the basis of the balance sheet data.

$$\text{NWC} = (\text{CA} + \text{PE} - \text{P}) - (\text{STL} + \text{AE})$$

where: **NWC**: Net working capital **CA**: Current assets, **PE**: Prepaid expenses, **P**: Provisions, **STL**: Short term liabilities, **AE**: Accrued expenses

The translator calls this category net functioning capital, in our opinion incorrectly. Béhm (1994) – referring to the foreign literature – defines working capital as the part of the current assets financed with own capital, indicates his definition with the difference of current assets and short term liabilities. Working capital is identical with net working capital according to the author’s interpretation, too. Tétényi and Gyulai (2001) states in connection with the negotiation of the role of current assets played in production: “The amount of current assets requested steadily is called long-term current assets strangulation... Which is constant compared to a particular production programme, and which is the sum of own capital without expiration, and/or the long-term liabilities which finance the current assets kept in store. This capital is called net working capital”. Would be the thing only about current assets appearing in the ever-ready section of the circulation in connection with the working capital according to this interpretation? Tétényi (1997) calls the liabilities current or business financing sources, ordered to the proper financing of the current assets. If this basic context comes true, then the undermentioned context arises according to the author:

$$\text{Current assets altogether} = \text{Short term liabilities altogether} \\ \text{(current financing sources)}$$

The author composes according to the following based on the context above: “Net working capital (it is also called functioning capital) is the difference of the sum of current assets and the sum of current financing sources, which properly finance the current assets.” He calls attention to the fact that this statement is true beside the adherence of the financing rules only. Net working capital answers how many per cent of the current assets are financed by own capital and/or by long-term (middle-term) liabilities according to his statement.

We consider it important to emphasize the author's opinion which indicates the necessary amount of net working capital: "On the question of what amount of net working capital would be accepted, to give an unambiguous answer is not possible. It is a requirement to be the smallest possible, but not hinder the increase of the business profit". We judge it is not possible to accept the general validity of the author's opinion. It suggests that net working capital is a beyond-a-year source proportion with which current assets (or a part of them) are financed. (In the other publication the author uses the concept of current assets financed with net working capital).

Coombs and Jenkins (2002:158) also interpret working capital as the difference between current assets and short-term liabilities. They compose this way in connection with the negotiation of the issue: "It is important to mention that it is necessary to interpret and define the effect of the elements of working capital on each other clearly in the company's financing policies".

According to Bélyácz (2007) "the corporate working capital means the investment being directed into the current assets. ..., the cash itself belongs to it, the marketable stock, the outstanding debt and the supply. The net working capital is the difference between the current assets and the current liabilities". The opinion of the cited author does not differ from the opinion of other cited authors regarding the content, although he uses different concepts. He regards the full substance of the current assets as working capital, and the definition of net working capital does not differ from the interpretations which can be found in the sources.

The summary of the specialist literature

In both the international and the domestic literature it is verifiable that:

- the interpretation of the related concepts is not uniform, but moves in general terms,
- the single interpretations do not draw a distinction between the concepts of expenses of capital and current production,
- the cited authors did not examine the causal connections of the assurance of continuous production,
- the circulation is considered sufficient theoretical basis,
- only the knowledge of the elements of the circulation and its interpretation do not make possible the defining of the single elements and the exploration of the causal connections,
- the calculation of the net working capital based on balance sheet data leads to a conclusion only on the principle of the time, because of this it may not be identical with working capital.

However it may not follow from all these that the concept of working capital and net working capital, current assets coming forward seasonally, current investments and the aspect system of capital and the source structure could be neglected in connection with the forming of the related investment and financing decisions. So it is essential to clarify the definitions of the above concepts and their interpretation for the exploration of the causal connections.

The interpretation of the causal connections, the exploration of the related concepts

The contexts interpreted based on Figures 1 and 2 interpret the economic projection of the production process in general. Based on the contexts verifiable, that the continuous production is not other than the circulation of the current assets. For the exploration of the causal connections we need

to examine the elements appearing in the circulation of the current assets from the viewpoint of what kind of role they manage in the interest of the assurance of continuous production. Let us make the circulation of the current assets the object of an examination again (Figure 4) and let us focus on the role of the single elements played in continuous production.

In the interest of the right illumination of the contexts, let us take in this case also a nut manufacturing company producing only one product, the production is steady, the realization happens every ten days, the salary deadline is 20 days, the stock purchase happens according to the intensity of the production and the safety stock supply is equal to the production of five days. The finished-product supply level let be identical with five days of production.

If we map the effects of these assumptions on the function cycle interpreted at the corporate level, then all of the elements of the function cycle appear. It is reasonable that the essential condition of the continuous production, that the single sections' encounter (rip dots) let supplies form, and that the assets stock will be the constant element of the function cycle depending on the firm's commercial credit policies (the length of the salary deadline). The elements of the circulation appear in a different form because of the peculiarities of the production process and the management's related decisions, for example the work in progress does not appear in all function cycle of production processes (for example in case of the production of service), and it is also not needed to reckon with the assets stock in case of cash realization.

From the figure it is clear that there are elements between the items of the current assets appearing in the balance sheet which do not appear in the circulation of current assets, for example credit securities, prepayments for inventories, receivables against founders, other receivables, etc. So these elements are only accountancy categories, and are not elements of the circulation, but to be present in the property balance sheet is naturally justified. This fact also shows that the full substance of the current assets may not be identical with the working capital. We may deduct the inference that the condition of the continuous production is that the current assets appearing in the circulation – money, stocks, receivables – the peculiarities of the production process, defined by the related economic decisions, have to co-exist with each other and should be tied up with a constant character. It depends on the peculiarities of the production process or the related decisions (for example the standard of salary deadlines, stockpiling and salary manners) largely how large is the value sum of the money tied up permanently in them.

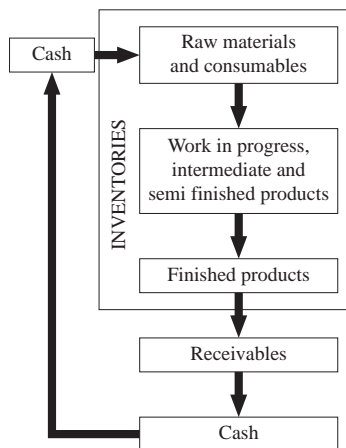


Figure 4: The theoretical model of the interpretation of the working capital

Source: own work

$$\mathbf{FTF} = \frac{\mathbf{NFT}}{\mathbf{FT}}$$

where: **FTF** = working capital coverage indicator, **NFT** = Net working capital, **FT**= Working capital

The expenses of continuous production are in the form of current assets, money or supplies considering their first appearance. They turn into an expense when we make use of them in the course of production, they lose their original appearance and their value turns into the value of the new product. So the expenses transform into property, but only the direct expenses. The indirect expenses appear as invested current assets they are left quasi hidden, because they cannot be put on inventories. We call these current assets current assets coming forward seasonally and they can be taken into account only as production expenses. The current assets coming forward seasonally so the ones that present themselves in addition to working capital. The current investment concretizes the average substance value. The current investment is that substance value of the current assets coming forward seasonally, which arises from the launch of the continuous production until the return (until the realization of income from sales) above working capital. This means that the invested current assets of continuous production must be advanced until the financial realization of the income from sales, and their substance value continuously grows up to the finished-product being ready. They are repaid through the realized income from sales, we get money at this time, which we invest in the newer production process, and we account it as a production expense. Their financing may happen as short term liabilities in the case of deficiency of income from sales. A part of the income from sales may appear as receivables. The resource demand of the circle and the financial cycle develops as the resultant of an aggregation effect of the sketched possible forms. The decisions shape and define the economic burdens of the circle and the resource demand, brought relatedly to the circulation of current assets and the elements.

As we saw, net working capital is concretized based on the property balance sheet in the literature, and this is considered as identical with working capital. Based on the interpreted context the net working capital is that substance value of the current assets to which the company orders long-term or resources without expiration. It is reasonable that the manner of the calculation determines the concept of net working capital unambiguously, since this may not be other than based on the accounting principles of the balance sheet. Cited authors do not analyse that case if the value of the net working capital is negative. This is not a theoretical opportunity; these cases appear often in practice. Cases like this call attention to the fact that net working capital may not be identical with working capital, because net working capital allows us to make conclusions on the temporal principle only and because of this it cannot be accepted as an index reflecting the financial position. Because negative net working capital indicates the company's aggressive financing strategy, in a degree that it orders short term liabilities to the invested assets too.

Net working capital merely so does not show the company's real financial position. It is expedient to count the working capital coverage indicator (FTF) that is based on the undermentioned context and which can be concretized and be interpreted:

Based on the context it is reasonable that if $\mathbf{FTF} = 1$, the financing strategy is moderate, if $\mathbf{FTF} > 1$, the financing strategy is conservative, and if $\mathbf{FTF} < 1$, then the company's financing strategy is aggressive. The above mentioned related financial contexts are not possible to leave apart from attention to the calculation of the indices, for example at liquidity and efficiency rates, etc. (This issue is the subject of our present research work.) The data in Table 1 support our statement too, concerning the negative value of net working capital. The data in the table were calculated based on the data of the balance sheet of an agricultural producer company and a medical hotel (company

providing a service). The aggregate amount of the balance sheet of the agricultural company in single years successively are approximately 66 million HUF and 240 million HUF, in the case of the medical hotel is equally 5 billion HUF in the two years. The peculiarities of the agricultural production and accomodation giving (as production processes) are well traceable on more areas based on the data of the property balance sheet.

These peculiarities come forward in the structure of the property mostly, based on the data of the table. It is visible that the agricultural company dealt with plant cultivation only in the year T_1 , in the year T_2 it bought a milk producing dairy-farm. The current assets are in predominance in the structure of the property because of the peculiarities of the production. Opposite to this is the case of the medical hotel where the proportion of the current assets did not even reach the 10%.

It is an important question related to the issue, that what kind of structure shows the substance value of the current assets inside the two companies. We summarized the structure of the current assets and the net working capital calculated based on the data of the balance sheet in Table 2. The inventories are in predominance inside the current assets at a production type company. In the hotel's case the high proportion of the liquid assets is visible. This high proportion indicates the importance of the role of the inventories and receivables forming the elements of the working capital, the current assets coming forward seasonally, namely on the role of the current investment. If we take the data of the property balance sheet as a starting point only, and we concretize net working capital, we obtain the character values of Table 2. It is visible that it occurs in the case of both companies that net working capital will be negative.

Table 1

The establishment of the balance sheet structure of the examined companies

Appellation	Agricultural company		Medical resort	
	T_1	T_2	T_1	T_2
	Years (%)			
TOTAL ASSETS	100.0	100.0	100.0	100.0
Invested Assets	20.5	25.2	91.6	93.8
Current Assets	79.3	70.9	8.6	6.0
Prepaid Expenses	0.2	3.9	-	0.2
TOTAL LIABILITIES	100.0	100.0	100.0	100.0
Shareholders' equity	15.2	27.3	11.6	11.5
Provisions	-	-	-	-
Long-term liabilities	-	14.6	73.9	77.1
Short-term liabilities	82.8	52.0	6.2	7.2
Accrued expensis	2.6	6.1	8.3	4.2

Source: own work

We consider it important to emphasize to correct the values of the property balance sheet according to the law of accountancy where necessary. The substance value of the accrued expenses plays an important role behind the above mentioned negative values, which are connected with the financial settlement of the supports not to be refunded. This correction was only in the case of medical hotel necessary to do and it resulted in net working capital becoming positive in the case of the medical hotel in the year T_1 , but in the year T_2 it appears with a negative value likewise. We judge

that these data should justify our opinion that net working capital may not be identical with working capital, so working capital allows only onto the emergence mode of principle of the time to make a conclusion. Based on the data concerning the structure of the current assets in Table 2 verifiable, the stocks do not figure in all years in the property balance sheet of the companies.

This fact also verifies our statement that the stocks are not the elements of working capital, since this refers to managing the free liquid assets (the realization of capital gain) depending on the decision of the management. The substance of the safe money supply depends fundamentally on the management's decision and on the actual conditions of the farming.

Table 2

The structure of the substance of current assets of examined companies and the establishment of net working capital

Appellation	Agricultural company		Medical resort	
	T ₁	T ₂	T ₁	T ₂
	Years (%)			
Inventories	59.2	58.2	4.2	4.1
Raw materials and consumables	35.8	11.6	65.3	54.3
Animals for breeding and fattening and other livestock	-	40.0	-	-
Work in progress and semi finished products	63.2	33.9	-	-
Finished products	1.0	14.5	-	-
Commodities	-	-	34.7	45.7
Receivables	10.6	26.4	11.8	16.6
Securities	-	-	12.1	-
Cash	30.2	15.4	71.9	79.3
CURRENT ASSETS	100.0	100.0	100.0	100.0
Net working capital (THUF)				
Based on balance's data	-3,907	40,172	-305,937	-253,400
Made corrections based on balance's data	-3,907	40,172	127,016	-46,785

Source: Own work

Those elements of the current assets are definable which are necessary on the basis of the circulation and their role played in the production, after we reviewed the role of the elements appearing in the circulation of the current assets in the insurance of the continuous production and the contexts between the elements.

- The concept of the current assets is a wider category than working capital.
- Working capital is the steadily appearing or existing stock value of the several kinds of current assets functioning as capital, in the process of the circulation of the current assets, in a given period, in the interest of the assurance of the continuous production, defined by the production processes and the peculiarities of the organization of production. Its elements are the Inventories to ensure the continuous production process, Receivables and Safety money supply of the Cash.
- The current assets coming forward seasonally present themselves in addition to working capital.

- The current investment on the other hand is the stock value of the current assets coming forward seasonally, which arises from the beginning of the continuous production until its return (until the realization of income from sales).
- The usage of the concept of capital is technically correct only if the economic event or the related decision with the accumulation functions of the money can be brought into a context directly or indirectly.

We consider it important to highlight that in the definition of working capital the expression working indicates that this proportion of the current assets functions as a capital only, so it is kept invested constantly and it is independent of seasonality of production. It follows from the definition unambiguously that the production can be financed only with own capital or long-term liabilities since its freeing would risk the continuity of production. The freeing of the capital tied up in them is possible in that way only, if for example we reduce the safety supply level or we give shorter salary deadline, etc. However we have to reckon even with customers loss in the latter case, because the shorter salary deadline cannot be undertaken.

The elements of the working capital will be the following taking the nut production example as a starting point:

- **Stocks:**
 - **Materials** (safety supply quantity level of the round bar being equal to the production of five days)
 - **Semi-finished goods** (quantity of sliced round bar being equal to the production of five days)
 - **Finished goods** (quantity of a nut being equal to the production of five days)
- **Receivables:**

The average monthly closing according to the paying deadline and the time of and the realization. Receivables stock, (his substance value will be identical with the net revenues of one month because of the accepted conditions).
- **Cash:** (The safety money supply, for example a monthly wage and common charges)

It is reasonable on the basis of the sketched statements that the operative management may not miss the content contexts.

We saw that the production process is not other than the continuous recurrence of the circulation of the current assets and the single elements appear in the circulation function as capital. It follows from this that the operative decisions are not less important than the decisions brought at the corporate level. The reason of this is to be looked for in the effects of the decisions brought at the operative level being spread to the corporate level, and in the interactions of the product production systems coming forward at a corporate level. So working capital management is not other than the economy of the production process. As a discipline it takes the economic projection of the production process as a starting point. The managing with the elements of the circulation and with the working capital and the related financing decisions stand in the centre of the investigation, for example the stockpiling, commercial and credit policies of the company and managing the finances.

The peculiarities of working capital and agricultural production

In the case of the agricultural company a question can be formulated. Can the concept of working capital be interpreted without reservation? The concept of the current assets tied up permanently is known in vocational circles. An important question is, can it be considered identical with the concept of working capital? If we take the role of working capital and the current assets substance kept interested permanently played in production as a starting point, then the answer is yes. Furthermore the “meeting point” of the two concepts can be discovered only from the viewpoint of the time from the financing and the resource demand. Because of the known peculiarities of the agricultural production (the seasonality of the production, the timely separation of the production and the work process, the special asset groups of the production, such as the animals, etc.) that substance of current assets is necessary to be regarded kept interested permanently which is necessary to assure the tranquillity of the continuous production. The important peculiarities of the working capital are that the groups of the current assets are kept interested on a yearly level and in a constant sum. This criterion can be interpreted and is true only in the case of the agricultural company on a corporate level, and in the relation of years. Concretizing the value of these resources has to happen inevitably referring to a given time. The concretizing on the corporate level not, but brings up more methodological problems at the sectorial level. We judge, based on our research results until now, that the methods known in the literature (Sövényházi, Z.-né and Tóth, 1979; Kiss, 1975; Potori, 2004; Tétényi and Gyulai, 2001; Béhm, 1995; Takács, 1995) require a correction because of the wrong definition of working capital or the lack of it. The peculiarities of the agricultural production question in many cases the application of useful concepts worked out onto continuous industrial production, indices and analysis techniques, which the agro-economics have taken over mechanically in many cases leaving the sectorial peculiarities out of consideration.

The defining of the working capital elements of the milk producing dairy-farm

In the case of cultivation the field inventory constitutes the binding of working capital of the section as to property transformed direct production expense. We present a dairy-farm company based on the sketched theoretical contexts above. The elements of the company’s working capital are traceable based on Figure 5. We summarized the content contexts in Annex 1. The quantified values of the model calculation can be found in Annex 2 based on the economic factual data.

Taking the activity of the enterprise as a starting point, it is reasonable that necessary level of the stock of current assets, which has to stand for taking action in the interest of continuous production equal with the state of 31 December. Based on these concepts, it is indicated in the table that the inventories are in predominance. That group of materials represents the bought inventories inside the inventories, the level of which may not go under the safety supply level.

The field inventory is also necessary for the production of the need of the next yearly fodder for the livestock, for example the silage. The own produced year-end supply of fodder has to cover the claim of livestock until the reproduction. This stock level decreases gradually during the year and turns into the value of the milk or the animals according to the intensity of the use.

Inside the inventory group of animals, two groups are necessary to separate on the basis of their role in the production. The young breeding animals that supply the stock of breeding animals can be placed in the first group. If we want to keep the numbers of cows from an own progeny then it is necessary to ensure a given number of cows according to the breeding and progeny indicators. It is clearly reasonable that the maintenance of production is in danger if we reduce these cow numbers, because we cannot ensure the necessary supply from an own progeny in this way. The young

animals waiting for the realization are in the second group which are not ready yet. They have not reached the sales weight yet. They would be saleable if there would be a demand for them and the continuous production would not be threatened.

(It is a different thing that in term of the establishment of the incomes with what kind of weight worthy to market.) Since the realization of the milk is continuous, and the customer transfers the offset of the milk inside a predetermined time span only for the company, the company has some receivables stock each day of the year depending on the paying conditions.

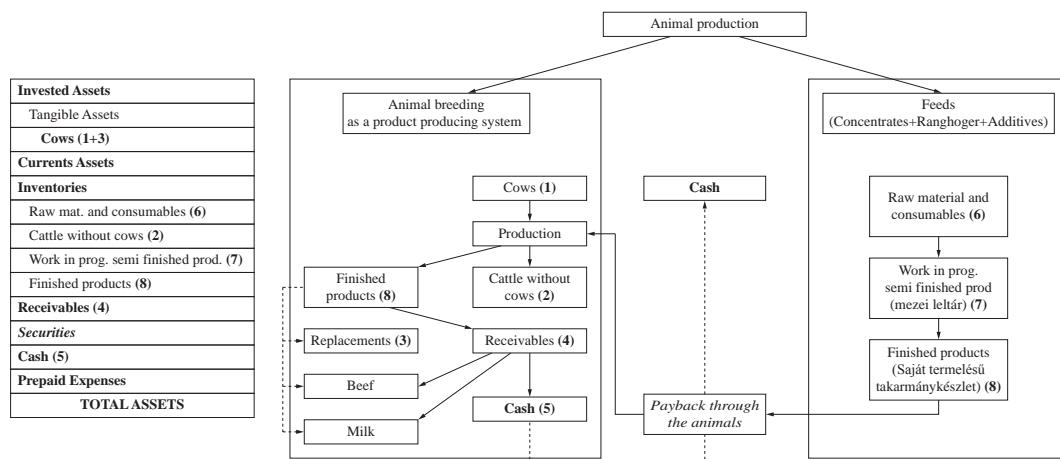


Figure 5: The elements of the working capital claim of the dairy-farm

Source: own work

The interpretation of the safety money supply may not constitute a problem. If we want to maintain the enterprise, it is necessary to maintain the stock value of current assets (as working capital) being qualified as kept interested permanently on 31 December in relation of the years in the interest of the insurance of the continuous production. In terms of the insurance of the financial stability, long-term liabilities without expiration should be assigned to this. We consider it important to mention that the correction (decrease) of the stock value of the current assets with the values functioning as capital is necessary for concretizing the related liquidity indices, since these may not constitute the coverage of the short term liabilities because of their role played in the production.

Inferences, additional questions to be responded to

In the knowledge of the role of the working capital and its peculiarities, it is reasonable that leaving them out of consideration means a considerable risk. The clarification of the theoretical contexts and the exploration of the interactions mean important practical consequences. The revealed theoretical contexts are justifiable with practical factual figures. It was also shown that the peculiarities of the different production processes do not overwrite the contexts. It is an important vocational question that with what kind of method should these elements be concretized, furthermore, that in the course of planning what kind of level lets us aim for accuracy, and what planning procedure and method should we apply because of the sectorial peculiarities. The mechanical application of the known indices and planning methods and leaving the peculiarities of the production processes out of consideration is a road which cannot be followed technically because of the sectorial peculiarities.

The importance of the respect of the mentioned contexts is more significant in the case of a starting company which has considerable risk since the aggregate degree of the related specific values is irreducible in connection with the peculiarities.

Because of it, a crucial requirement of the reduction of the risks is the creation of the condition system of the logical farming with inventories. So it cannot be allowed that the stock value of working capital appearing in the necessary stocks, receivables (trade debtors) and safety liquid assets recharge from the taxed incomes generating in the course of the continuous function mainly in the case of a starting enterprise. We judge in that manner that the theoretical contexts have been cleared up unambiguously. These add a suitable theoretical basis to answer several related question which are not cleared up until the present time. We regard the review of the methods and indices applied to examination of the companies' financial position, the development of the applicable planning methods and their testing as an important research task regarding the future. We intend to handle the analysis of the related questions of the agro-companies in detail.

**The elements and content of working capital in the case
of a milk producing dairy-farm company**

Currents Assets	Working capital	Denomination
Inventories	Inventories	
Raw materials and consumables	Safety feeds supply	Bought milking feeds
	Other substances	Medicines supply
Work in progress and semi finished products	Field inventory	Sowing substance of cereal grains, gross and forage crops, roots and tubers and soil works
Cattle without cows	Replacements	Replacements
Finished products	Own feeds	Cereal grains, gross and forage crops, roots and tubers from 1 January to yielding (grass hay, alfalfa hay, cereal grains, etc.)
Receivables	Receivables The net income of milk	The average value of claim stock
Cash	Cash Safety many supply	According to the management's decision etc. monthly wage

Source: own work

The establishment of working capital claim of 100 of dairy producing cow and their progeny

Denomination	Inventories of the animals production		Feeds then working capital (THUF)				Total working capital (THUF)	
	Total (THUF)	Working capital		Work in progress, semi finished products	Own feeds	Bought feeds		Totals
		THUF	Total =100%					
Cows*	30,300	30,300	100.0	1,683	8,776	259	10,718	
INVESTED ASSETS	30,300	30,300	100.0	-	-	-	-	
Female calves	1,380	890	89.0	37	161	4	202	
Male calves	1,348	-	-	37	161	4	202	
Replacements	7,636	7,636	100.0	433	2,251	70	2,754	
Beef	7,337	-	-	400	2,204	79	2,683	
Total	17,701	8,526	48.0	907	4,777	157	5,841	
<i>Work in progress and semi finished products</i>	-	-	-	2,590	-	-	-	
<i>Finished products</i>	-	-	-	-	13,553	-	-	
<i>Raw materials and consumables**</i>	10	10	100.0	-	-	**416	416	
Inventories	17,711	8,536	48.2	2,590	13,553	-	25,095	
Receivables	3,300	3,300	100.0	-	-	-	3,300	
Cash	1,000	1,000	100.0	-	-	-	1,000	
CURRENT ASSETS	22,011	12,836	58.0	2,590	13,553	416	16,559	
INVESTED ASSETS AND CURRENT ASSETS /Total/	52,311	43,136	82.0	2,590	13,553	416	16,559	

*The accountancy law list the breeding animals as invested or fixed assets

** The bought foders altogether (breeding animals + animals)

Source: Own work

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