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**Title**: Influence of the volume of equity on corporate liquidity

**Abstract**: In the market economy correct determination of the financial structure is immensely important. The right equity form can contribute to its competitive edge, whereas the improper one may lead up to many problems, among other things, the loss of corporate ability to pay off its financial obligations.

This paper covers the analysis of ten thousand manufacturing companies, among them the ones, marked by high quantities of equity in the total assets, have been selected along with intervals of values. Next, the analysis of financial liquidity has been carried out within the group in question – the most typical indicators of liquidity have been computed. Namely, current ratio, quick ratio, cash ratio, etc..

The comparative analysis of the indicator of the size of equity with the indicators of liquidity makes it possible to answer the question: Are the companies having a high share of equity in the total assets marked by overliquidity?

**Introduction**

Market is the space in which verification is being carried out whether or not company is in a position to carry on its business, and as a result bankruptcy for instance. Bankruptcy as such way be perceived as being ‘control knob’, or “controlling device”. The aim of which is to eliminate the weakest links from the market, leaving the strongest entities.

The loss of corporate capability to pay its debts is one of the most frequent given reasons for corporate financial condition which may lead to corporate bankruptcy. It should be added that apart from the loss of liquidity there are in literature of the subject many other reasons also related or not to erroneous management of corporate financial resources, for instance improper corporate financial structure or misguided corporate strategy. Therefore incorrect management of liquidity as well as financial structure contributes towards its annihilation. In the light of this fact, determination of the proper financial structure as well as reasonable management of liquidity seem to be the necessary condition for corporate correct workings.

In this paper analysis of the influence of increase in own capital in the total assets on liquidity of production companies. It will allow to give an answer to question: are the companies with a huge share of equity in the total assets characterized by overliquidity?

**Literature review**

There are two of groups for deterioration in corporate financial condition. The first one incorporates endogenous reasons (internal grounds), which stick inside a particular company (see table 1). There is some possibility to influence these reasons, which is particularly significant to interested parties. On the other hand, the second includes the exogenous (the external reasons – the macroeconomic). Here there is no possibility thatcompany influences these reasons and it has to conform to the contemporary existing market regulations.

Table 1. Reasons for deterioration in corporate financial standing a literature-based review (a review based on literature).

| Author | Grounds for degradation of financial condition |
| --- | --- |
| Altman (1993) | 1. Erroeous management – poor management |
| Appenzeller (1998, 2012) | 1. Poor management of intellectual capital |
| 1.Improper capital structure  2. Poor levy of charges  3. Bad management of stocks |
| Argenti (1976) | 1. Erroeous management - poor management. |
| Bednarski (1997) | 1. Constant decrease In Fields or accumulation of losses  2. Ascending dem and for credits and loans  3. Total Mount of obligations to suppliers is constantly increasing  4. Loss of corporate liquidity  5. Delaying In paying taxes and insurance premium. |
| Bruno, Leidecker (1988) | 1. Erroeous management within firm,  2. Wastage on entrepreneur’s part  3. Misguided strategic policy  4. Mistaken structure of financing,  5. Operational problems. |
| Czajka (1997) | 1. Desire (setting chimerical goals)  2. Ignorance (selecting bogus vision)  3. Debtor’s Arrogance (as a consequence of the accustomed conviction that there is no harm in flouting the law is not only……) |
| Hołda (2007) | 1. The management’s ignorance of managerial methods including ability to construct financial forecasts as well as a systematic market research |
| Kowalczyk (2005) | 1.Flawed business strategy  2. Erroeous management - poor management,  3. Mistaken operational management,  4. improper level of costs,  5. Negligence of marketing campaign  6. Errors within technological processes |
| Kowalewska (5.01.2012) | 1. Insufficient own funds,  2. Organizational changes/ transformations,  3. Lack of possibility to receive any support even the consolatory on the stage in which first difficulties emerge  4. Willful action of owners/ managers to the detriment of their company  5. Excessive debt |
| Kuciński (2005) | 1. Financial oversight,  2. Erroeous management,  3. Bad location. |
| Lisowska (2012) | 1. Erroeous management  2. Lack of innovation  3. Flawed corporate strategy,  4. Location. |
| Mączyńska (2013) | 1 Erroeous corporate management  2. Lack of long term expansion scheme strategy,  3. Cooking up the books (aggressive bookkeeping)  4. Failing to use early warning tools against dangers as well as deficiencies in the economic-financial and managerial analysis  5. Loss efficiency of internal, also financial audits,  6. Low efficiency of supervisory system  7. Erroeous management of assets and liabilities  8. Poor quality of marketing strategy  9. Improper range of quality,  10. Erroeous investment (under – or over-investment)  11. Low level of innovation and aptitude for adapting to the market changes,  12. Ineffective fusions and takeovers,  13. Incoherent and excessively hierarchy –based structure of organization,  14. Opaque and ineffective system of motivation  15. Ineffective personal policy as well as improper level of qualifications  16. Low level of work on the part of supervisory board as well as internal audit  17. Improper choice of coworkers,  18. low sensitivity to signals from the market or/and (lack of its monitoring) |
| Nowara, Szarzec (2004) | 1. Cooking up to books (creative accountancy). |
| Pieńkowska (2004) | 1. Improper structure of financing ,  2. Intentional and deliberate action of financial condition. |
| Prusak (2007, 26.07.2012) | 1. Errors In operational activity,  2. Errors in financial activity |
| 1. Insufficient quality of management  2. Incorrect structures of organization.  3. Insufficient market activities,  4. Neglected financial management. |
| Rees (Wang I in., 2010) | 1. Low profitability and its practical decrease  2. Improper diversification  3. Deterioration In financial structures  5. Difficulties in controlling new or geographically dispersed operations  6. Incorrect financial control of orders,  7. Incorrect control of sales capital,  8. Failing to eliminate real or potential actions that yield losses  9. disadvantageous alternations In terms of contract. |
| Rogowski, Bidelski (2011) | 1. Negative cash flows from operational activity. |
| Ropęga (2012) | 1. Lack Cash for the current corporate activity,  2. Decrease in yield,  3. Decrease in sales In comparison with running costs,  4. Decrease in liquidity,  5. Prolongation of payment off current obligations,  6. Increase In costs of financial operations, mainly due to payable interests  7. Increase In the Mount of supplies,  8. Increase in finical obligations towards suppliers and public legal institution. |
| Slatter, Lovett (2001) | 1. Poor management,  2. Irresponsible financial control  3. Poor management of circulating capital,  4. High costs,  5. Insufficient marketing campaign,  6. Scale of activities exceeding financial capabilities,  7. Enormous undertakings,  8. Takeovers,  9. Financial policy,  10. Interia and organizational chaos. |
| Strojny (2012) | 1.Insufficient own corporate means, loss of liquidity,  2. Difficulties In levying charges,  3. Overinvestment  4. Excessive costs, wasteful financial policy, lack of financial discipline  5. Excessive debt, rash recourse to credits. |
| Syska (2006) | 1. Poor levy of charges. |
| Szczerbak (2005) | 1. Weaknesses In management,  2. Erroeous strategy,  3. Failing to update manufacturing technology of making product,  4. Insufficient marketing campaign,  5. Incorrect structure of corporate financing |
| Tokarski (2010) | 1. Improper corporate size,  2. Bad location,  3. Poor qualifications of managerial and executive personnel,  4. Lack of adequate know-how and as a result poor quality of products  5. Lack of experience,  6. Failing to posses a recognizable brand. |
| Tomczak (2014a, 2014b) | 1. Generation of losses from Basic corporate activity,  2. low financial Or no liquidity,  3. Improper proportion of capital within company,  4. Poor management of stocks,  5. Poor management of charges |
| Watson, Everett (1998) | 1. Lack of suitable managerial skills,  2. Improper capital structure. |
| Wieczerzyńska (2009) | 1. Insufficient qualities of management  2. Incorrect structures of organization,  3. Underestimated and neglected marketing,  4. Neglected management of finances. |
| Wojtysiak-Kotlarski (2013) | 1. Ineffective process of management  2. Weakness In risk management,  3. Financial abuses,  4. Creative accounting,  5. Ineffective strategic process. |
| Zaleska (2001) | 1. Improper Management of assets,  2. Want of proper management and efficient internal controlling procedures,  3.Bank’s poor financial standing,  4. Undercapitalization of a particular bank. |
| Zdyb (2001) | 1. Want of clearly formed corporate image and its corporate strategy,  2. Want of controlling as an universal instrument of management,  3. Bad organization of work and excessive or understaffed,  4.Emplozing by management incompetent acquaintances and family members and tolerating by them losses,  5. Confusing and unfair system of payments,  6. Want of capital,  7. Flawed financial plan, excessive debt,  8.Excessive costs  9. Ignoring warning signals  10. Corporate involvement In the Project which exceeds available means  11. Incompetent bookkeeping,  12.Lack of mistaken marketing policy as far target market and the products as such are concerned  13.Becoming independent of the limited number of recipients,  14. Capital and/or organizational dependencies with weak or unreliable partners home and board  15. Inefficient action of agents and/or representatives, home and aboard  16. Insufficient or Lack of cooperation between brokers and potential recipients  17. despising or undervaluing one’s customs,  18. Want of Or ignoring the analyses of the internal market and eventually external markets |
| Zelek (2004) | 1. Lack of capital or other resources of strategic importance,  2. Erroneous management within organization,  3. No expansion ,  4. Mistaken strategic policy,  5. Low effectiveness of economizing,  6. Products perceived as low-tech,  7. Flawed price policy,  8.Incidents  9. Frequent potation of executive positions,  10. Wastage/personnel problems,  11. Personal conflicts within organization. |

Source: Own work

Having analyzed internal grounds for business failures it needs to be stated that the most frequent are the following: errors in corporate management, errors in the management of financial resources and errors in corporate strategy.

Therefore arriving at definition of some rational financial structure and right management of corporate liquidity does seem to be tricky because when a particular company maintain mistaken corporate financial structure and its liquidity runs out, then it has to close down.

It is Worth mentioning that corporate insolubility is not usually a sudden event, some of its symptoms can be detected well in advance, thence the management have a chance to take adequate steps to avoid compulsory liquidation.

**Methodology of research**

The focus In this paper is on production sector. Research time-scale is set to sixteen years (2000-2015). The choice of this period is determined by data availability. In the examined interval of time over 15 thousand firms from the sector in question were flirted drawn from the EMIS (86 thousand financial reports were analyzed). The gathered data enabled computation of the following financial indicators for the itemized companies: equity ratio (KW); indictor of the size of working capital (1), (2) current ratio (PIII); quick ratio (PII), immediate liquidity ratio (PI) [[1]](#footnote-1).

Then selection of companies was carried out to choose these with a high share of equity in its total assets. The proportion was regarded to be high if it reaches fifty one percent companies with quantities below this threshold have been excluded from the probe.

The next step defines intervals (classes) for the index of equity ratio. The following were chosen: 0,51-0,60; 0,61-0,70; 0,71-0,80; 0,81-0,90; 0,91-1,00. Depending on the value of equity, the remaining firms were assigned to their corresponding class. For instance a particular company with the value of its indicator of equity at the level of sixty five per cent is going to be assigned to the interval 0,61-0,70. Also other computed indicators of this company will be allotted to the interval representing the size of own capital. For example the company is described by the averaged values of indexes in the examined period.

The values of these indexes will point to the class 0,61-0,7 the quality of equity. Each firm will be assigned to its corresponding interval of the size of own capital. Thanks to this one can investigate how the increase in own capital will influence the levels of fluidity indexes.

According to the size of the own-capital index different companies have been assigned to different classes. There are 1131 firms In the first class 0,51-0,6. The second 0,61-0,7 contains 1976. The third 0,7-0,8 1847. The penultimate 0,81-0,9 and the last comprise 1452 and 598 companies accordingly. The aim of setting intervals of the own-capital index is to check its influences on corporate fluidity. Making use of these intervals is to answer the questions: does corporate fluidity augment with the increase in own capital in the total assets? Are the firms with a high percentage of own capital in the total assets (nearing one) characterized by overliquidity?

In order to analyze influence of the quality of own capital on the level of fluidity t-Student test for independent samples has applied. This test ia a commonly applied method for examining dissimilarities between the averages in the two groups (in this particular case differences in averaged values in the defined intervals of values of the indicator) this test one can assess whether the existing difference in averages of examined groups is statically relevant.

T-Student test is applied to assessment differences between averaged values from two groups (here in this paper it served to assessing average dissimilarities between corporate groups with good financial standing and with bad financial condition).

In the light of commoner of this test, the reader is referred to consult the following statistics form the scratch. By means of this test one can investigate whether the existing difference on averages with the two examined groups is statistically relevant.

The t-Student test was applied by the use of the Statistica suite. In addition, correlations between indicators in question in order to check which indices carry similar information capacity.

**Results**

The reference index for liquidity indicators to be analyzed with is the size–of-equity index (drawing 1). This indicator states to what degree corporate fortune is covered by equity ratio. Own means are the indispensable corporate part since it is needed for setting up business. The values of this index lay below one. There is, however, someregularity, the higher value of this index the better corporate financial condition. Thanks to a high value of indicator of own capital in financing the corporate wealth companies feel more independent of lenders of external sources of financing [Walczak 2007].

Drawing 1. Yearly values of the own-capital index with the division into classes.

Source: own work

In order to verify relevance of influence of the size of own capital on fluidity the following intervals of this index has been defined: 0,51-0,60; 0,61-0,70; 0,71-0,80; 0,81-0,90; 0,91-1,00 (see drawings 1). In the research sample there have been companies with the share of at least 51 percent own capital in the total assets such firms have been chosen. Each company is assigned to its corresponding interval of the size of own capital. The analyzed indexes of fluidity are going to be compared with own capital . The results are going to be presented on drawings 2 through 6.

The first examined indictor of fluidity associated with the index of the size of own capital is the index of the size of working capital I (drawing 2). One assumes that high level of this index mean huge involvement of working capital in the total assets, and also high corporate financial fluidity. This indicator returns values oscillating around 0,5 (Skowrońska-Mielczarek, Leszczyński). Nevertheless, it should be noted that the size of this index is also influenced by the involv4d permanent wealth and its degree of usage. The value of the indictor will be relatively high in a case of low corporate wealth or a significant degree of its usage. In this case it would not mean a favorable situation of this particular entity [Kusak, 2006]. There are diverse strategies to manage that capitol, however, not every yields the desired effect [Wasilewski, Zabolotnyy, 2009].

Drawing 2. Yearly values of the indicator of the level of working capital I within the division into classes

Source: Own work

Having analyzed the first index of liquidity, one can conclude that the value of the indicator of the level of working capital for firms with a high share of own capital in the total assets is greater than the median of the values of the indicator for the whole research sample which resides in the interval 0,13-0,21. The highest values of this index are generated by these companies whose shares of own capital in the total assets are very near one. The examined indicator of fluidity with the connection to the size of own capital is the index of the size-of-working capital III. It is similar to the already mentioned indictor of the size of working capital I. there is only one difference in the formula. Here the value of the working capital is to be divided by permanent assets.

The second examined liquidity indicator with the connection to the size of equity is the size-of-working-capital (drawing 3). It is similar to the already mentioned indicator of the size of working capital I. There is only one difference in the formula. Here the value of working capital is to be divided by fixed assets.

Drawing 3. Yearly values of the indicator of the level of working capital II within the division into classes.

Source: Own work

By analyzing the second indictor, it can be concluded that the median of the indicator of the level of working capital II is four times higher than the level of working capital I and it takes values within the interval 0,45-0,80 in the period in question. It should be mentioned that the value of the capital in the assets assigned to the interval 0,51-0,60. In addition, one notices lower differences in the values of indictor between the intervals of the share of own capital in the total assets, which may suggest smaller relevance of its influence on working capital.

The third examined index with reference to the indictor of the size of own capital is the current-liquidity index (drawing 4). According to literature values of this indictor should oscillate between 1,2 and 2,0 [Czekaj, Dresler, 2005]. Unfortunately, adopted norms of the index seem to be little precise, since individual authors present varied intervals of the optimal values of this index [Dudycz, 2005], [Hodun, Żurakowska-Sawa, 2012]. Therefore the value of this index should be compared with the general one representing the sector in which the firm operates [Dudycz, 2009].

Drawing 4. Yearly values of the current ratio with the division into classes.

Source: Own work

From the drawing extra posed research results it follows that also in this case the median of the values of the indicator for the whole sample coincides with the one for the companies possessing equity in the total assets in the interval 0,5-0,60. In the examined period it oscillates between 1,32-1,63. However, the values of the current-liquidity index for firms with own capital nearing one are even eight times higher than the value of the median for the whole sample, which denotes corporate overliqidity.

The next indictor being investigated with relation to the index of the size of own capital is the fast-liquidity index (drawing 5). One takes it that the indicator at the level of 1,0 or 10 is correct and sufficient for maintenance of financial liquidity [Michalski, 2010]. Whereas the index lower than 1,0 denotes huge difficulties in dealing with current obligations. However, this regularity does not hold in case there are relevant dissimilarities between the period of drainage of short-term charges and the period of payment of the short-term obligations. The level of this index is strongly correlated with the difference of the cycles of charges and financial obligations [Wasilewska, 2011].

Drawing 5. Yearly values of the quick ratio with the division into classes.

Source: Own work

The research results presented in drawings indicate that the median of values of the fast-fluidity index for the whole sample in the period in question oscillates between 0,79 and 1,08. In addition, also here the median of the values of the indicators for the whole sample coincides with the one for the firms possessing own capital in the total assets in the interval 0,51-0,60 and it differs significantly from the values of the index for the companies preferring to make use of own capital such firms are characterized by overfluidity.

The last index that is analyzed in connection with the size of own capital is the immediate-liquidity index (drawing 6). This indicator shows capability of an organization to perform payments in the right-away mode. It indicates which parts of the short-term financial obligations will immediately be finalized assuming that the possessed cash is the source of their cover. One takes is that the value of this index should be in the interval 0,1-0,2 [Dudycz i in., 2005]. The higher index the greater capability to finalize short-term obligations and vice versa, the lower level of this indicator the feebler financial liquidity the harder conditions for carrying out the payments.

Drawing 6. Yearly values of the immediate-liquidity index with the division into classes

Source: Own work

Carrying out analysis of the results presented in drawing 6, it can be observed that the median of the liquidity index in the period in question resides in the interval 0,06-0,20. Moreover, in this case the values of the median of this index show similar dependencies to the median for the whole sample of companies with the highest share of own capital, and of the firms with the share of own capital equaling to at least the value of the defined threshold.

The provided research results prove that values of the median of analyzed indicators for the firms with own share nearing one in the total assets are considerably higher than the median of values for the whole research sample that equals to 15 thousand firms. It can thus be concluded that the higher own capital in the total assets the greater liquidity. As for companies employing only own capital there is substantial overliquidity.

On the basis of the carried out research one can determine any level of relevance of the individual classes of the median. Thus the level of relevance of the intervals of the median of intervals is going to be verified by means of the t-Student test for independent samples (see table 2).

Table 2. Results of the t-student test for the investigated intervals of values of median for the itemized financial indicators.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Year | Class\ Ratio | KO/AOG | KO/AT | PIII | PII | PI |
| 2000 | 1 | no | 4,5 | 4,5 | 4,5 | 4,5 |
| 2 | no | no | 4,5 | 4,5 | 3,4,5 |
| 3 | no | no | 5 | 5 | 2,5 |
| 4 | no | 1 | 1,2,5 | 1,2,5 | 2 |
| 5 | no | 1 | yes | yes | 1,2 |
| 2001 | 1 | no | 4,5 | 4,5 | 5 | 3,4,5 |
| 2 | no | no | 3,4,5 | 3,4,5 | 3,4,5 |
| 3 | no | no | 2,4,5 | 2,5 | 1,2,5 |
| 4 | no | 1 | yes | 2,5 | 1,2,5 |
| 5 | no | 1 | yes | yes | yes |
| 2002 | 1 | 3 | no | yes | 3,4,5 | 3,4,5 |
| 2 | no | no | yes | 3,4,5 | 3,4,5 |
| 3 | 1 | no | yes | yes | 1,2,5 |
| 4 | no | no | yes | 1,2,3 | 1,2 |
| 5 | no | no | yes | 1,2,3 | 1,2,3 |
| 2003 | 1 | 3,4 | 4,5 | yes | 3,4,5 | 3,4,5 |
| 2 | 4 | no | yes | 3,4,5 | 3,4,5 |
| 3 | 1,4 | no | yes | yes | yes |
| 4 | 1,2,3 | 1 | yes | yes | yes |
| 5 | no | 1 | yes | yes | yes |
| 2004 | 1 | yes | 4 | yes | 3,4,5 | yes |
| 2 | yes | no | yes | 4,5 | yes |
| 3 | yes | no | yes | 1,4,5 | yes |
| 4 | 1,2,3 | 1 | yes | yes | yes |
| 5 | 1,2,3 | no | yes | yes | yes |
| 2005 | 1 | yes | 4,5 | 3,4,5 | yes | yes |
| 2 | yes | no | 4,5 | yes | yes |
| 3 | yes | no | 1,4,5 | yes | yes |
| 4 | 1,2,3 | 1 | yes | yes | yes |
| 5 | 1,2,3 | 1 | yes | yes | yes |
| 2006 | 1 | yes | 4 | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | no | yes | yes | yes |
| 4 | yes | 1 | yes | yes | yes |
| 5 | yes | no | yes | yes | yes |
| 2007 | 1 | yes | 3,4,5 | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | 1 | yes | yes | yes |
| 4 | yes | 1 | yes | yes | yes |
| 5 | yes | 1 | yes | yes | yes |
| 2008 | 1 | yes | no | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | no | yes | yes | yes |
| 4 | yes | no | yes | yes | yes |
| 5 | yes | no | yes | yes | yes |
| 2009 | 1 | yes | no | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | no | yes | yes | yes |
| 4 | yes | no | yes | yes | yes |
| 5 | yes | no | yes | yes | yes |
| 2010 | 1 | yes | no | yes | yes | yes |
| 2 | yes | 3,4 | yes | yes | yes |
| 3 | yes | 2 | yes | yes | yes |
| 4 | yes | 2 | yes | yes | yes |
| 5 | yes | no | yes | yes | yes |
| 2011 | 1 | yes | 5 | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | 5 | yes | yes | yes |
| 4 | yes | 5 | yes | yes | yes |
| 5 | yes | 1,3,4 | yes | yes | yes |
| 2012 | 1 | yes | 5 | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | 5 | yes | yes | yes |
| 4 | yes | 5 | yes | yes | yes |
| 5 | yes | 1,3,4 | yes | yes | yes |
| 2013 | 1 | yes | 3,4,5 | 2,3,4 | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | 1 | yes | yes | yes |
| 4 | yes | 1 | 5 | yes | yes |
| 5 | yes | 1 | 1,4 | yes | yes |
| 2014 | 1 | yes | 5 | yes | yes | yes |
| 2 | yes |  | yes | yes | yes |
| 3 | yes |  | yes | yes | yes |
| 4 | yes | 5 | yes | yes | yes |
| 5 | yes | 1,4 | yes | yes | yes |
| 2015 | 1 | yes | no | yes | yes | yes |
| 2 | yes | no | yes | yes | yes |
| 3 | yes | no | yes | yes | yes |
| 4 | yes | no | yes | yes | yes |
| 5 | yes | no | yes | yes | yes |
| \* legend 1 =0,51-0,60; 2 = 0,61-0,70; 3 = 0,71-0,80; 4 = 0,81-0,90; 5 = 0,91-1,00; no = difference between the compartments are statistically insignificant; yes = difference between the compartments are statistically significant. | | | | | | |

Source: Own work

By analyzing the above table one can conclude that initially these differences between intervals were irrelevant. However from 2004 through 2015 there dissimilates are already statistically relevant with just one exception as far as the indicator of the level of working capital (2) is concerned, which stood out from the others. The presented research results show that the higher share of own capital on the assets the grater corporate fluidity. Moreover, one should of firm that companies making use of only own capital are marked by big overliquidity.

In addition to the analysis of relevance this paper checks also correlation between indexes in order to determine which indices possess similar information capacity. Table 3 presents correlation among the analyzed indicators distinguishing central and satellite variables. The central variable (1) as well as its corresponding satellite variables (0) make concentration that is these are highly correlated. High correlation that exists among variables that are in the same concentration shows that these variables possess similar information capacity[[2]](#footnote-2).

Table 3. Analysis of correlation a choice of the central variable.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Ratio | 2000 | 2001 | 2002 | 2003 | 2004 | … | 2011 | 2012 | 2013 | 2014 | 2015 | Number of repetitions |
| KW/AOG | 0 | 0 | 0 | 0 | 0 | … | 0 | 0 | 0 | 0 | 0 | 0 |
| KO/AOG | 0 | 0 | 0 | 0 | 0 | … | 0 | 0 | 0 | 0 | 0 | 0 |
| KO/AT | **1** | **1** | **1** | **1** | **1** | **…** | **1** | **1** | **1** | **1** | **1** | **16** |
| PIII | **1** | **1** | **1** | **1** | **1** | **…** | **1** | **1** | **1** | **1** | 0 | **15** |
| PII | 0 | 0 | 0 | 0 | 0 | … | 0 | 0 | 0 | 0 | **1** | **1** |
| PI | 0 | 0 | 0 | 0 | 0 | … | 0 | 0 | 0 | 0 | 0 | 0 |

Own work

By analyzing table 3, one can conclude that the index of level of working capital (2) and the current liquidity indicator in the examined period count as central variables. Other ratios are treated as satellite variables. It should be noted that current ratio possess discriminative as well as predictive potential [Zięba i in., 2016; Tomczak i in., 2016]. However, the values that this indicator takes do not resemble distribution curve [Tomczak, 2014c].

**Discussions**

The paper raises the grand issue of the influence of own capital on liquidity of industrial firm. However, the size of own capital may have influence not only on liquidity, but also on other classes of financial indicators, e.g. on profitability or on efficiency classes of indicators shall be extended in the subsequent research. Moreover, future research will cover a broadened research area of companies – analyses will production firms.

**Conclusion**

This paper examines over 15 thousand production companies. Time-span incorporated sixteen years (2000-2015). The firms that maintained a high percentage of own capital in the total assets were chosen among all firms being examined for further consideration. The threshold value was set to 51 percent. Then the following intervals (classes) of capital rate were determined 0,51-0,60; 0,61-0,70; 0,71-0,80; 0,81-0,90; 0,91-1,00.

In order to financial compare the relevance of the influence of own capital on liquidity several indicators were computed for the itemized companies: indicator of the size of working capital (1), (2); current fluidity indicator; fast fluidity ratio, immediate fluidity index.

Presented results of this research back up the relevance of own capital in the total assets for liquidity of companies. The higher percentage of own capital in the total corporate assets, the higher its liquidity, and marked overliquidity comes into being in these companies that make use of only own capital.

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1. The formulas include: indicator of the size of working capital (1) = net sales capital / Total assets; indicator of the size of working capital (2) = net working capital / assets; current liquidity index = sales assets/current obligations, fast liquidity index= (sales-assets-stocks)/current obligations, immediate liquidity indicator = (sales assets – stocks charges)/ current obligations,. [↑](#footnote-ref-1)
2. All relevant information on the way of singling out the central variables can be found in : Grabiński (1982), Panek (2009). [↑](#footnote-ref-2)