LIQUIDITY MANAGEMENT BY EFFECTIVE DEBT COLLECTION: A STATISTICAL ANALYSIS IN A SMALL INDUSTRIAL ENTERPRISE

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Abstract. The financial viability of small companies depends on their ability to meet sales demands and collect receivables from the sales of goods and provision of services. The efficiency of debt recovery plays the fundamental role in determining the liquidity of a small business. Shortages of cash in the company are rarely subsidised not from external sources but most often from the owner's own funds that such shortages are made up, including the amounts previously accumulated as a result of the so-called excess liquidity.

The main purpose of the article is the hypothesis that application of statistical analysis in liquidity management can be a useful tool in effective debt collection in an enterprise.We looked at the monthly or short-term liquidity of a small business and its impact on the defined performance metrics of debt collection. The analytical tool is a dynamic econometric model that describes the impact of the efficiency of recovery for liquidity in small business.

Key words: econometric methods, small business, statistical analysis, debt collection, liquidity management

1. Introduction

In a small enterprise, usually there is no one who pays due attention to statistical information and is responsible for gathering it. The owners of such companies are generally not interested in data concerning their past business. They collect only the data that they are legally bound to collect. It is, however, useful for the management of a company to have some statistical information on its past activities, especially on a monthly basis. It is particularly important to have past financial statistics describing the intensity of sales and the manufacturing process.

Having the capital necessary for the prompt payment of bills is one of the most important responsibilities of small businesses. The lack of statistical information in a small

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company means that liquidity performs a special role. The financing of business in this respect is usually done with their own funds. Bank loans are very rarely a viable means of doing this.

Since 1990, banks have been reluctant to extend loans to them as liquidity buffers. The liquidity of a small business depends on its ability to meet sales as well as to collect active debts for the goods sold and services provided. The effectiveness of the recovery[1] of debt plays the crucial role in determining the liquidity of a small economic entity.

Shortages of capital in a company are rarely supplemented by external funds. The owner's own resources constitute the majority of a company's capital, including funds previously accrued from the temporary ownership of excess financial liquidity. In this work, we shall look at the monthly, i.e. short-term, liquidity of small companies.

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2. The study literature on liquidity in small enterprises

Crucial for the survival and successful development of small and micro firms is the role of their financial management. This has been recognised by the Bank of England in its annual reports on the Finance of Small Firms (Bank of England; 1997; 1998, 1999a; 1999b). The importance of liquidity in company management has been addressed in the literature. Small and medium enterprises (SMEs) are seen as a driving force behind the economy (Khan, Jawaid, 2004). They contribute immensely to the economic development of any country (Abor et al., 2010). In the EU, there are over 20 million SMEs. They represent 99% of companies operating in Europe, and they are also the main engine of economic growth, innovation, employment, and social inclusion.

Maintaining liquidity is particularly important in small and medium-sized business. K.C. Chan, Nai-Fu Chen (1991) argue that smaller firms tend to be more sensitive to changes in the economy. Higher financial leverage, cash flow problems and less efficient management are attributes that make small and mid cap companies riskier than their larger counterparts (Chan, Chen, 1991:1482). Due to their specificity, SMEs have problems securing external funding. They must, therefore, base their business largely on equity. The lack of available capital constitutes a direct threat to the existence of the company. A study of liquidity is of major importance to both internal and external analysts

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[1] Vindication (lat. *vindicatio*) – investigation in the manner specified by law of their rights to the item or pay (*Dictionary of Foreign Words*, 1980). Recovery in business practice is often confused with the execution implemented, among others, by collection companies, such as those emerging in the 1990s. Meanwhile: *execution* (lat. *exsecutio*) – compulsory treasury debt collection or debts awarding to the creditor (*Dictionary of Foreign Words*, 1980).

because of its close relationship with the day-to-day operations of a business (Bhunia, 2010). The difficulty in liquidity management is the achievement of the expected balance between liquidity and profitability (Raheman et al., 2007).

A lack of liquidity leads to small businesses going bankrupt. The economic practice confirms that bankrupt enterprises often had no liquidity, albeit other aspects of their operations may have been satisfactory. It is crucial in managing working capital to maintain sufficient liquidity in day-to-day operations to ensure its smooth running and ability to meet its obligations (Eljelly, 2004). At the same time, the proper management of floating capital in the business, i.e. inventory, accounts receivable and current liabilities that consist of cash conversion cycle, is extremely important. Maintaining the liquidity in the company is determined to a high degree by the level and structure of the floating capital. In the course of business, both the structure of and the demand for this capital fluctuate greatly. This happens as a result of decisions regarding the purchases of raw materials and materials, goods, stock, the terms of collection of current receivables and the regulation of current liabilities. The too low level of the floating capital may result in the loss of financial liquidity. It may cause unreasonable additional costs in raising capital to finance part of the assets, or costs of lost opportunities when property is financed through equity. SMEs are of great importance in reducing the risk of liquidity loss resulting from immobilisation of part of the assets in difficult-to-sell inventories or hard-to-recover collectible receivables. An effective debt collection is therefore crucial in the financial management of a company.

3. Static evaluation of financial liquidity in business

The literature most commonly defines liquidity according to two criteria. Financial liquidity can, therefore, be considered in two ways:
  a) static, i.e. with reference to a particular point using the basic financial statements, such as the balance sheet and profit and loss accounts;
  b) dynamic, i.e. with reference to a particular reporting period and based on the cash flow statement.

The traditional measure of liquidity is based on data received directly from the balance sheet. The ratios are based on the assessment of the relationship of short-term assets to short-term liabilities. A variety of traditional indicators are used to a greater or lesser extent to assess the financial liquidity. Most popular are the current ratio, the quick ratio, and the cash ratio. They are intended to assess the extent to which the company was unable to repay current liabilities from short-term assets. Each of these indicators in the numerator include a diverse range of payment means – from the total assets to the most liquid cash. At the same time, the calculation is based on the assessment of the company's financial resources in the past. Indicators calculated for the business are

compared with data from previous periods, indicators from other companies, and the so-called standards or normative values. On the other hand, it should not be forgotten that companies operating in various sectors of the economy have different levels of turnover and irregular demand, so it is difficult to set universal standard levels of these indicators.

The current ratio is as follows:

$$Current\ ratio = \frac{Current\ assets}{Current\ liabilities}. \tag{1}$$

Current assets include inventories, receivables, short-term securities, and cash. This indicator allows an assessment of the extent to which the company is able to cover short-term liabilities from current assets. The normative value of this ratio should be in the range 1.2–2.

Due to the fact that stocks are considered the least liquid of current assets, in order to determine the short-term solvency of a company the quick ratio is often used. It is expressed as follows:

$$Quick\ ratio = \frac{Accounts\ receivable + Cash\ equivalents + Cash}{Current\ liabilities}. \tag{2}$$

The value of the quick ratio should be kept within the range of 1–1.2. As in the current ratio, the lower value of this indicator may serve as a warning signal suggesting that the company has problems with liquidity. The upper limit may be indicative of the inefficient management of the working capital.

The cash ratio is calculated by using the formula:

$$Cash\ ratio = \frac{Cash\ equivalents + Cash}{Current\ liabilities}. \tag{3}$$

This indicator shows the extent to which the company is able to regulate current liabilities with the most liquid assets including capital. This assumes that the cash should be at least between 16 and 20% of current liabilities. The company would then be able to regulate them efficiently. Although it does not set the standards for this indicator, it is often thought that its value should be between 0.16 and 0.2. The rules of financial management assume that capital should be kept to a minimum because only the assets that are involved in trading can generate adequate financial results. Therefore, in the assessment and management of liquidity described above, the static approach, based on analysing and shaping balances, dominates. This happens in spite of the fact that the essence of liquidity is synchronising streams of cash inflows with streams of cash outflows arising from contractual or statutory deadlines for the settlement of liabilities. A suitable dynamics of streams is thus important.

In the recent years, in economic practice it has been increasingly noted that the indicators based on the resources of the previous reporting period are flawed. They are based on the accounting categories that result from established rules and generally accepted classifications. The nature of accrual and the ability to manipulate these data afford them no real cognitive value. Therefore, the financial liquidity rating based on the cash flow statement seems a better option. Cash-flow provides a counterweight to the accrual method of evaluating the financial state of a company. Knowing the amount of cash that was received and floated is extremely important. A cash-flow statement links the balance sheet and the profit and loss account by using cash as an objective and substantial measure of the effectiveness of the company. It presents the inflows and outflows that occurred during the reporting period, divided into three types of activity: operational, investment, and financial. Financial liquidity can be analysed on the basis of cash-flow streams for the period. Only the statement of revenue and expenditure allows the company to determine the excess cash.

Statements of cash flow, often treated as a complement to the balance sheet and profit and loss account, give SMEs new options allowing a comparison of companies independently of the applied accounting convention. It also allows a more complete assessment of the company compared to a more traditional analysis.

In addition to using simple but defective methods of financial analysis, it is worth reaching for tools widely available but rarely used in the financial management of a company. They include quantitative methods. Econometric modelling is an innovative and at the same time effective tool, particularly in small businesses, which rarely carries full accounting records or prepares complete financial statements. In this case, it should be emphasised that the effectiveness of the modelling will be determined by the amount of statistical information on the results, as well as on the income and expenditure in the audited company.

4. The measurement of dynamic liquidity in small businesses

The multitude of financial liquidity measures[2] does not mean that it is always possible to use them, especially in SMEs. In the study, financial liquidity is gauged by many different indicator tools. This is usually done in a predetermined measurement period or, if a comparison is the aim, in two periods. The resulting information is, therefore, essentially static, so that it is extremely poor. The main problem is the lack of a relevant statistical information. Keeping simplified accounts in a small business is somewhat complicated, and it deprives managers of the important information that would facilitate the accurate diagnoses of the situation, as a well as rational assessment of the past and the future.

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[2] Very rarely in a small business there are records of obligations carried out systematically, divided by maturity. Much more attention is paid to the record claims. They play the decisive role in the accumulation of funds necessary to conduct business in the company.

Information collected about the influence of money and the value of ready-made production in a company[3] brings many benefits to the owner. It allows, for instance, an approximate account of liquidity. A comparison of amounts of money as the realization of receivables from customers, with the value of the final production[4], gives an accurate picture of the extent of liquidity. Let us give to the symbol **cash**$_t$ the value of the cash inflows, while the value of made production (at retail prices) is **prod**$_t$. The comparison of the amounts of these variables in a given period allows assessing the current liquidity of the company. The way to compare variable **cash**$_t$ with variable **prod**$_t$ requires consideration.

The first possibility is to compare the values of concurrent cash flows from the production of ready-made value. If **cash**$_t \geq$ **prod**$_t$ ($t = 1, ..., n$), this company has the necessary cash to cover liabilities in the period t. A situation where **cash**$_t <$ **prod**$_t$ can mean a shortage of funds.

It is worth noting that the trader, who must rely primarily on his forethought, can collect cash from the periods of surplus over liabilities and use them during the current shortage. A better solution may, therefore, be an analytical examination of the accumulated cash value in subsequent periods of the current year and its comparison with the cumulative value of finished goods.

As a result, in this paper, we use three measures of the liquidity of SMEs. The first of these will be the difference between the cumulative monthly cash inflows and cumulants of finished production[5], i.e.

$$\text{liq}_t = \text{cum.cash}_t - \text{cum.prod}_t, \tag{4}$$

where:

$\text{cum.cash}_t = \text{cum.cash}_{t-1} + \text{cash}_t$, in year t^*,
$\text{cum.prod}_t = \text{cum.prod}_{t-1} + \text{prod}_t$, in year t^*,
($t^* = 1, ..., 11$; $t = 2,...,12$) and
$\text{cum.cash}_1 = \text{cash}_1$, $\text{cum.prod}_1 = \text{prod}_1$.

An alternative measure of the cumulative monthly liquidity is a relative measure of that liquidity for current production, calculated as:

$$\text{liqproc}_t = 100 \cdot (\text{liq}_t / \text{prod}_t). \tag{5}$$

The liqproc$_t$ variable is expressed in percentage points. It states that the percentage of the production made in the month t is the cumulative monthly financial liquidity.

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[3] There is no legal obligation to collect information about production values and the influence of money in companies that use the book form of the accounting of revenues and expenditures.

[4] The production value made is embodied in all the obligations of the company to suppliers of raw materials and energy, to employees, and other public laws. It presents the full weight of the obligations, containing the elements, but not forming commitments, such as depreciation and amortisation expenses and profit.

[5] Using the accumulated values results from the assumption of an appropriately cautious owner of a small business. It collects funds in times of financial surplus for periods of reduced cash inflows. The owner who does not have the skills to accumulate funds, as a rule, is unable to keep the company in a highly competitive market. The symbol t^* indicates the number of years, while t was determined by the number of months in the year t^*.

Another variant of the meter liquidity of a small business is the quotient of the cumulative cash inflows and cumulative production value, or an indication of the relative liquidity of the cumulative production ready:

$$\text{liqrel}_t = \left[\frac{\text{cum.cash}_t}{\text{cum.prod}_t} - 1 \right] 100. \tag{6}$$

The indicator (6) contains a similar resource information as the indicator (5). It is expressed as a percentage and also indicates whether the cumulative cash inflows were higher in a given month of the year than the accumulated value of the production completed, and by what percentage they were so. A positive value of liqrel_t observation indicates what percentage of the cumulative cash inflows was higher in a given month of the year of the accumulated value of the production done. It means having the ability to settle its obligations in a given month. A negative value liqrel_t indicates about the risk of lack of the liquidity, however, it need not always be that way[6].

5. Measuring the effectiveness of debt collection in small businesses

The production cycle in a company, including batches of products, ends the moment it receives payment for goods sold or services provided. The general practice of granting the trade credit means that after the delivery and invoicing of the goods there is a waiting period for payment that lasts, depending on the industry, from several days to several months. The law forces operators into non-cash payments, making it easier to control the market in the banking system.

Manufacturers' extending trade credit to their customers means that between the time of delivery and payment for it there is an interval of approximately one month. At the end of that period, payment should be received for the goods sold. In the present business, the dominant terms of payment are in the range of 21–30 days. This means that part of the payment for the invoice was made in the month in which it was presented, part the following month, and in the case of some slight delays the last part would be made two months thereafter[7].

These facts make it necessary to find differences between the influence of the amounts for goods sold (cash_t) and the value of the gross revenues from the sale of concurrent (sbrut_t) as well as that delayed for one month (sbrut_{t-1}) and that delayed for two months (sbrut_{t-2}). It is, therefore necessary to consider the following differences:

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[6] A small value of liqrel_t observation (when it is negative) to the order of a few percent can mean that a company has liquidity. Only when liqrel_t «-10%, can it be expected to threaten the ability to pay current obligations.

[7] For example, when billing a delivery on 30th January, payment at the beginning of March was considered to be paid at the agreed time. Statistically, however, payment in March for delivery in January represents a gap of two months.

$$\text{vind0}_t = \text{cash}_t - \text{sbrut}_t, \tag{7}$$

$$\text{vind1}_t = \text{cash}_t - \text{sbrut}_{t-1}, \tag{8}$$

$$\text{vind2}_t = \text{cash}_t - \text{sbrut}_{t-2}. \tag{9}$$

A fully effective recovery should manifest itself close to zero values of the vind0_t indicator in each of the periods t ($t = 1, ..., n$). The total value of the indicator $\sum_{t=1}^{12}\text{vind0}_t$ in the year t^* ($t^* = 1, ..., n^*$)[8] should be close to 0. This means that receivables for goods sold and services provided were transformed into cash. It cannot expect that $\sum_{t=1}^{12}\text{vind0}_t$ was positive. If, however, $\sum_{t=1}^{12}\text{vind0}_t$ is significantly less than zero, it indicates a lack of effective debt recovery in the enterprise, even to the extent that it might threaten its viability.

A measure of the efficiency of debt recovery (evind_t) will be the arithmetical average of the specific measures of the effectiveness of recovery:

$$\text{evind}_t = (\text{vind0}_t + \text{vind1}_t + \text{vind2}_t) / 3. \tag{10}$$

Evind_t, a variable characterised by a moving average, will be typified by a much smaller dispersion than the detailed measures of the effectiveness of recovery.

6. Monthly liquidity and the efficiency of debt collection of company REX

Here, we shall present an individual case of a small industrial company whose liquidity and efficiency of debt collection were subject to a dynamic analysis. With time series measures of the effectiveness of recovery, it is possible to analyse the simplest visual assessment of fluctuations in size. It gives the manager an idea about the sizes of changes within given periods. Figure 1 presents the variations in measures of an effective debt collection in REX, a small manufacturing company. The appropriate scaling of each chart variation of any of the measures allows a precise assessment of the effectiveness of activities aimed at the conversion of receivables into cash.

Another analytical opportunity is created by the basic statistical characteristics of the measures of the effectiveness of recovery. Table 1 presents the measures of average, dispersion, skewness and concentration variables VIND0_t, VIND1_t and $\text{VIND2}_{t,}$ as well as EVIND_t. Each of these variables oscillates. Their nature determines that they should fluctuate around the number 0. Their arithmetical mean should, therefore, be close to zero, and in practice it is slightly less than zero. A left asymmetry in the distribution of the measure of liquidity, with a few cases of negative values in the liq_t variable (7 cases in 132 months), suggests a good management of financial liquidity within the company.

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[8] The t^* symbol was the designated number of years, and n^* indicates the number of years under consideration.
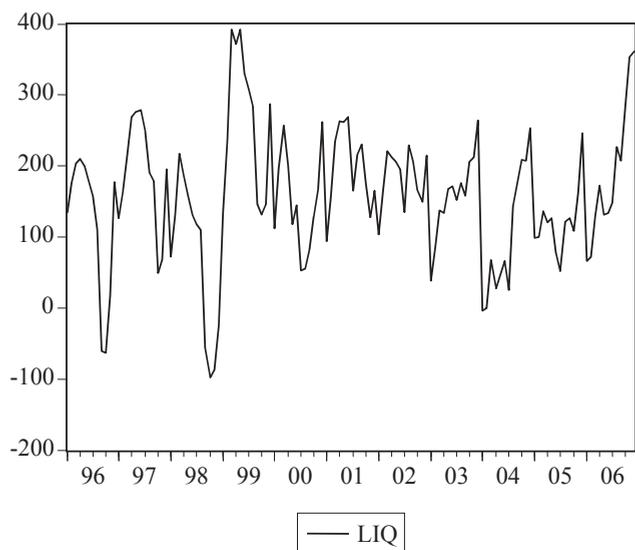
FIG.1. **Cumulative monthly liquidity for REX between 01.1996 and 12.2006 (in thousands PLN)**

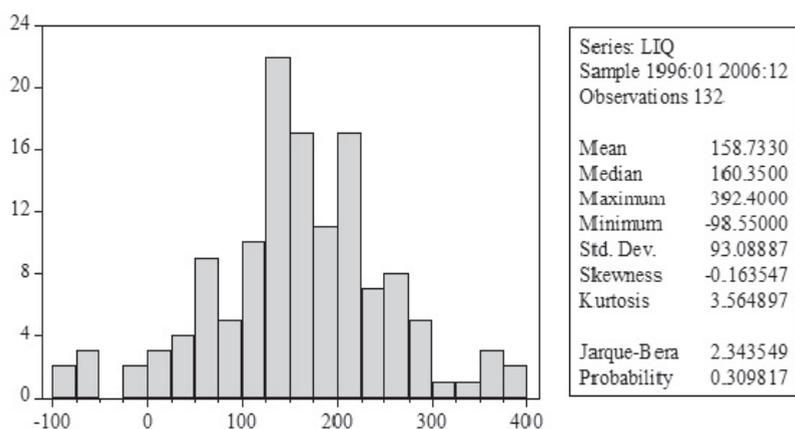*Source:* own calculations based on data from the REX the company.

FIG. 2. **The structure of the monthly value of the variable liqt of REX between 1996 and 2006 (in thousand PLN)**

Source: own calculations based on data from the REX.

The average values of recovery efficiency are slightly less than zero. They range from –1667 to – 2613 zlotys, respectively. This allows the conclusion that the conversion of debts into cash was efficient. These figures should be compared with the average monthly values of the gross revenues from sales and cash receipts, which amounted to 164.721 and 163.055 zloty respectively. The average value of the $WIND0_t$ variable,
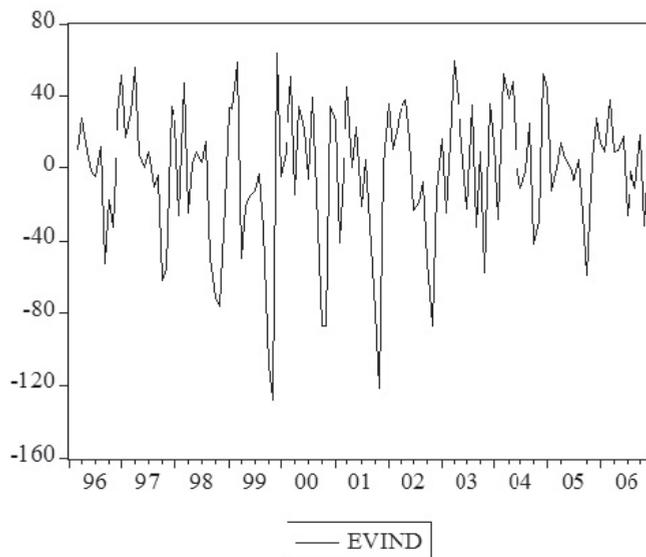
FIG. 3. **The effectiveness of debt recovery (EVINDt) in REX payable monthly in the years between 1996 and 2006 (in thousand PLN)**

Source: own calculations based on data from the REX company.

amounting to 1.667 zlotys, denotes the size of the gross sales revenues that have not been converted into cash. It sets the scale of the losses caused by dishonest debtors. Statistically, this amount is insignificant. In contrast, the sum of the wind0_t variable, which is –219.9 thousand zlotys, gives the full amount of lost by the company in debts in the years between 1996 and 2006. Figure 3 presents the variations of the EVIND$_t$ variable in the REX company. Figure 4 shows the structure of the meter. An interesting characteristic of that distribution is left-skewness, indicating a correct (effective) debt collection.

TABLE 1. **Statistical characteristics of the efficiency measures in the debt collection in the REX company, monthly between 1996 and 2006 (in thousand PLN)**

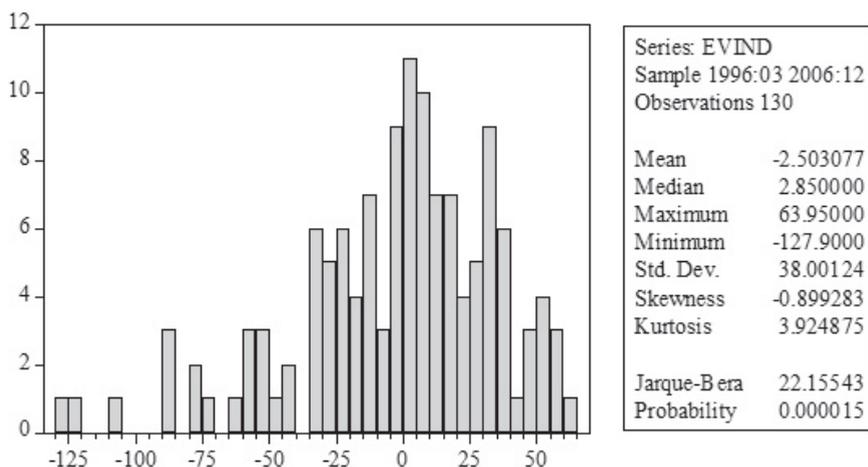| Measure	EVIND	VIND0	VIND1	VIND2
Average	-2.503	-1.667	-2.510	-2.613
Median	2.850	3.975	4.350	2.925
Maximum	63.95	126.1	146.85	141.9
Minimum	-127.9	-166.2	-177.15	-216.3
Dif. stand.	38.00	60.21	56.43	58.86
Skeweness	-0.899	-0.345	-0.534	-0.916
Kurtosis	3.925	2.851	3.409	4.741
Sum	-325.39	-219.9	-328.65	-339.6
Number of obs. (n)	130	132	131	130

Source: own calculations.

FIG. 4. **The structure of a monthly measure of the efficiency of debt recovery evind$_t$ | in the REX in the years between 1996 and 2006**

Source: own calculations based on data from the REX company.

7. The impact of the recovery of debts on the liquidity of the company

The impact study on the effectiveness of debt collection on liquidity in a small enterprise was conducted via a linear dynamic and compatible econometric model. An empirical econometric model describing the effect on liquidity of debt collection is presented in Table 2.

The empirical model contains the following variables:

LIQ – the liquidity of the REX, monthly in the years between 1996 and 2006 (PLN);

LIQ(-1), LIQ(-4), LIQ(-11), LIQ(-12) – the size of liquidity delayed respectively by 1, 4, 11 and 12 months;

EVIND – the effectiveness measure of debt recovery (PLN);

EVIND(-1), EVIND(-3), EVIND(-11) – the effectiveness measure of debt recovery delayed by 1, 3, and 11 months;

JAN, MAY, JUN, JUL, SEP, OCT – zero–one variables[9] which take the value 1 in the highlighted month and 0 at other times, thus JAN – January, MAY – May, JUN – June, JUL – July, SEP – September, OCT – October;

u_{lq} – the rest of the equation.

In addition, the symbol R^2 indicated the square multiple of the correlation coefficient, Su – the standard error of the rest, DW – the statistic Durbin and Watson value, F – the empirical value of the F statistics.

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[9] The measurement of the quality characteristics was treated extensively in the work.

TABLE 2. **The results of estimating the parameters of an econometric model of financial liquidity of the REX company in the years 1996–2006**

Dependent variable: LIQ Method: Least squares Date: 02/25/14 Time: 10:28 Sample(adjusted): 1997:02 2006:12 Included observations: 119 after adjusting endpoints				
Variable	Coefficient	Std. error	t-Statistics	Prob.
C	90.95718	15.54490	5.851255	0.0000
LIQ(-1)	0.942700	0.050340	18.72664	0.0000
LIQ(-4)	-0.253689	0.052508	-4.831425	0.0000
LIQ(-11)	0.174036	0.069121	2.517851	0.0133
LIQ(-12)	-0.209570	0.074448	-2.815001	0.0058
EVIND	0.799810	0.134074	5.965421	0.0000
EVIND(-1)	-0.552876	0.119669	-4.620055	0.0000
EVIND(-3)	-0.317233	0.121419	-2.612707	0.0103
EVIND(-11)	-0.431237	0.161014	-2.678263	0.0086
JAN	-204.7303	19.96713	-10.25337	0.0000
MAY	-59.36767	15.72318	-3.775805	0.0003
JUN	-33.69269	15.91498	-2.117043	0.0366
JUL	-45.79712	15.40017	-2.973806	0.0037
SEP	-59.63873	18.47859	-3.227450	0.0017
OCT	-46.43904	20.31777	-2.285636	0.0243
R-squared	0.810487	Mean dependent var.		162.8672
Adjusted R-squared	0.784975	S.D. dependent var.		92.29410
S.E. of regression	42.79748	Akaike info criterion		10.46820
Sum squared resid.	190488.9	Schwarz criterion		10.81851
Log likelihood	-607.8581	F-statistic		31.76957
Durbin–Watson stat.	2.026969	Prob(F-statistic)		0.000000

Source: own calculations.

From the empirical model, we see that first-order autoregression is particularly important for the REX liquidity At the same time, the efficiency of debt recovery has a significant benefit on the size of the monthly liquidity of the company. The value of the measure of recovery delayed by 1, 3, and 11 months has a negative impact on the liquidity of the company. This points to the need for an effective action in the current business sales team in order to obtain a prompt payment for goods sold. Delays in the repayment of debt by trading partners, even of just one month, have the effect of reducing the financial liquidity of the company.

The empirical model also reveals the periodic fluctuations of liquidity, indicating that negative deviations from the systematic component appear in January, May, June, July, September, and October. The largest negative deviation of liquidity occurs in January and the smallest in June. The measures indicating the accuracy of the model's description of

the financial liquidity suggest that it is extremely accurate because 81% of the variation result from the explanatory variables included in the equation. In this model, there is no autocorrelation of the random component, while it is present in Durbin and Watson's empirical statistics (DW = 2.027). The actual values of liquidity differ from the theoretical values calculated via the empirical model of the average of only about 42.8 thousand PLN per month. Figure 5 presents an accurate description of the volatility of liquidity on the example of the current model and the rest of them.
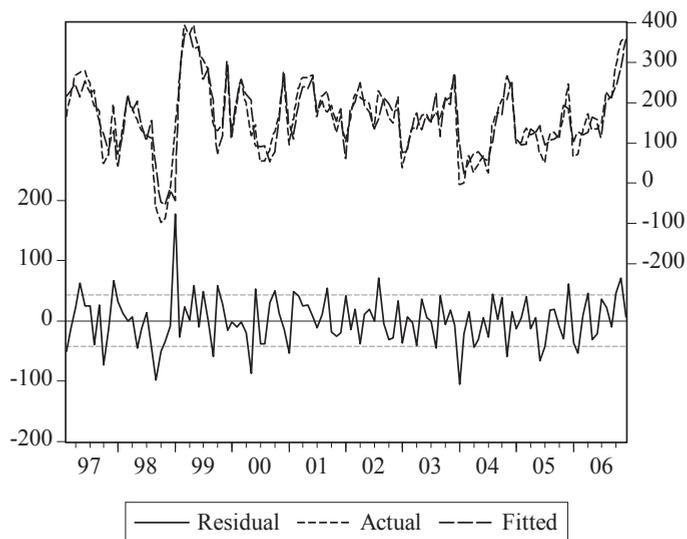

FIG. 5. **The actual and the theoretical values of monthly financial liquidity of the REX calculated by using the model (8) and the rest[10] of the model (u_{lq})**

Source: own calculations based on data from the REX company.

8. Conclusions

The monitoring of liquidity in a small enterprise increases the operational security by reducing the risk of bankruptcy. An effective debt collection plays the fundamental role in maintaining liquidity at the necessary level. The treatment and the control mechanism for debt collection, presented in this work, should be used in small businesses in order to improve the quality of financial management. A systematic collection of statistical information is, however, needed on the size of production in the triad: ready production, sales revenue, and cash inflows. Such a resource would enable the analysis and diagnosis of the situation in the company in the past periods and may save the owner the amount of lost liability.

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[10] On the right ordinate axis, there are marked the empirical and theoretical values of the financial liquidity of the REX, and the left axis is used to read the residues u_{lq}.

Having the type 1 liquidity and the type 3 effectiveness measure of recovery facilitates the appraisal of potential threats to the company's financial system. This will indicate the periods of a lower liquidity and a poorer effectiveness of recovery, which need extraordinary measures to protect the financial system.

A complementary packet of information about the empirical econometric models, both describing the efficiency of debt recovery mechanism and explaining the impact of the recovery of financial liquidity, would serve for a precise knowledge of the financial system in the company. Such models also provide the possibility to estimate the respective forecasts.

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