УДК 658.15

Khoma I.
Doctor of Economics, Professor,Professor of the Department of Finance,
Lviv Polytechnic National University, Ukraine;
e-mail: irkhoma2010@ukr.net; ORCID ID: 0000-0002-3737-1601
Kostiuk-Pukaliak O.
Ph. D. student,
Lviv Polytechnic National University, Ukraine;
e-mail: pokaznychky@gmail.com; ORCID ID: 0000-0003-4028-3677

IMPROVEMENT OF TOOLS FOR CASH FLOW ANALYSIS OF E-COMMERCE COMPANIES

Abstract. The article is devoted to the study of new methods of cash flows analysis at e-commerce enterprises. The study of these methods included an investigation of some historical facts that served as an impetus for the development of a methodology for assessing the enterprise's reliability in terms of its investment attractiveness. The history of the financial crisis that occurred in the USA during 2001—2004 and is widely known as the dotcom bubble is investigated. The approach to assessing the performance of the company in terms of profits completely discredited itself, which led to the bankruptcy of many companies, the opening of litigation for abuse and fraud by equity funds, and the loss of confidence in the IT industry as a whole. After this crisis, the approach to assessing the effectiveness of e-commerce changed, thus, the efficiency of the company's activity was analysed not by profit, but by cash flow. Nowadays, the concept of free cash flow is introduced for analysing the investment attractiveness of enterprises.

The article shows the value of a free cash flow indicator, which became an alternative in determining the effectiveness of both e-commerce enterprises and traditional sales methods. Taking into account the fact the crisis in the IT industry was caused by the overestimation of the value of enterprises in this sector, this indicator is important for determining the efficiency of Internet-based enterprises.

Considering the conditions of economic performance, namely, the financial system in which entrepreneurship takes place, it is expedient to interpret the free cash flow indicator according to the factors of influence on the enterprise's activity. In this study, for the purpose of determining the effectiveness of e-commerce companies, the use of an interpreted free cash flow indicator is offered, i.e. a net free cash flow that takes into account not only the interest in continuous investment for business growth but also reflects the ability of an enterprise to pay off the bank loans and dividends. Considering the investor interests, it will enable the company to be sure in a long-term financial support and development opportunities in the future.

Keywords: dotcom bubble, e-commerce, free cash flow, net free cash flow, analysis of coefficients.

JEL Classification G32, L81

Formulas: 3; fig.: 2; tabl.: 0; bibl.: 15.

Хома І. Б.
доктор економічних наук, професор,
Національний університет «Львівська політехніка», Україна;
e-mail: irkhoma2010@ukr.net; ORCID ID: 0000-0002-3737-1601
Костюк-Пукаляк О. М.
аспірантка,
Національний університет «Львівська політехніка», Україна;
e-mail: pokaznychky@gmail.com; ORCID ID: 0000-0003-4028-3677

УДОСКОНАЛЕННЯ ІНСТРУМЕНТАРІЮ ОЦІНЮВАННЯ ГРОШОВИХ ПОТОКІВ ПІДПРИЄМСТВ ЕЛЕКТРОННОЇ КОМЕРЦІЇ

Анотація. Присвячено вивченню нових методів аналізування грошових потоків на підприємствах електронної комерції. При їх розробці було досліджено історичні факти, які послужили поштовхом для розвитку методології оцінювання надійності підприємства щодо

його інвестиційної привабливості. Досліджено історію фінансової кризи, яка відбулася у США у 2001—2004 роках під назвою «бульбашка доткомів». За наслідками цієї кризи підхід до оцінювання ефективності діяльності підприємства за прибутком повністю дискредитував себе, що спричинило серію банкрутств, відкриття судових справ зі зловживання і шахрайства акціонерними коштами, втрату довіри до ІТ-галузі в цілому. Після цієї кризи змінився підхід до оцінювання ефективності діяльності підприємств електронної комерції, в основі якого ефективність діяльності підприємства аналізувалася не за прибутком, а за грошовим потоком. У той час до аналізу інвестиційної привабливості підприємств вводиться поняття вільного грошового потоку.

Показано значення показника вільного грошового потоку, який став альтернативним при визначенні ефективності діяльності підприємств електронної комерції та традиційних форм збуту. Ураховуючи факт, що криза ІТ-індустрії була спричинена переоцінкою підприємств цієї галузі, цей показник має особливе значення у визначенні ефективності підприємств, що здійснюють свою діяльність через Інтернет.

Ураховуючи умови здійснення господарської діяльності, а саме фінансову систему, в якій здійснюється підприємництво, доцільно показник вільного грошового потоку інтерпретувати відповідно до факторів впливу на діяльність підприємства. У нашому дослідженні для визначення ефективності діяльності підприємств електронної комерції пропонуємо використовувати інтерпретованого показника вільного грошового потоку – чистого вільного грошового потоку, який ураховує інтереси не тільки в постійних капіталовкладеннях для розвитку бізнесу, а й показує здатність підприємства розраховуватися за наданими банківськими позиками та мотивації інвесторів до збільшення капіталовкладень.

Ключові слова: «бульбашка доткомів», інтернет-комерція, вільний грошовий потік, чистий вільний грошовий потік, коефіцієнтний аналіз.

Формул: 3; рис.: 2; табл.: 0; бібл.: 15.

Хома И. Б.
доктор экономических наук, профессор,
Национальный университет «Львовская политехника», Украина;
e-mail: irkhoma2010@ukr.net; ORCID ID: 0000-0002-3737-1601
Костюк-Пукаляк О. М.
аспирантка,
Национальный университет «Львовская политехника», Украина;
e-mail: pokaznychky@gmail.com; ORCID ID: 0000-0003-4028-3677

СОВЕРШЕНСТВОВАНИЕ ИНСТРУМЕНТАРИЯ ОЦЕНКИ ДЕНЕЖНЫХ ПОТОКОВ ПРЕДПРИЯТИЙ ЭЛЕКТРОННОЙ КОММЕРЦИИ

Аннотация. Посвящено изучению новых методов анализа денежных потоков на предприятиях электронной коммерции. При их разработке были исследованы факты, которые послужили толчком для развития методологии оценки надежности предприятия с точки зрения его инвестиционной привлекательности. Исследована история финансового кризиса, которая состоялась в США с 2001 по 2004 год под названием «пузырь доткомов». По результатам данного кризиса подход к оценке эффективности деятельности предприятия за прибылью полностью дискредитировал себя, что повлекло серию банкротств, открытие судебных дел по злоупотреблению и мошенничеству акционерными средствами, потерю доверия к ИТ-отрасли в целом. После данного кризиса изменился подход к оценке эффективности деятельности предприятий электронной коммерции, в основе которого эффективность деятельности предприятия анализировалась не по прибыли, а по денежным потокам, в частности по свободному денежному потоку.

Показано значение показателя свободного денежного потока, который стал альтернативным при определении эффективности деятельности предприятий электронной коммерции и традиционных форм сбыта. Учитывая факт, что кризис ИТ-индустрии был вызван переоценкой предприятий данной отрасли, данный показатель имеет особое значение

в определении эффективности предприятий, осуществляющих свою деятельность через Интернет.

Учитывая условия осуществления хозяйственной деятельности, а именно финансовую систему, в которой осуществляется предпринимательство, целесообразно показатель свободного денежного потока интерпретировать в соответствии с факторами влияния на деятельность предприятия. В данном исследовании для определения эффективности деятельности предприятий электронной коммерции предлагается использование интерпретируемого показателя свободного денежного потока — чистого свободного денежного потока, который учитывает интерес не только в постоянных капиталовложениях для развития бизнеса, но и показывает способность предприятия рассчитываться по предоставленным банковским займам и мотивацию инвесторов к увеличению капиталовложений.

Ключевые слова: «пузырь доткомов», интернет-коммерция, свободный денежный поток, чистый свободный денежный поток, коэффициентный анализ.

Формул: 3; рис.: 2; табл.: 0; библ.: 15.

Introduction. The notion of a dotcom bubble first appears in the history of finances in the 2000s. This was one of the financial crises that took place in the US economy during the period of a rapid e-commerce growth from 1995 to 2001. It is a crisis that has initiated a new approach to the evaluation of business. The approach is based not only on the study of the present value of cash flows from investing, but also on the possibility of obtaining a guarantee that investments will be economically feasible and reliable, that is, they will have good long-term financial prospects. The assessment of the feasibility of investing in the stock market is carried out using the indices that express the correlation between the significant assets indicators and financial results. In particular, the relationship between «Price to Earning» and «Price to Sales» shows the correlation between the value of a single share and profit or income per share. These are the indicators of a fundamental analysis used to assess the equity quality. In essence, they are the indicators of return on capital. The approach to assessing capital by profit discredited itself completely after the bubble emergence that resulted in a series of bankruptcies, launch of litigations on fraud and equity funds abuse as well as the loss of confidence in the IT industry as a whole. There was a need to find new indicators that would reduce the likelihood of manipulating financial results and show the reliability of investments. It is also important to take into account the fact the indicators used for a corporate analysis in the developed countries are not always appropriate when applying to enterprises operating on the markets of the developing countries. Therefore, here arises the need for introducing a new system to assess the activities of enterprises, which is able to reflect not only the experience of the developed countries, but also the conditions in which the enterprise performs its economic activity. Costs of a website development that simultaneously are capital investments are of much importance for e-commerce companies influencing greatly their ability to generate cash flow. These costs are the main factor that determines the need to improve tools for analysing cash flows of e-commerce companies.

Literature review and the problem statement. The question of dotcom bubble emergence was extensively researched in foreign business literature as well as in scientific circles. The problem is described in editions of McKinsey (2000), Cambridge (1989) and Strategy & Business magazine (2000). Credit Suisse First Boston Desk Note (1999) showed the impact of dotcom bubble on cash flows.

The purpose of the study is to create a new toolset for analysing cash flows, which will meet: 1) modern requirements of the world economy; 2) the needs of various stakeholders in obtaining information about the enterprise's financial state and its prospects; 3) the needs for evaluating the effectiveness of e-commerce enterprises.

Research results. The term «dotcom» is used for companies whose business model is oriented on the Internet. The very name derives from Dot Com, i.e. the domain of the first level zone. Extension «com» is an abbreviation for «commercial». The domain was introduced in 1997 and launched a period of prosperity of the Internet.

The rapid growth of Internet technologies attracted the attention of many companies and businessmen who began to invest actively in the projects of this market sector. More and more new

online stores appeared while the old companies began re-organizing themselves to provide services in the Internet segment. Analysts advised to invest in high-tech companies, so it's not surprising that the prices of IT companies' shares began to grow abruptly. A large number of economists and commentators responded positively regarding the abrupt rise of Internet companies' shares prices, arguing that a «new economy» has come. The very word «Internet» attracted magically and increased the price of shares. At that time, many Internet service providers were founded and enjoyed a rapid development: Amazon, Yahoo, eBay, etc. For instance, Amazon became a multimillionaire in 1998. By the year 1999, AMZN, its NASDAQ index, was about 54, the value of shares increased almost twofold in 2000, after which a sharp fall of both the value of assets and the index occurred.

Pursuing a goal to earn the profit faster, the analysis of business growth by investors was carried out with less attention and not always objectively. Let's consider the reasons for the inadequate assessment of investment objects in the IT segment.

1. Evaluation of the company's shares. It was impossible to analyse and establish a clear price of shares when placing them on the exchange. It is not queer, since Internet commerce can be practiced without any capital. A domain name along with the cost of several PCs serving the work of the website was of some value. A dozen of employees served all the sales. Therefore, it was proposed and decided to evaluate the dotcom segment by the number of audience of the website and the time the user spent on a given web resource.

According to Robert Metcalfe (1980), one of the developers of the Ethernet computer network, the utility of any network is directly proportional to the square of the number of connected users of the system. Now this formula is considered to be one of the reasons that caused the emergence of dotcom bubble since the evaluation of shares according to it was conducted with a great error.

2. Lack of adequate business models. As a rule, the majority of dotcoms' executives were IT specialists who did not always have an idea of a proper organization of doing business. They didn't pay a proper attention to the detection and implementation of new sources of profit, such as the introduction of paid Internet services, the display of advertisements and the placement of links.

3. Excessive spending on advertising. A greater part of the funds provided by investors was spent on advertising, rather than on business development. These expenses were clear: the more money was spent on advertising purposes; the more buyers were attracted. The buyers brought income through loans and investments. On the whole, the system of such customer retrieval was effective, because it brought additional profit, which was successfully distributed among the investors during a certain period of time. However, a significant number of businessmen directed advertising not on bringing additional clients, but on attracting new investors. It was a widely spread form of fraud in the manner of financial pyramids.

4. Replacement of concepts. Managing business through the Internet is just a tool for implementing a well-defined business process, but not the business process itself. Still, one needs to understand that e-commerce is only a specific form of sales, that is, a form of marketing that applies to a particular type of activity. Being ordinary undertakings that performed their business by means of traditional methods, the companies could not be interesting to the potential investors. However, the creation of the website and reorientation of sales through the Internet immediately attracted the attention of investors, since by doing this the company automatically entered the IT sector.

5. Lack of a clear understanding of the principles how the Internet works. To transfer business to the Internet one needs to know the rules how to do it correctly. Clear frameworks, rules and procedures didn't exist at that time. People worked on the intuitive level, introducing their own rules, but these rules did not always coincide with the laws of the Internet development.

6. Fraud and artificial overvaluation of shares. The new area of activity attracted a large number of crooks and scammers due to the lack of clear and verified interaction procedures. It's a quite simple task to bring visitors to the website. But it is much more difficult to turn a visitor to a buyer. The attraction of a visitor may not necessarily be made by the legal methods (in terms of Internet rules). The presence of a significant number of visitors created the effect of business success, that's why the investors invested in the development of many Internet projects.

The most vivid examples of this practice were:

- AOL-employees' fraud with shares and fabrication of audit findings, costing more than $510 million in 2005.
- Quallcom — illegal banking operations aimed at artificial increase of profits (the amount of profits amounted to $3.8 billion from January 2001 to March 2002).
- Qwest Communications –overstatement of profit during 2000-2001 for the amount of $2.5 billion.
- Xerox — issue of securities (for more than $3 billion in 2002).

Summarizing the aforementioned facts, the dotcom bubble resulted from a sharp rise in prices of Internet companies' shares (mostly of American origin), as well as from the emergence of a large number of new Internet companies and the conversion of the existing ones to the Internet sector.

Taking into account the possibility of profit manipulation that was carried out in accounting, large companies allowed themselves to show good performance indicators in the IT industry, thereby attracting a significant number of investors.

The period of this economic bubble lasted approximately for 7 years (1995—2001). The value of the NASDAQ index (which comprises many technology companies) increased from 1000 in 1995 to 5000 in 2000, as shown in Fig. 1.

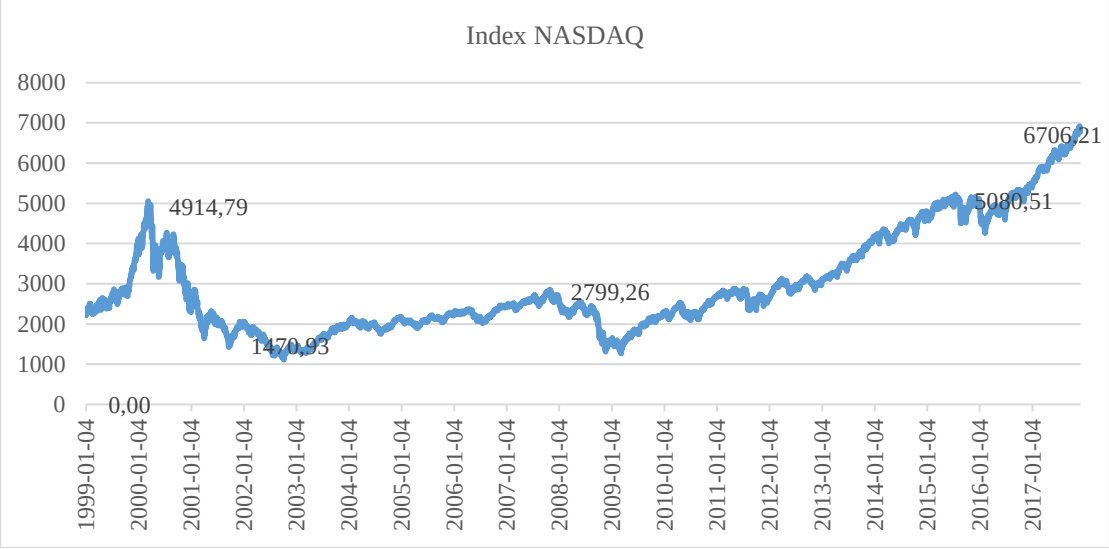

Fig. 1. Graphic interpretation of the NASDAQ index during 1999—2017
Source: based on the statistical information of nasdaq.com.

The culmination of the boom occurred on March 10, 2000, when the NASDAQ index peaked at 5132.52 points throughout the day. At this time, if a simple analysis of the company's financial state showed any positive profit, the rules allowed to declare it as a public company, whose shares rotated freely on the stock market. The executives and employees of the IT companies who received the securities of their own companies instantly became millionaires at the moment of declaring publicity. Some executives like Mark Cuban (who sold his newly created Broadcast.com business for $ 5.7 billion in 1999) earned crazy money when their companies were redeemed on the stock market at the early stage of the dotcom bubble.

The providers of telecommunication equipment, considering the demands of the future economy, spent considerable funds and took bank credits to improve their networks and equipment. Many US cities and states used budget money to finance infrastructure, technology centres and introduced new tax laws to promote the successful work of dotcoms in their regions. The number of office vacancies increased significantly. Get Big Fast was the basic principle of growth for developing companies at that time, i.e. to offer the products or services for free or at a certain discount bearing in mind that the brand will become famous and popular over time.

A large amount of money was spent on mass promotions and campaigns in order to expand the circle of informing the clients.

However, all this crazy popularity has had terrible consequences for the economy. Let's consider them in more detail.

1. Easy investment inflows, excessive market confidence and pure speculation under a minimal or disguised level of profitability caused a dramatic shift in the mentality of investors and executives.

2. The lifespan of a company that did not evolve, but only spent money, was measured by its combustion speed rate, that is, the time during which all invested capital would be used completely. Having exhausted all the investors' funds, the companies declared bankruptcy.

3. Several companies and their executives have been accused or convicted of fraudulent misuse of shareholders' funds and the US Securities and Exchange Commission has been fined by the leading investment firms for millions of dollars for misleading investors.

4. Various auxiliary industries, like advertising, shipping and logistics have reduced their sales volumes along with the fall of the e-commerce market.

5. A big wave of layoffs began. Over-saturation of the labour market emerged on the background of international outsourcing that began to develop actively in the United States at that time. Several large telecommunication companies were on the brink of collapse due to their inability to return the debts that were taken to finance expansion.

6. This situation also coincided with the terrorist attacks of September 11, 2001 in the United States. It only accelerated the stock market fall, as a result of the introduction of direct control over speculation with securities. For example, Cisco lost 86% of its network equipment market, while Amazon stocks prices fell from $107 to $7.

In spite of all these difficult circumstances, about 48% of Internet companies did manage to survive the 2004 mark (see Fig. 1).

Several Internet companies like Google, eBay, Amazon and Yahoo not only survived the hard times following their clearly designed strategies, but also entered the list of dominant companies in the Internet industry. Now they are confidently holding the position of selling leaders in the Internet segment.

Since 2004, Internet projects have started to gain momentum again. Presently, the start-up market has made a major breakthrough and is quite strong. However, the investors began to be much more cautious about investing in such projects, so several new rules for assessing business efficiency were introduced.

Rule 1. Effectiveness of activity cannot be measured by financial results. The presence of profit at the end of the year does not mean the company is solvent or financially sustainable. Only the presence of a cash balance indicates this, and therefore the effectiveness of the company should be measured by the ability to generate money that can be spent on any needs.

Rule 2. Cash is necessary to be generated in a quantity enough for the mandatory capital investments. This is especially true for e-commerce companies, which should receive customers not through spending investment funds on advertising, but through the improvement of their own resource base.

An overwhelming majority of scientists tend to consider a coefficient analysis method as the best way to reflect the efficiency of cash flows. There is no consensus regarding the list of these indicators, as most researchers make their own views on analysing and the practical necessity of such calculations. Nevertheless, there are 8 indicators of capital structure that are the most useful for investors. Let's review them more closely.

1. Operating Cash Flow Ratio. The indicator is determined by the ratio of net operating cash flow or net realizable value. In fact, it reflects the effectiveness of the implementation, i.e. shows how much money remains from the sale of products.

2. Asset Efficiency Ratio. The indicator is determined by the ratio of net operating cash flow to the average annual value of assets.

3. Current Liability Coverage Ratio. The indicator is determined by the ratio of net operating cash flow to the average annual value of current liabilities. An alternative way of determining the indicator is the ratio of net operating cash flow reduced by dividend costs to the average annual cost of current liabilities.

4. Long Term Debt Coverage Ratio. The indicator is determined by analogy with the indicator of coverage of enterprise's current liabilities.

5. Interest Coverage Ratio. In a foreign literature, financial expenses (repayment of interest on loans) are called «interest payments». These are the interests of borrowers in the form of loan interest. The indicator is calculated as the ratio of the net operating cash flow amount, interest payments and income tax payments to the amount of interest. The indicator is important when taking decision on lending a particular enterprise, since it shows the ability of the enterprise to return loans.

6. Cash Generating Power Ratio. The indicator is determined by the ratio of net operating cash flow to the total amount of incoming cash flows from financial and investment activities and net operating cash flow.

7. External Financing Index Ratio. The indicator is determined by the ratio of the net financial cash flow to the net operating cash flow.

8. Capital Expenditure Ratio. The indicator is determined by the ratio of net operating cash flow to the value of capital investment.

Therefore, when collecting financial information for investors, analysts use these indicators to determine the effectiveness of future investments. These data are based on the indicators of income quality, liquidity and indicators of quality of financial and investment activity of the enterprise.

When exploring investment objects, New York Stock Exchange specialists are primarily concerned with earnings, ignoring the corporate profitability indicators. Profit can be adjusted by accountants in a variety of ways, but cash flows are much more complicated to be tightened to the desired indicators. Precisely for this reason the leading world investors believe that it is Free Cash Flow that gives a clearer picture of the company's ability to generate money. Specialists note that a negative free cash flow is not a bad indicator. If its value is negative, this means only that the company makes big investments. If all these investments are used on a right purpose, they will provide the profit multiplication in the long run. The landmark study, which attracted a general attention to this indicator, was conducted in 1996 by the MIT Sloan School of Management.

The study was conducted to solve the complex problem of making the border between the income statement and the cash flow statement. The market was unable to clearly and promptly feel the difference between the ultimate indicators of the reports, so this fact became the main impetus for the search for over- and underestimated firms. At that time, it was difficult for investors to experience the effect of changes in assets on the change of cash, since the report was actually based on the statement of financial results.

These adjustments are demonstrated in the indirectly compiled statement of cash flows including: increase or decrease in provisions, liabilities, current assets, etc.

The research confirmed that higher returns could be obtained by companies that actively used the attracted capital in updating their technical equipment. Research has become widespread and these abnormal patterns were reflected in FCF indicator, i.e. Free Cash Flow. The majority of other studies, which, by the way, were very few, confirmed that it was far more difficult to perform financial management by means of this indicator comparing to that of the profit one. But considering the value of planned calculations, the FCF indicator has a much higher predictive value.

Robeco's Global Equity is a modern analytical group that uses the Free Cash Flow indicator to present the most successful investment projects to the world's investors. Specialists of this company believe that there are many reasons to use this indicator.

Reason 1. The ability to generate free cash flow is the evidence of business viability. If company experience cash shortages, sooner or later it will need external financing.

Reason 2. The company uses capital expenditures (shortly CAPEX; in the domestic economic classification it is the cost of purchasing fixed capital) to achieve its own goals and margin (economic benefits). If lower costs are required to achieve the same goals, this means that the company uses scarce resources effectively.

Reason 3. The amount remaining after paying operating expenses and taxes can be freely used to pay interest on loans, repay debts, purchase assets, pay dividends or invest further.

Robeco's research has also confirmed the ability to predict company's returns using the FCF indicator. This research was confirmed by Bernstein's studies (2016) that summarized the results of information gathered in 2016 and released a study entitled «Free Cash Flow is King.»

In this study, the Free Cash Flow (FCF) was expressed as net cash flow from operating activities (CFO) reduced by the amount of capital expenditures (CAPEX).

$$FCF = CFO — CAPEX \quad (1)$$

About 500 companies from all around the world were chosen to participate in the MSCI All Countries World Index (2017). The rating is based on the business value, which was estimated using the free flow of cash flows. The studies were conducted globally, as well as separately in Europe, the USA and the countries of Pacific region. The cost of companies was calculated quarterly, so the same indicators were collected both in industries and in separate enterprises. The results of the research were impressive. It is the coefficient of the free cash flow that caused an average surplus return on capital in the amount of 7% per year by industry and about 5% by separate enterprises.

Taking into account a negative experience of the US e-commerce companies, which determined the predicted efficiency of the activity using the methods of fundamental analysis, attention should be paid to the indicator of free cash flow to determine the investment attractiveness of enterprises in all sectors of the economy. For e-commerce companies, the value of FCF is of particular importance because a future ability of the company to generate cash flows depends on how much money is invested in the development of the website.

Let's consider a net free cash flow. The peculiarity of the financial market in Ukraine is that, unlike the US market, it is fully formed by self-financing or long-term bank lending. According to Blank I. (2002), it's necessary to attract investment funds from the external sources of financing to provide the company with a stimulus for development. Therefore, it is considered that if an enterprise is rapidly increasing its turnover, it should have long-term loans in its capital structure.

In terms of a continental model of the financial market, credit funds are used to finance capital investments in business development. The loans provided for a period of more than one year are considered to be long-term ones in the accounting practice of Ukrainian companies.

Long-term lending increases its share every year in the total amount of loans granted to the business. In particular, while the share of long-term loans in the total amount of credit investments accounted for less than 5% in 2001, this indicator was 50.3% or UAH 407.41 billion in October 2017 (Fig. 2).

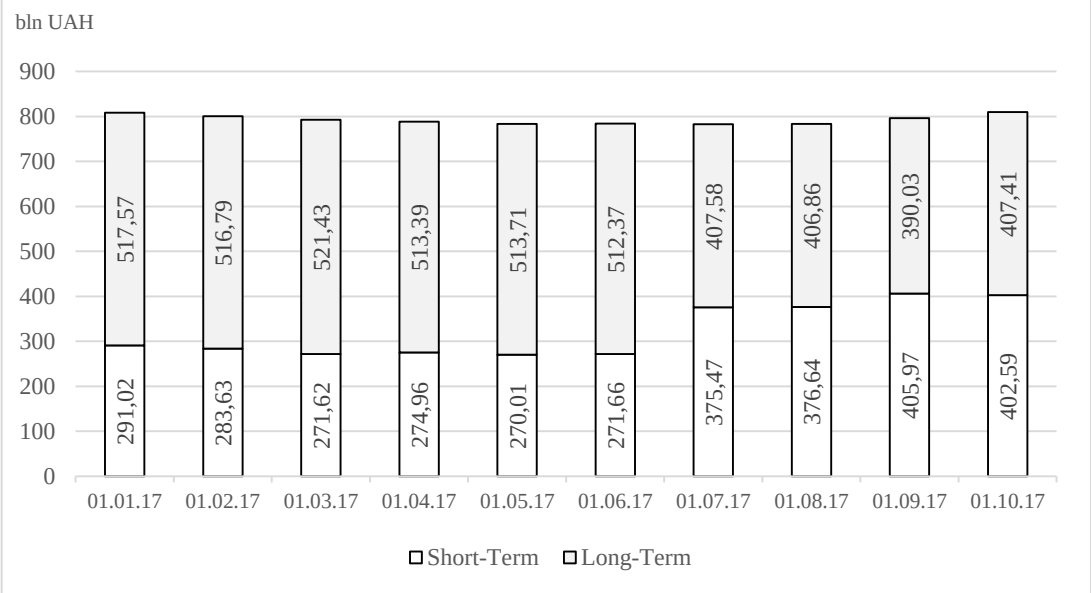

Fig. 2. The structure of business lending in Ukraine in 2017 according to the loan period
Source: based on statistical information of National Bank of Ukraine.

This indicates that the importance of long-term loans is quite substantial in the development of the Ukrainian economy. A similar model of financing is used by the businesses of Germany and the Asian countries. It should be noted that the main condition for using borrowed funds is the timely repayment of interest. In scientific literature, such pay-outs are called interest payments. These are the interests of banks formed by the lending interest.

Considering the possibility of studying the efficiency of the enterprise's activity by the free cash flow in terms of the domestic financial system, it's necessary to adjust it for the sum of interests, i.e. the sum of short-term commitments for long-term lending (CMLTD).

The indicator is called Net Free Cash Flow (NFCF). He is calculated according to the formula:

$$NFCF = CFO / (CAPEX + CMLTD) \quad (2)$$

In general, financial markets have the ability to unite. Therefore, in the developed countries business can be financed both at the expense of deposit funds and at the expense of financial lending. That is why it is expedient for the enterprises, in which the equity capital is formed by shareholders' funds, to further adjust the NFCF indicator by the amount of dividend payments (D). Thus, the free cash flow is calculated as follows:

$$NFCF = CFO / (CAPEX + CMLTD + D) \quad (3)$$

So, we have identified a universal indicator of net free cash flow, which will be fully relevant to enterprises operating in different conditions. Considering the fact, the possibility of generating cash flows by e-commerce companies depends on regular investment, the use of free cash flow indicator is mandatory in the study of the enterprise's efficiency. However, if the company uses not its own funds for development, but the attracted ones, then it is expedient to determine the net free cash flow.

Conclusions. Validity as well as practical value of universal methods of cash flow management, developed by western schools of financial management, is recognized by all studies that were conducted in this direction. However, the simple copying of the use of foreign tools for analysing cash flows in the Ukrainian economy is quite ineffective. Studying foreign experience in analysing cash flows allows to develop our own system of indicators, which not only meets the modern market requirements, but at the same time is adapted to domestic conditions of doing business.

The development of new approaches in the study of cash flows in the international theory of financial analysis started after a so-called «dotcom bubble». This financial crisis made Internet commerce market collapse, which occurred due to an incorrect profit-based assessment of the e-commerce companies' effectiveness. As a result, a new indicator of cash flows, a free cash flow, was introduced in the financial analysis practices. It allows to assess the ability of an enterprise to generate sufficient cash not only to finance current operating activities, but also for future development or investment.

The free cash flow indicator is particularly important for e-commerce, which depends on the investments representing the cost of developing and maintaining the website.

However, considering that e-commerce businesses in Ukraine operate in terms of a domestic financial system based on bank lending, it is important to interpret the indicator of free cash flow according to the domestic operating conditions. Since enterprises use long-term loans to finance capital investment, the free cash flow indicator should be adjusted for the amount of financial expenses for the repayment of loans. If companies use investors' money, this figure should be adjusted for the size of dividends. Consequently, it is proposed to use the indicator of the net free cash flow to evaluate the effectiveness of e-commerce.

This indicator is offered to be used as a basic one for the analysis of capital efficiency, liquidity, profitability, etc.

Література

1. Higson C. Valuing Internet Businesses / C. Higson, J. Briginshaw // Business Strategy Review. — 2000. — Vol. 11. — № 1. — P. 10—20.
2. Desmet D. Valuing dot-coms / D. Desmet // The McKinsey Quarterly. — 2000. — Vol. 1. — P. 148—157.
3. Shiller R. J. Market Volatility / R. J. Shiller. — Cambridge Mass : MIT Press, 1989. — P. 50—52.
4. Bennahum D. The Biggest Myth of the New Economy / D. Bennahum // Strategy & Business. —2000. — Vol. 18. — P. 15—17.
5. Mauboussin M. Cash Economics in the New Economy / M. Mauboussin, B. Hiler // Credit Suisse First Boston Desk Note. — 1999.
6. Dodge J. MotherNature.com's CEO Defends Dot-Coms' Get-Big-Fast Strategy [Electronic resource] / J. Dodge // The Wall Street Journal. — 2000. — May 16. — Available at : https://www.wsj.com/articles/SB958412442522904320.
7. Metcalfe's law [Electronic resource] // Wikipedia. The Free Encyklopedia. — Available at : https://en.wikipedia.org/wiki/Metcalfe's_law#cite_note-5.
8. Рублёв С. Увлекательный мир доткомовских мошенников [Электронный ресурс] / С. Рублёв // Lenta.Ru. — 2005. — 28 января. — Available at : https://lenta.ru/articles/2005/01/28/dotcom.

9. Beltran L. WorldCom files largest bankruptcy ever [Electronic resource] / L. Beltran // CNNMoney. — 2002. — July 22. — Available at : http://money.cnn.com/2002/07/19/news/worldcom_bankruptcy.

10. Jun J. 7 Cash Flow Ratios Every Value Investor Should Know [Electronic resource] / J. Jun // OldSchool Value. — 2017. — April 24. — Available at : https://www.oldschoolvalue.com/blog/valuation-methods/cash-flow-ratios.

11. Мошенський С. З. Вплив структури фінансового ринку на загальний розвиток економічної системи та її безпеки / С. З. Мошенський // Проблеми теорії та методології бухгалтерського обліку, контролю і аналізу. Бухгалтерський облік, контроль і аналіз. —2008. — Вип. 3 (12). — С. 357—366.

12. Jagerson J. Free Cash Flow (FCF) [Electronic resource] / J. Jagerson // Investopedia. — 2019. — May 20. — Available at : https://www.investopedia.com/terms/f/freecashflow.asp.

13. Keuppens J. Cash is a fact, earnings an opinion [Electronic resource] / J. Keuppens // Robeco. — 2017. — Available at : https://www.robeco.com/en/insights/2017/01/cash-is-a-fact-earnings-an-opinion.html.

14. Бланк И. О. Управление денежными потоками / И. О. Бланк. — Киев : Ника-Центр, Эльга, 2002.

15. Грошово-кредитна та фінансова статистика [Електронний ресурс] / Національний банк України. — Київ, 2017. — Вересень. — Режим доступу : https://bank.gov.ua/doccatalog/document?id=58138777.

Стаття рекомендована до друку 16.09.2019

References

1. Higson, C., & Briginshaw, J. (2000). Valuing Internet Businesses. *Business Strategy Review*, *11*, 1, 10—20 [in English].

2. Desmet, D. (2000). Valuing dot-coms. *The McKinsey Quarterly*, *1*, 148—157 [in English].

3. Shiller, R. J. (1989). Market Volatility. Cambridge Mass: MIT Press [in English].

4. Bennahum, D. (2000). The Biggest Myth of the New Economy. *Strategy & Business*, *18*, 15—17 [in English].

5. Mauboussin, M., & Hiler, B. (1999). Cash flow.com: Cash Economics in the New Economy. *Credit Suisse First Boston Desk Note* [in English].

6. Dodge, J. (2000, May 16). MotherNature.com's CEO Defends Dot-Coms' Get-Big-Fast Strategy. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/SB958412442522904320 [in English].

7. Metcalfe's law. (n. d.). *Wikipedia. The Free Encyklopedia*. Retrieved from https://en.wikipedia.org/wiki/Metcalfe's_law#cite_note-5 [in English].

8. Rublyov, S. (2005, January 28). Uvlekatel'nyj mir dotkomovskih moshennikov [The fascinating world of dotcom scam]. *Lenta.Ru*. Retrieved from https://lenta.ru/articles/2005/01/28/dotcom [in Russian].

9. Beltran, L. (2002, July 22). WorldCom files largest bankruptcy ever. *CNNMoney*. Retrieved from http://money.cnn.com/2002/07/19/news/worldcom_bankruptcy [in English].

10. Jun, J. (2017, April 24). 7 Cash Flow Ratios Every Value Investor Should Know. *OldSchool Value*. Retrieved from https://www.oldschoolvalue.com/blog/valuation-methods/cash-flow-ratios [in English].

11. Moshenskyi, S. Z. (2008). Vplyv struktury finansovoho rynku na zahalnyi rozvytok ekonomichnoi systemy ta yii bezpeky [The influence of the structure of the financial market on the overall development of the economic system and its security]. *Problemy teorii ta metodolohii bukhhalterskoho obliku, kontroliu i analizu. Bukhhalterskyi oblik, kontrol i analiz — Problems of theory and methodology of accounting, control and analysis. Accounting, control and analysis*, *3* (12), 357—366 [in Ukrainian].

12. Jagerson, J. (2019, May 20). Free Cash Flow (FCF). *Investopedia*. Retrieved from https://www.investopedia.com/terms/f/freecashflow.asp [in English].

13. Keuppens, J. (2017). Cash is a fact, earnings an opinion. *Robeco*. Retrieved from https://www.robeco.com/en/insights/2017/01/cash-is-a-fact-earnings-an-opinion.html [in English].

14. Blank, I. O. (2002). *Upravlenie denezhnymi potokami [Cash Flows Management]*. Kyiv: Nika-Tsentr, Elga [in Russian].

15. Natsionalnyi bank Ukrainy. (2017, September). *Hroshovo-kredytna ta finansova statystyka [Monetary and Financial Statistics]*. Kyiv. Retrieved from https://bank.gov.ua/doccatalog/document?id=58138777 [in Ukrainian].

The article is recommended for printing 16.09.2019