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## **INTERACTIVE ENTERTAINMENT COMPANIES. FINANCIAL EFFECTIVENESS TENDENCIES**

### **Abstract**

The article analyse effectiveness of assets usage and financial flows in the context of profit generation by the publicly traded companies of the interactive entertainment sector and their capitalization growth. In the research the biggest American and European companies have been considered in light of their revenues and business model of programming together with publishing: Activision Blizzard, Electronic Arts, Ubisoft oraz Take-Two Interactive. There have been a few financial effectiveness ratios proposed in connection to fundamental analysis of stock market companies.

**Keywords:** entertainment sector, video games, stock market

### **Introduction**

The revolution in absorbing intellectual content brought by IT industry did not only affect productivity of companies and individuals, but also provided new ways of spending leisure time. Although interactive entertainment systems had their beginnings in the 1950's, it was in 1994 when they became consumer-oriented three dimensional experiences – that combines with not only potential wide use of re-

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al-world scanning, but also providing solutions in creating physics simulations and big data analysis. After years of technological advancements, the IT entertainment sector is entering the new age of direct virtual reality gears experiences, which may lead to combining the power of computers with human brains and direct communication between these two. All this progress should be viewed in a scope of financial results of the biggest software developers, who are also stock exchange companies.

The goal of this article is to answer the question, how interactive entertainment companies' financial effectiveness was changing during the five years.

## 1. Literature

The chosen topic has not been widely and publicly analysed either in Poland, nor internationally. However, there are some scientific articles concerning the sector, which is gaining importance. Both globally and in Poland, the video games market is developing very dynamically and becomes an important branch of industry and mass culture. It is a market forcing investments in technological and marketing innovations. The gaming industry is on the one hand virtual entertainment, but on the other an attractive job market. It generates demand for an increasing number of creative and qualified employees: designers, programmers, graphic designers, animators, sound engineers, screenwriters or, finally, testers (Krok, 2016). Moreover, it is considered as the industry of the future. It is highly probable that companies operating on the computer games market will be forced to develop unique operational strategies, currently not present in other areas of economic life. This will create theoretical gaps in economic sciences and management, the explanation of which will need scientific efforts (Nowicki, 2013). It combines with certain financial needs. High potential is also high risk, with a simultaneous high capital intensity. As such, the cash acquisition is difficult considering basic sources. In this way, there appears to be a product gap in financial markets. A response to the demand for new financial instruments are activities to adjust venture capital and create a completely new instrument, crowdfunding (Wróbel, 2013). Considering these views, financial effectiveness of such companies becomes an even more crucial area of interest – it may not only allow these companies to generate return for long-term shareholders, but even enable a beginning of financing at the start-up level. Although there are a lot of press publications concerning specific companies or reports about the sector as

a whole, the author did not encounter any research assessing financial performance of such companies in context of a stock exchange reality and financial effectiveness. As such the value of this article is even greater.

The chosen ratios of financial effectiveness are as follows: net income/revenue, revenue/total assets, net income/total assets, net income/net assets. These ratios reflect the approach of estimating company's ability to use its assets in order to generate revenue and net income. Glen Arnold in his *The Financial Times Guide to Value Investing – How to Become a Disciplined Investor* writes about the importance of proper usage of company's capital (Polish Edition, PWN, 2010). As such, mentioned ratios are proposed by the author of this article to show in a complex way how well assets are being used to generate financial flows and what are the relations of those flows – among them is ROA, which is the Return on Investment Ratio or, in other words, net income/total assets ratio and alterations of it (CFI, 2018). As a context, it is also worth to look at Benjamin's Graham valuation of net assets (Graham, Polish Edition, 2012). In his approach, net assets show the actual value of the company (as being a difference between assets and liabilities).

The net income/net assets shows the real surplus cash generating power of the company with consideration of its liabilities, ergo it is the most important one. The revenue/total assets ratio, shows what is the power of assets to generate financial flows, which is crucial to sustaining sales and market share.

As net income/revenue and net income/total assets ratios are also valuable, they show here a broader context, but are less important – none of them includes liabilities, which are crucial to sustaining financial health of the company and both consider strictly net income, which may or may not occur given the certain moment in the cycle.

## 2. Methodology

The methodology of the research is as follows: among companies which develop entertainment software there were chosen only those which are stock market companies and with revenues provided from entertainment software development bigger than 1 bln USD in 2016. Companies, which develop such entertainment, but do not reveal detailed financial information in this regard were excluded from the research (Sony, Microsoft), as well as companies which create selling platforms for it, but do

not develop such a software (Google, Apple). The timeframe of the research concerns years 2012–2016, as five years are widely considered as a medium investment term.

In every case, data concerning stock price was chosen to reflect company's value on one day after releasing 4<sup>th</sup> quarter (ergo: annual) results. Such a choice provides the reflection of the most crucial information concerning company's financials being publicly revealed and including investor's ability to assess and value newest data. Although one of the analysed companies is French, the data is being compared with USA companies in order to reflect official accounting standards in every economy. As such, companies are being analysed with respect to regional laws. Having said that, only the effectiveness of companies' financials is being analysed, not valuation as it may differ accordingly to investor's approach.

### **3. Results**

The global market of interactive entertainment (known also as digital gaming industry, although this description does not reflect the level of advancement of the software created) in 2016 had a value of 101.1 bln USD. Analytical company Newzoo estimates that its value will grow up to 128.5 bln in 2020. In 2016, the biggest part of the market belonged to console gaming (32%), second was smartphone area (29%), 25% was covered by boxed/downloaded PC games, 10% was related to tablets and 5% to PC internet browsers. It is significant to notice, that the biggest of those markets are strongly synchronized – software released for consoles is often simultaneously available for PC. Similar relation has place between smartphones and tablets. In such a view, 57% of the market belongs to consoles/PCs and 39% to smartphones/tablets. For the purpose of this article, the first combined market has a crucial meaning, as most of the analysed companies create software for this area.

As of second quarter 2016, Asia-Pacific region was the most valuable for the whole interactive entertainment market, it was responsible for 47% of the market value, which was 46.6 bln USD (China itself for 24.4 bln USD), North America for 25% (25.4 bln USD), Europe, Middle-East, Africa for 24% (23.5 bln USD) and Latin America for 4% (4.1 bln USD). Region of Asia-Pacific was responsible for the 58% of the whole market's growth. The whole market grew in comparison to 2015 by 10% (from 91.8 bln USD).

### 3.1. Financial data of chosen companies

#### A) Activision Blizzard

The stock price has grown from 12.79 USD in 2012 to 46.94 in 2016, which was a gain of 267%. Nevertheless, market capitalization grew from 14.299 bln USD to 35.393 bln USD, as there was a stock buyback in the meantime. Revenue grew, but net income deteriorated. There was also a significant gain in liabilities – they more than doubled.

Table 1. Activision Blizzard Financial Results and Ratios

Activision Blizzard*	2012	2013	2014	2015	2016
Revenues	4856	4583	4408	4664	6608
Net income	1149	1010	835	892	966
Total assets	14 200	13 947	14 637	15 246	17 452
Cash and investments	3959	4452	4867	1840	3271
Total liabilities	2883	7390	7513	7178	8333
<b>Market cap.</b>	<b>14 299</b>	<b>19 644</b>	<b>15 667</b>	<b>20 485</b>	<b>35 393</b>
<b>Stock price</b>	<b>12.79</b> (08.02.2013)	<b>18.98</b> (07.02.2014)	<b>21.58</b> (06.02.2015)	<b>27.72</b> (12.02.2016)	<b>46.94</b> (10.02.2017)
Weighted average number of shares outstanding assuming dilution	1 118 000 000	1 035 000 000	726 000 000	739 000 000	754 000 000
Net income/revenue	0.24	0.22	0.19	0.19	0.15
Revenue/Total assets	0.34	0.33	0.30	0.31	0.38
Net income/Total assets	0.08	0.07	0.06	0.06	0.06
Net income/Net assets	0.1	0.15	0.12	0.11	0.11

\* All data in billions of USD except stock price and share number.

Source: Activision Blizzard Investor Relations and own ratios estimations.

#### B) Electronic Arts

Revenues of the company were mostly stable, seeing a small change from 3.797 bln USD in 2012 to 4.845 in 2016. However, the net income has grown substantially, from 98 mln USD in the beginning of the timeline, up to 967 mln USD at the end. Also, total assets have grown from 5.070 bln USD to 7.718 bln USD accordingly. Stock price has grown by 402 % accordingly in that period.

Table 2. Electronic Arts Financial Results and Ratios

Electronic Arts*	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017
Net revenue	3797	3575	4515	4396	4845
Net income	98	8	875	1156	967
Total assets	5070	5716	6147	7050	7718
Cash and cash equivalents	1292	1782	2068	2493	2565
Total liabilities	2803	3294	3080	3652	3658
<b>Market cap.</b>	<b>6748</b>	<b>10 728</b>	<b>19 802</b>	<b>24 215</b>	<b>33 962</b>
<b>Stock price</b>	<b>21.56</b> (07.05.2013)	<b>33.95</b> (07.05.2014)	<b>60.93</b> (06.05.2015)	<b>73.38</b> (11.05.2016)	<b>108.16</b> (10.05.2017)
Diluted weighted average number of shares outstanding	313 000 000	316 000 000	325 000 000	330 000 000	314 000 000
Net income/Net revenue	0.03	0	0.19	0.26	0.2
Net revenue/Total assets	0.75	0.63	0.73	0.62	0.63
Net income/Total assets	0.02	0	0.14	0.16	0.13
Net income/Net assets	0.04	0	0.29	0.34	0.24

\* All data in billions of USD except stock price and share number; fiscal years crossing calendar years.

Source: Electronic Arts Investor Relations and own ratios estimations.

### C) Ubisoft

Sales have grown from 1.256 to 1460 in the analysed period, by about 16%. However, net income rose more rapidly, by 152%, from 69 mln EUR to 174 mln EUR. Assets grew by 105%, from 1.257 to 2.582 bln EUR. Stock price has grown by 395%, from 9.49 EUR to 46.97 EUR.

Table 3. Ubisoft Financial Results and Ratios

Ubisoft*	2012/13	2013/14	2014/15	2015/16	2016/17
Sales	1256	1007	1464	1394	1460
Net income (non-IFRS)	69	-49	113	129	174
Total assets	1257	1339	1752	2021	2582
Cash and cash equivalents	238	238	657	462	853

Ubisoft*	2012/13	2013/14	2014/15	2015/16	2016/17
Total liabilities	419	529	773	1002	1448
<b>Market cap.</b>	<b>924</b>	<b>1509</b>	<b>1790</b>	<b>3428</b>	<b>5621</b>
<b>Stock price</b>	<b>9.49</b> (16.05.2013)	<b>14.06</b> (16.05.2014)	<b>15.80</b> (13.05.2015)	<b>30.02</b> (13.05.2016)	<b>46.97</b> (17.05.2017)
Diluted weighted average number of shares in issue (as is)	97 316 057	107 342 642	113 297 751	114 198 228	119 676 950
Net income/sales	0.05	-0.05	0.08	0.09	0.12
Sales/Total assets	1	0.75	0.84	0.69	0.57
Net income/Total assets	0.05	-0.04	0.06	0.06	0.07
Net income/Net assets	0.08	-0.06	0.12	0.13	0.15

\* All data provided in EUR and IFRS format (except otherwise noted), as the company is European and listed on Euronext Paris compartiment A – Euronext Paris de Nyse Euronext (France).

Source: Ubisoft Investor Relations and own ratios estimations.

#### D) Take-Two Interactive

Revenue has grown by 46%, however it was very volatile. The highest value of it, 2.351 bln USD, was in 2013/2014, and the lowest, 1.083 bln USD, in 2014/2015. Net income had a high differentiation each year, starting from loss (-30 mln USD) in the first year, next year it grew to 362 mln USD. Losses in the next two years, as revenues changes, prove that business is highly cyclical even in the very short periods. Last year of research saw net income of 67 mln USD. Assets grew from 1.277 bln USD to 3.149 bln USD, by 147%. Nevertheless of inconsistent revenues and net income, stock price has changed from 16.54 USD to 77.73 USD, by 370%.

Table 4. Take-Two Interactive Financial Results and Ratios

Take-Two Interactive*	2012/13 (rel. 13.05.2013)	2013/14 (rel. 13.05.2014)	2014/15 (rel. 18.05.2015)	2015/16 (rel. 18.05.2016)	2016/17 (rel. 23.05.2017)
Net revenue	1215	2351	1083	1414	1778
Net income	-30	362	-280	-8	67
Total assets	1277	1800	2231	2590	3149
Cash and cash equivalents	403	935	911	799	943
Total liabilities	690	998	1668	2009	2145
<b>Market cap.</b>	<b>1416</b>	<b>2368</b>	<b>2300</b>	<b>3111</b>	<b>7313</b>

Take-Two Interactive*	2012/13 (rel. 13.05.2013)	2013/14 (rel. 13.05.2014)	2014/15 (rel. 18.05.2015)	2015/16 (rel. 18.05.2016)	2016/17 (rel. 23.05.2017)
<b>Stock price</b>	<b>16.54</b> (adj.14.05.2013)	<b>18.99</b> (adj.14.05.2014)	<b>28.62</b> (adj.19.05.2015)	<b>37.29</b> (adj.19.05.2016)	<b>77.73</b> (adj.24.05.2017)
Diluted weighted average number of shares outstanding	85 581 000	124 710 000	80 367 000	83 417 000	94 073 000
Net income/ Net revenue	-0.02	0.15	-0.26	-0.01	0.04
Net revenue/ Total assets	0.95	1.31	0.49	0.55	0.56
Net income/ Total assets	-0.02	0.2	-0.13	0	0.02
Net income/ Net assets	-0.05	0.45	-0.5	-0.01	0.07

\* All data in billions of USD except stock price and share number; fiscal years crossing calendar years.

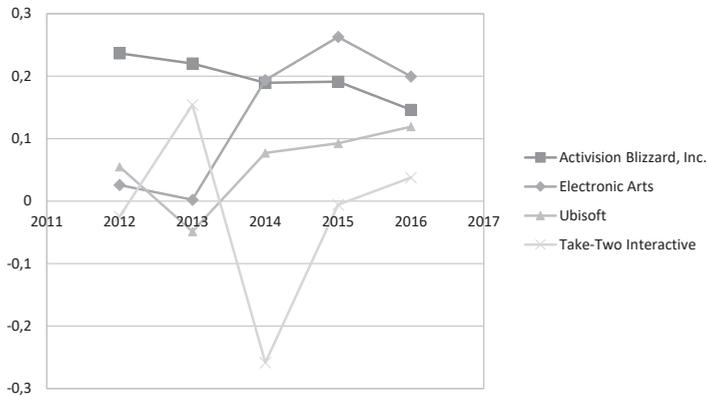
Source: Take-Two Interactive Investor Relations and own ratios estimations.

### 3.2. Business Effectiveness Ratios Comparison

#### A) Net income/Revenue

The most successful company in providing relatively high net income/revenue ratio in the long term was Activision Blizzard. The highest score of it was 0.24 in 2012 and although since then it has slightly deteriorated (to 0.15 in 2016), the range of it is consistently stays between those values. Situation is much different when concerning other researched companies: in the beginning of the timeline they had low or none (Take-Two Interactive) level of net income. However, both Electronic Arts and Ubisoft have improved their ratios: EA to 0.26 in 2015/2016 and Ubisoft up to 0.12 in 2016/2017. Situation is not so clear with Take-Two Interactive, as after a big improvement in 2013/2014 (0.15), it has plummeted to -0.26 in the next financial year. Since then the ratio has been growing, although not achieving formerly higher level – in 2016/2017 it was 0.04. In all cases there is a tendency of improving or sustaining the ability of revenues to generate net income. In the longer term it appears however to be most difficult for Take-Two Interactive.

Graph 1. Interactive Entertainment Companies Net Income/Revenue Ratios



Source: Own estimations based on financial results.

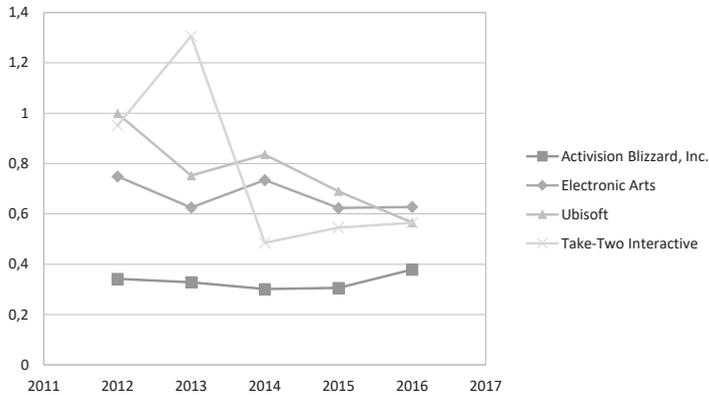
**B) Revenue/Total assets**

In matter of revenue/total assets three companies have deteriorated their levels, but have met at the similar level of around 0.6. The lowest level was obtained by Activision Blizzard of around 0.4, however it is higher than in previous years. Although this ratio is not so important as the previous one in matter of financial strength, it shows how well assets are being used for generating revenue, which is important for the long term management assessment. The best in this matter was Electronic Arts.

**C) Net income/Total assets**

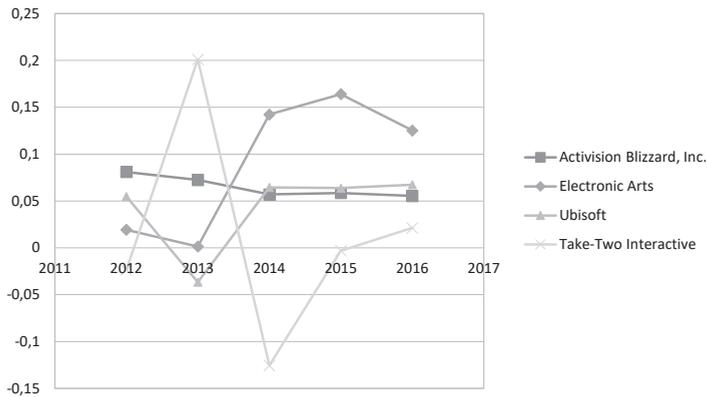
As a complementary ratio, net income/total assets clearly shows how assets are able to generate net income. As in previous cases, Take-Two Interactive is very volatile, but with improving tendency in two last years. Electronic Arts was the best once again in the last year, but during two years before it had the best levels as well. In last three years Activision Blizzard and Ubisoft were in the middle of the group with the very similar values to each other. Activision Blizzard, once again, had the least volatile ratio.

Graph 2. Interactive Entertainment Companies Revenue/Total Assets Ratios



Source: Own estimations based on financial results.

Graph 3. Interactive Entertainment Companies Net Income/Total Assets Ratios



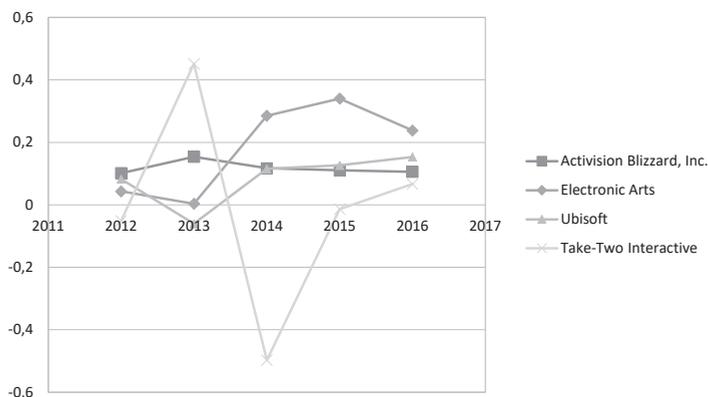
Source: Source: Own estimations based on financial results.

#### D) Net income/Net assets

Ratio which says the most about financial health of those companies is net income/net assets ratio. It shows how much actual profit is provided by the company with the strongest assets-liabilities relation. Once again Activision Blizzard has been sustaining mostly its levels, with Ubisoft and Take-Two Interactive improving. However,

the best ratio in the last three years of timeframe belonged to Electronic Arts. The most risky one was Take-Two Interactive.

Graph 4. Interactive Entertainment Companies Net Income/Net Assets Ratios



Source: Own estimations based on financial results.

### E) Ratios changes in the 5 year period

Concerning profitability (net income/revenue) three companies have seen significant gains, however usage of total assets to generate revenues deteriorated in same three companies as well. Net income in the same companies have grown when compared to total assets value. In net income/net assets ratio all companies have shown improvements, the biggest by Electronic Arts with 500% gain and Take-Two Interactive as the second one, with 140% gain.

Table 5. Percentage Changes Comparison of Financial Ratios in Analysed Time Period

Growth by (%) during 5 years	Activision Blizzard	Electronic Arts	Ubisoft	Take-Two Interactive
Net income/Revenue	-37%	567%	140%	300%
Revenue/Total asset	12%	-16%	-43%	-41%
Net income/Total assets	-25%	550%	40%	200%
Net income/Net assets	10%	500%	87,5%	140%

Source: Own estimations based on financial results.

## 4. Discussion

Interactive entertainment is a very diversified business, mainly because of different ways of content absorption by customers (PCs, TV consoles, handheld consoles, mobile, Virtual Reality, Augmented Reality). Subscription services and digital distribution of not only main, but also complementary, products position the sector to overcome potential losses. Growing market of digital entertainment may provide vast further opportunities for analysed and other companies of the sector: developing new ways of interaction and software architecture, cooperating with hardware producers to best utilize its features, re-imagining already created software and entering new countries, altogether with not yet penetrated segments. It should be discussed which revenue streams are the most efficient in the long term and how assets could be utilized: whether relatively old intellectual property (IP) should be remade, re-released for new systems, continued by sequels or left behind and forgotten. Also, the crucial question is, what are the main factors decisive for customers choices concerning way of IP absorption and types of it.

## Conclusion

Tendencies of financial effectiveness in analysed companies are diversified. Given the best ratio, which shows how much net income is generated by net assets, at the end of the five year period the best effects were shown by Electronic Arts (0,24), followed by Ubisoft (0,15), Activision Blizzard (0,11) and Take-Two Interactive (0,07). In case of the first company, it was an improvement by 500% (0,04 in 2012/2013), in the second it grew by 87,5%, in the third by 10% and in the last by 140%.

However, as the sector is cyclical and prone to sudden changes connected to certain title releases, it is also important to notice how much revenue is being generated by the assets, as the net income (meaning net profit) may or may not occur in accordance to certain moment. In this regard, only Activision Blizzard has improved its results, showing revenue/total assets ratio growing by 12%, up to 0.38 from 0.34. The rest of the companies has shown downgrades: Take-Two Interactive by 41% (from 0.95 to 0.56), Ubisoft by 43 % (from 1 to 0,57) and Electronic Arts by 16% (from 0.75 to 0.63).

Net income/Revenue, which is a popular financial markets focus ratio, has increased in three companies (the most for Electronic Arts, 567%). Net income/Total

assets grew as well for the same three companies, with Electronic Arts leading the way as well with 550% gain, and Activision Blizzard deteriorating by 25%.

Interactive entertainment is a growing, innovative and financially potent sector. All analysed companies have provided gains in revenue, assets and stock price, with the latter average 359% in the 5-year period. Although growth of net income was inconsistent, it was due to cyclical nature of the sector. Sustaining healthy level of revenues from assets is a viable power of the business model, as best shown by Activision-Blizzard and Electronic Arts. The former company is the best example how its competitors may strive to overcome cyclical financial changes. On the other hand, Electronic Arts and Take-Two Interactive show how improvement in financial condition may be rapid. However, the latter also shows how deterioration of it may come swiftly.

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**PRZEDSIĘBIORSTWA INTERAKTYWNEGO  
SEKTORA ROZRYWKOWEGO.  
TENDENCJE ZMIAN EFEKTYWNOŚCI FINANSOWEJ**

**Streszczenie**

Artykuł bada efektywność wykorzystania aktywów i przepływów pieniężnych w kontekście generowania zysków przez publicznie notowane przedsiębiorstwa z sektora rozrywki interaktywnej oraz wzrostu ich kapitalizacji. W analizie wzięto pod uwagę największe globalne przedsiębiorstwa amerykańskie i europejskie pod względem przychodów, zajmujące się wyłącznie pracami programistycznymi i wydawniczymi: Activision Blizzard, Electronic Arts, Ubisoft oraz Take-Two Interactive. Wyszczególniono kilka wskaźników efektywności finansowej w odniesieniu do analizy fundamentalnej spółek giełdowych.

**Słowa kluczowe:** sektor rozrywkowy, gry video, giełda

**Kody JEL:** E22, F21, G11, G23, G24

**Cytowanie**

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