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## Article

# Competitiveness of human and business in terms of stock market analysis

Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration

### Provided in Cooperation with:

Faculty of Economics and Administration, University of Pardubice

*Suggested Citation:* Hurnyak, Ihor; Pardal, Pedro; Machová, Veronika; Horák, Jakub (2022) : Competitiveness of human and business in terms of stock market analysis, Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration, ISSN 1804-8048, University of Pardubice, Pardubice, Vol. 30, Iss. 2, pp. 1-9, <https://doi.org/10.46585/sp30021557>

This Version is available at:

<https://hdl.handle.net/10419/334781>

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# Competitiveness of Human and Business in Terms of Stock Market Analysis

Scientific Papers of the University of Pardubice, Series D: Faculty of Economics and Administration 2022, 30(2), 1557.  
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DOI: 10.46585/sp30021557  
editorial.upce.cz/SciPap

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## Abstract

The competitiveness of modern human and business are inextricably linked with the work of the stock market. In some cases, easily could be detected a correlation between trends or tendencies of the stock market and the directions of transformation of human behavior. What should people and businesses be like to maintain this competitiveness at the proper level? According to the authors, it is the developed stock market as instrument of modern society that provides the answer to this question. Through the analysis of stock markets tendencies, this research aims to find evidence that confirm the new characteristics of human life in the fields of education, healthcare, communication, commerce, and interaction with virtuality. Most researchers focus separately on the study of human behavior and the functioning of the stock market. We analyze the relation between both dimensions, assuming that the stock market can be considered, for developed countries, through the small investors voting as public preferences and goals reflection. Evidence from statistical analysis of the stock market confirmed the following characteristics of modern human: faster dissemination of knowledge, e-commerce acceleration, influencing interpenetration of the Internet communications, in-depth virtualization, and accelerated circulation of information flows. Operating within such flows of change allows people and businesses to remain competitive at the appropriate level.

## Keywords

New Human, Pandemic Influence, Virtualization, Remote Education, Stock Market, Competitiveness

## JEL Classification

D02, D91, I112, I21, M21

## Introduction

How can we imagine an environment of self-expression of the person? This is not about an ordinary person. The average person doesn't change an environment. In our understanding, we are talking about a person – an entrepreneur who is ready for change, responds to changes and makes changes. Comprehensive human development is the ultimate goal for achieving a happy life and creating sustainable social development (Burgan et al., 2021). Even without registration as an entrepreneur, such a person essentially becomes an entrepreneur (according to Schumpeter definition). It is situated inside of a large easily imagined square, and on its tops are located those who may be interested in its creativity. Such are 'stock market', 'banking system', 'shadow market' and 'state' represented by its budget or/and the budgets of the local communities. It is logical to assume that the analysis of each of the mentioned institutions should allow determining the characteristics of a person as the main player of this complex system.

The relationships between companies that inform the competitive environment are of fundamental importance to their functioning and are often taken into account in investor decisions (Chen et al., 2021). But only in the case of American stock exchanges and close institutional counterparts such system could be accepted as working, where are prevailing the emphases on the details of information, audit control, the availability of trading, i.e., the interests of small shareholders.

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The new characteristics of human life are situated in the fields of education, healthcare, communication, commerce, and interaction with virtuality. We see confirmation of these signs in our daily reality. Such a new person directs his aspirations in searching for effective diversified sources of distance education; its world is under the influence of virtualization tools, it quickly adapts to new modern technologies, in particular in the field of trade and communications. Da (2020) talks about the fact that information development is a new form of human development that is suitable for human survival and development in the future society, therefore we should focus on information changes, examine information contents and grasp the information state of human development and understand, interpret and support human development in terms of information and information relations, and thus ultimately achieve the free, versatile and sustainable development of all people. Resce (2021) found that the development of the population of a given country is based on its wealth, which is characterized by human, social and natural capital. To confirm or reject this fact, we will analyze relevant industry markets, based on the positions of their leaders, and form appropriate stock portfolios. This approach allows us to look at the stock market as a reflection of society interest.

## Literature Review

Every decade could be considered as a period of birth of a new human. The last period is no exception. The question remains open about the specific features of such a subject of public life. Erik Hoffmann (2012) believes *“there will be a heightened state of awareness, where the thinking mind becomes very quiet, perceptions get more vivid and real, and the main focus will be in the present moment”*.

Today we can find dozens of different indicators and approaches to calculating human development. According to the structure of Human Development Report (United Nations, 2020) we can concentrate our attention on renewing human development for the Anthropocene, availability of mechanisms of change to catalyze action, new measures. The history of human demands to think about it not so “vulgar” in the shadows of GDP but using more relevant information than this overly generalized and manipulated indicator.

Ardelin Lumi (2020) is trying to convince that digitalization and technological change are inevitable and *“investing in this aspect is indisputable”*. Thus, markets and individual institutions should respond to such societal needs. Busemeyer and Sahm (2021) also agree with this, when they say that rapid technological changes (digitalization and automation of work) are a challenge for contemporary welfare states. Niemand et al. (2021) again says that technology is rapidly changing the financial industry.

Nowadays we have been caught by a new stage of capitalism – institutional capitalism, when *“the proprietors delegate the powers to control the performance of the contracted managers to collective investment institutions, which gather and manage an important part of the community savings”* (Rybczynsky, 1997). Borges, Saucedo-Acosta, and Diaz (2020) say the ways in which a company solves coordination problems with different stakeholders affects economic performance. Rybczynsky (1997) suggests, that *“the pensions and mutual fund have made business management especially sensitive to the current stock market valuation of the firm”* (Ibidem). Matuszewska-Janica, Zebrowska-Suchodolska and Mentel (2019) say that investment funds, as institutions of collective investment, place their funds on stock exchanges and thus participate in the financing of companies.

Antonio Mañas (2005) also draws our attention to the institution’s role. *“The capacity to fit the intense variations in the valuation of assets depends on the flexibility of the whole economic system, and especially that of the labor market. All in all, this fitting capacity depends on the institutions, which are the consequence of the prevailing ideas existing in society regarding economic organization guidelines”*. He expresses complete confidence that markets are more accessible to the financing of new entrepreneurs’ initiatives. Khan et al. (2021) argue that investors must carefully consider the external investment environment when forming their perception of the stock market, as this perception is the driver of equity investment. He, Zhu, and Gu (2020) found that the effect of investor sentiment on stock market returns is asymmetric. Even for the emerging markets such approach doesn’t lose its actuality. The stock market here also *“serves as an appropriate tool in the mobilization and allocation of savings among competing uses”*. It assists to allocate the necessary capital needed for the consistent growth of an economy (Dagar, 2014).

Since market efficiency is related to a well-functioning market, it is of great importance for the efficient allocation of resources as well as for ensuring sustainable economic growth (Gallego, Kurer and Schoell, 2021). Summarizing the above, we get a new role of the stock market as an expression of public sentiment. Morck (1990) emphasized a sentiment as a real instrument that affects stock prices and indirectly real business activity. For the proving this assumption Morck and colleagues chose the crash of October 1987. The authors during the crises found out the fact that corporate insiders aggressively bought stocks of their own companies. *“The insiders quite correctly saw no change in fundamentals and attributed the crash to a sentiment shift. The thrust of the evidence is that stock prices respond not only to news, but also to sentiment changes”*.

Brabenec et al. (2020) have decided to analyze the true characteristics of preferred shares in Europe to increase the efficiency of the joint stock company. Using a dataset covering all companies that have common and preferred shares issued and traded on European markets in 2009-2016, they determine the risk relationship (measured by beta factors) and price volatility between ordinary and preferred shares and bonds in Europe. Their findings show

that the beta coefficients of preferred shares are systematically lower than those of ordinary shares. However, if we consider the difference of up to 10% to be negligible, the preferred shares showed a similar or higher beta coefficient than the corresponding ordinary shares of the same company in 53% of cases, whereas in 33% of cases the difference is only +/- 10%. The price variation coefficients showed a similar relationship, only a negligible part of the preferred shares bore fixed (stable) dividends. This result suggests that currently traded preferred shares in Europe do not actually have the characteristics that are usually said to have, and in many cases take the same risk as ordinary shares. This significantly simplifies the research of the stock market and allows making essential generalizations about its influence.

The essential connection between a person and the stock market or economic research in general is evidenced by the fact of the gradual involvement of technologies for simulating the work of the human brain (neural networks) to solve current problems of economic and mathematical forecasting. Neural networks try to capture the behavior of time series and predict individual data points as best as possible (Machová, Krulický and Horák, 2020).

Vochozka et al. (2020) aims to innovate the management of predictions when predicting the development of the share price over time using neural networks. Price data are available for the period 2012-2017. In the case of Statistics software, multilayer perceptron (MLP) and radial base (RBF) networks are generated. In the case of Matlab software, support vector regression (SVR) and neural propagation network (BPNN) are generated. The networks with the best characteristics are maintained and based on a statistical interpretation of the results, and all are applicable in practice.

Is there a significant economic impact on multidimensional competitive activities within the 28 EU countries on the competitive business environment, human development, and sustainable growth? Kyseláková et al. (2019) detected significant corrals between the assessment of global competitiveness, the trading environment and human development in the 28 EU countries for the period 2006-2017. Global multi-criteria indices, namely the Global Competitiveness Index (GCI), business index (DBI) and human development index (HDI), panel analysis and nonlinear regression analyses with ANOVA, were applied to address these problems. The results of the panel analysis suggest that there is a direct linear relationship between GCI and HDI. In addition, DBI for changes in GCI scores has not been confirmed.

Kyseláková et al. (2019) identified the main areas of interest of each country and significant economic and statistically significant competitiveness relationships by creating three models: the GD model (created using GCI and DBI scores), the GH model (GCI and HDI scores), and the GDH model (GCI, DBI, and HDI score). Based on the results, all mutual relations were confirmed. However, the highest range of variability for explanation from the selected data was observed for the GDH model (87.12%). The authors identified the impact on the business environment and the human resources environment as a competitive advantage on global macroeconomic competitiveness. As a business sector in the EU (28), the country is mainly represented by small and medium-sized enterprises (SMEs), business activities play a key role in the process of sustainable, competitive economic development. In addition, human resources are considered another important one.

Annaert & Co (2011) calculated market-weighted return index for the largest stocks listed on the Brussels Stock Exchange. Their results supported the empirical practice of concentrating on just the largest stocks to analyse market as a whole. Lazonick (2017) tried to promote a relevant conception of the evolving role of the stock market. He expanded it from only cash gaining to additional functions like "control", "creation", "combination" and "compensation". He proved US stock market key function was a "control".

## Methods

We believe that the following assertions (at this stage of our research - the hypotheses) are characteristic of a modern person: the faster dissemination of knowledge, accelerated circulation of information flows, virtualization enforcement, e-commerce acceleration, bigger interpenetration of the Internet communications, more significant care about its health.

We will seek confirmation of these hypotheses by analyzing the proper descriptive factors of our stock portfolios ingredients: cumulative returns, risk as daily simply returns, stock price dynamics and long term strategies.

If portfolios and separated companies results will support our choice of human characteristics we will accept that as evidence (Tab. 1).

Based on research result of Annaert & Co and other researchers we will concentrate on the share price data of market leaders for every investigated industry. Yahoo finance is chosen as a source because of the simplicity of obtaining statistical data based on the company's ticker and the corresponding programming code.

This approach is based on the basic feature (partly as assumption) of the stock market of developed countries as an expression of the interests of society. In fact, we consider the stock price to be the result of voting by thousands of small investors (voters). We suggest this is a characteristic of the American stock markets and markets institutionally close to it.

We use the most traditional Python packages: numpy, pandas, matplotlib, etc. Linear Regression (LR), Support Vector Machine (SVM) and Decision tree (DT) models were chosen for the price prediction. In our opinion, the most relevant for institutional analysis is the 5 – factor model Fama – French even if some of the factors are insignificant.

We use the data of yahoo.finance setting the ticker of the respective company into the Python code. In most models, these are daily statistics for the last 10 years. For the Fama – French models realization we used developed markets factors statistics from Kenneth R. French – Data Library.

Based on the created portfolios, we will try to confirm or deny our assertions (Tab. 1).

**Table 1.** Portfolios and assertions.

Portfolios	Assertions
Portfolio 1 American Stock educational, Portfolio 2 USA + China stock educational, Portfolio 3 Outside USA stock educational	The faster dissemination of knowledge, accelerated circulation of information flows
Portfolio 4 Games producers in USA, Portfolio 5 Game producers outside USA	Virtualization enforcement
Portfolio 6 Amazon against physical stores, Portfolio 7 Online stores	The e-commerce acceleration
Portfolio 8 Communication instruments	More interpenetration of the Internet communications, accelerated circulation of information flows
Portfolio 9 Healthcare business	A human care more about its health

**Source:** own processing

## Results and Discussion

### Portfolios analysis

We consider the following portfolios (Tab. 2).

**Table 2.** Research portfolios.

Portfolio 1 American Stock educational Bright Horizons (BFAM, BHA.F), Chegg (CHGG, CHGG.MX, OCG.F), 2U (TWOU), Grand Canyon (LOPE, GKD.F), Adtalem Global Education (ATGE), Stride (LRN), Perdoceo Education Corporation (PRDO)	Portfolio 2 USA + CHINA in USA Portfolio 1 + Hailiang Education Group (HLG) China Inline education (COE) New Oriental Education & Technology Group (EDU)
Portfolio 3 Outside USA SE educational BHA.F, OCG.F, GKD.F, Learning Technologies Group (LTG.L) Chengdu Jiafaantai Education Technology (300559.SZ) Ser Educacional (SEER3.SA) KAHOOT ASA NK (KAH.F) Gakken Holdings (9470.T) Cogna Educação (KEOA.F) Yduqs Participações (YDUQ3.SA) Pearson (PSON.L) Dai Nippon Printing (7912.T)	Portfolio 4 Games producers on USA SE Capcom (CCOEF, 9697.T), Zynga (ZNGA, ZNGA.MX), Take-Two-Interactive (TTWO, T1TW34.SA, TKE.F), Activision Blizzard (ATVI, ATVI.MX, AIY.F), Electronic Arts (EA, OIFX.L), Nintendo (NTDOY, NTDOYN.MX, 2XY.F), SciPlay (SCPL, 2XY.F), CD Project (OTGLY), The9 Limited (NCTY, FZKA.F) Enthusiast Gaming Holding (EGLX, EGLX.TO), SEA Ltd (SE), VanEck Vectors Video Gaming and eSports, ETF (ESPO)
Portfolio 5 Game producers outside USA SE 9697.T, ZNGA.MX, TKE.F, (ATVI.MX, AIY.F), T1TW34.SA, NTDOYN.MX, 2XY.F, OIFX.L, EGLX.TO	Portfolio 6 Amazon against physical stores Best Buy (BBY), Costco (COST), Target (TGT), Walmart (WMT), Big Lots (BIG), Amazon (AMZN)
Portfolio 7 Online stores AMZN, LightIn The Box Holding (LITB), Overstock.com (OSTK), Vipshop Holdings (VIPS), JD.com (JD), Wayfair (W), Etsy (ETSY)	Portfolio 8 Communication instruments ZOOM (ZM), Cisco Jabber (CSCO), GOOGLE (GOOG), Microsoft (MSFT), TeamViewer (TMV.DE), ADOBE (ADBE)
Portfolio 9 Healthcare business: AstraZeneca (AZN), Johnson&Johnson (JNJ), Sanofi (SNY), Moderna (MRNA), Pfizer (PFE), BioNTech (BNTX)	

**Source:** <https://finance.yahoo.com>

Analyzing the proposed portfolios, we will try to confirm or question our assertions. Perhaps their analysis will allow specifying a new subject of economic or more general social relations, which is a person.

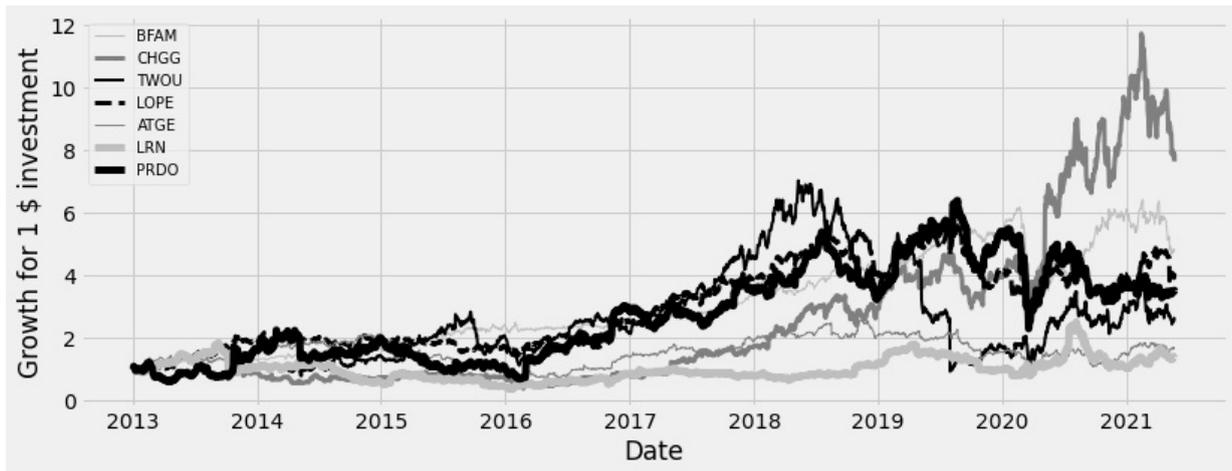


Fig. 1. Portfolio 1: Educational business return in American stock exchanges.

Source: own processing

The market of educational services shows a steady growth trend. We can record this fact for our portfolio of US stock market participants. Both physically and online, thousands of students today are trying to diversify their education, and the stock behavior of such companies is a clear confirmation of this. Customer interest drives investor interest. But this tendency isn't a pandemic result. We observe obvious positive dynamics in the last 10 years (Fig. 1). For the best companies from which we built our first portfolio, the pandemic had only a short-term, albeit significant, negative impact.

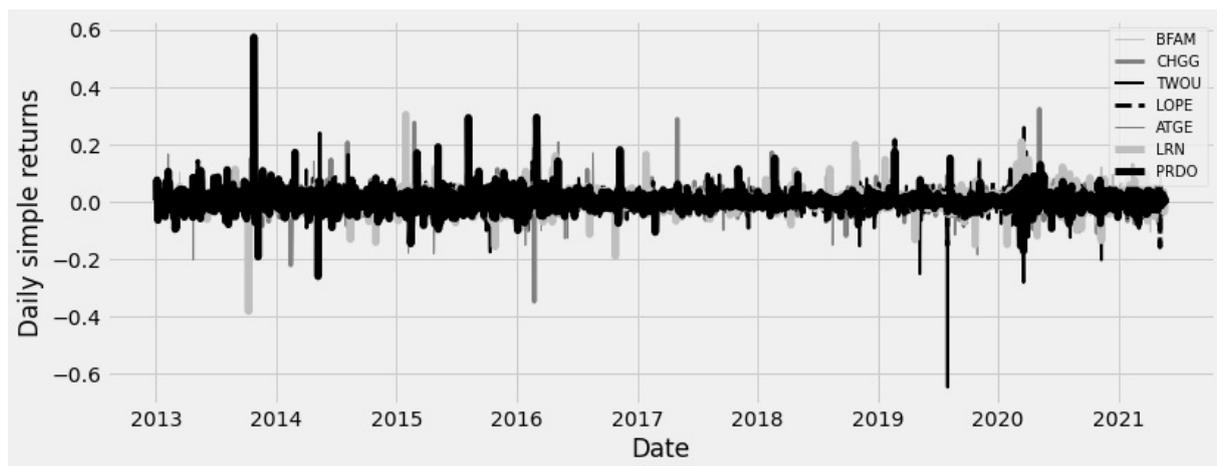


Fig. 2. Portfolio 1: Volatility of educational stock in American stock exchanges.

Source: own processing

The volatility of such a portfolio looks quite moderate compared to other markets. Some spikes of up to 60% for individual participants, although they took place in the period before the pandemic (Fig. 2).

Let's expand the initial portfolio at the expense of foreign companies. After removing the obvious leader from the analysis, namely the Chinese company TAL (for the period 2019-2021), market leadership is shared by a group of American and Chinese companies. This is despite auditors' disapproval of the serious shortcomings of the Chinese accounting system and even attempts to ask the question: do we really know what Chinese business really is? What is the reason for TAL withdrawal? In April 2020 it was revealed that an employee of the company was arrested for falsely inflating sales. Most likely that because of this fact the quotation of TAL shares fell sharply this year. At the same time, we emphasize its leading position in the previous impressively long period.

American Chegg, Chines New Oriental Education & Technology and Hailiang Education look like confident market leaders in the last 10 years and show a clear growth trend. Chegg provides some intuitive, go-at-your-own-pace platform that helps students deepen understanding of the subject. The removed from analysis company TAL concentrates on language tutoring and test preparation services. The behavior of the shares of leading companies clearly shows that the new person, in our perception, widely attracts diversified educational services using a lot of sources in the spheres from preschool education to learning foreign languages or detailing knowledge of a particular complex university subject. At the same time, investors' serious concerns about the stability of Chinese business, so strongly supported by the home government and banks, are also reflected in increased volatility.

Outside American markets we can oversee even more obvious tendency of growing. We included in our analysis both American companies that issued shares in foreign markets, as well as European, Brazilian, and Japanese companies. As can be seen, the risk of Brazilian companies is significantly higher than others after the pandemic.

However, after the surge in early 2020, the level of risk has stabilized and is within a relatively acceptable range of 10%. At the very least, this can be argued in comparison with the volatility of Chinese companies in the US market.

The almost vertical dynamics after the crisis of Take-To-Interactive (TTWO) impresses everybody. The game producers decisively turned the cumulative return curve up. This is where the impact of the pandemic is most clearly traced. But we must admit that such an outbreak of activity has already been observed in 2016-2019. The pandemic only exacerbated the current trend. By investing \$ 1 in 2013, you could now get almost \$ 18. From one side, it can mean more resources for beloved classic games (like a case of Capcom). From others, more developed mobile games, and e-sports (like in case of our portfolio leader Take-Two Interactive). It means that the product becomes more attractive, which distracts a person from active sports and immerses her more and more in virtuality. However, we still have a hope that the surge in interest in virtual sports is a temporary phenomenon caused by restrictions on travelling during a pandemic. Apparently, the fact of such a relationship (a potential loss of interest) is one of the main reasons for such a high risk of the market.

The markets of Frankfurt, Tokyo, Sao Paulo, and Mexico react in a similar way. We see a sharp shift in the profitability of the selected portfolio 5. But again, we note the fact of continuation, not the birth of the wind trend. The same can be said about the risk outside the US markets. It has almost doubled in the last two years.

Obviously, online shopping should also be accelerated by pandemic restrictions. But we must admit that physical stores have adapted quite quickly to remote relationships, as evidenced by the result of Best Buy (BBY). The forced by pandemic computerization will obviously have its consequences, as people who were afraid or were not accustomed in some way became customers of a new business. In our opinion, this jump in stock prices will continue in the future. What does it mean for the person? The person becomes more dynamic in the place of residence and work. New technological products are becoming more accessible to a wider range. Loss of mobility does not mean loss of modernity.

Speaking of communication tools, first of all video – communications, we must admit that the painful surge of interest in them was caused primarily by pandemic restrictions. Some firms reacted quickly, such as ZOOM, and some chose an extremely successful time to get started, such as the German TeamViewer. Larger companies, having such a good dynamic, increased it even more, but ZOOM lost something in the fight against competitors. First, such a tool increases the mobility of both teachers and students. Of course, the attractive combination with tourism is disappearing, but the availability of a lecture with teachers and students from different countries, which can include a representative of a business or research laboratory, wasting a minimum of time, has increased many times over. Do you still think that the University of the Five Universities is a utopia?!

Do the most people pay recently more attention to health? Apparently, mass polls would be needed to answer this question correctly. We chose the stock market analysis. Based on it, we see a legitimate interest in companies involved in vaccination, which is understandable. On the other hand, the surge of interest in other areas of healthcare on the example of our portfolio is not visible. It is stable, with a clear trend of slow growth but not even comparable to the previous portfolio's behavior.

### **Prediction ability analysis**

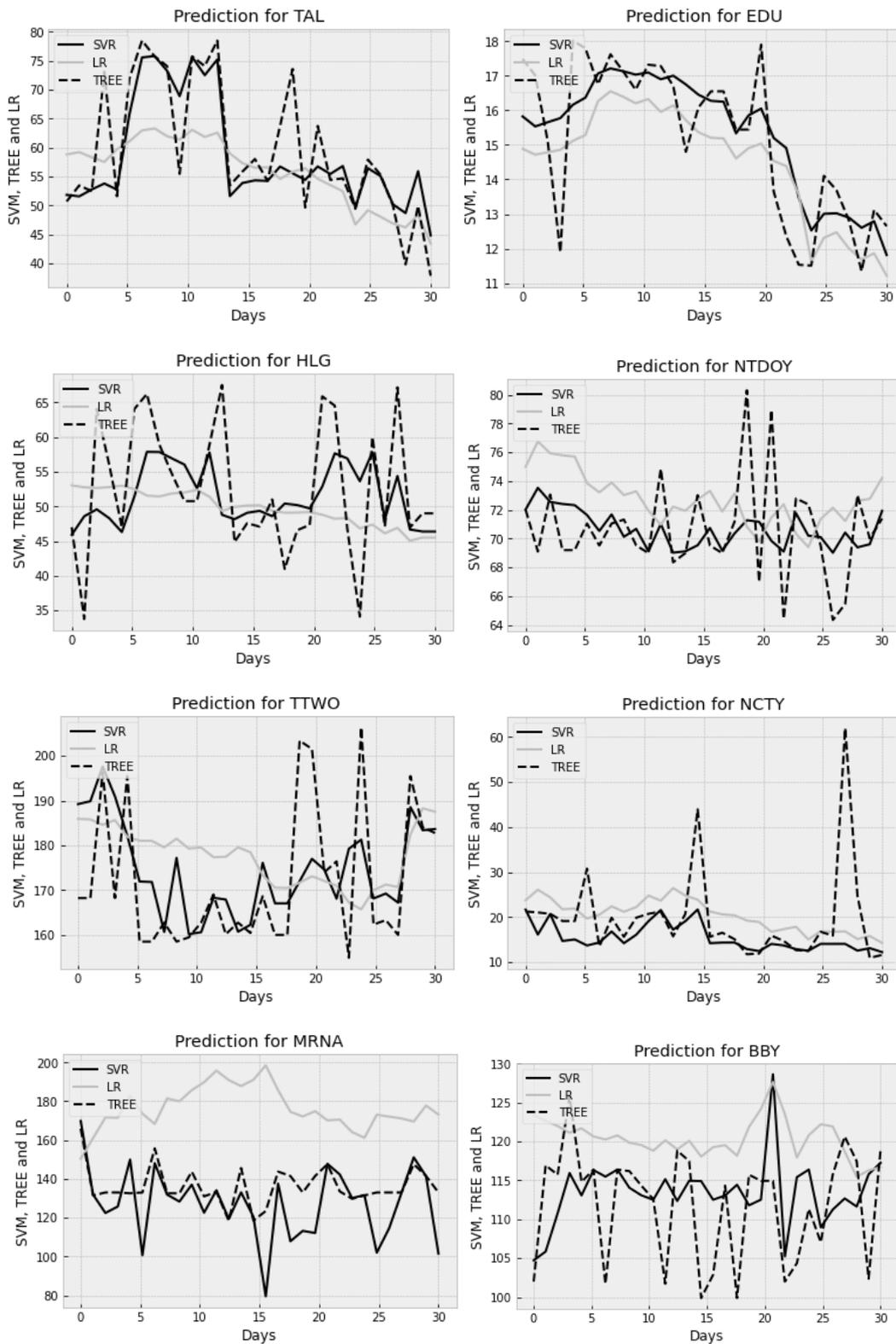
Using machine learning technologies and ordinary linear regression, we will try to answer the question: Is the dynamics of stock prices identified in the study of companies predictable?

We used 10 years daily statistics taken from yahoo.finance on the base of company's ticker. Our goal was to build a forecast for the close price of the most dynamic representatives of our portfolios for the next month. As we can see, the analysis shows a downward trend for Chinese companies and a relative stability for representatives of other countries. It is interesting that all methods are consistent in their assessments (Fig. 3). The question about the usability of the models is answered by comparing the confidence levels. The sample is divided by 80:20 and the last 20% of the values are used to compare actual and model data. The result of such calculations is confidence intervals of 85-97%.

**Table 3.** Confidence level.

Company	Linear regression	Support Vector Regression	Decision Tree
ADBE	0.98	0.97	0.97
MRNA	0.9	0.85	0.86
BBY	0.95	0.94	0.92
AMZN	0.87	0.98	0.97
TAL	0.95	0.97	0.95
EDU	0.96	0.97	0.95
HLG	0.91	0.94	0.9
NTDOY	0.94	0.95	0.91
NCTY	0.89	0.87	0.86
TTWO	0.96	0.97	0.96

Source: own processing



**Fig. 3.** Predictability of price  
**Source:** own processing

This means that all these markets are predictable in the short run (Tab. 3).

**Institutional analysis**

Fama-French analysis should answer the following question: do we have enough reason to believe that current trends will continue in the long run? We think that a sign of the persistence of this trend is the abandonment of the conservative strategy (negative CMA) and the status of growth stock (negative HML). In this way, we have received confirmation for our hypothesis about existence of long term strategies. A significant increase of the companies involved in the analysis would give the right to more categorical conclusions (Tab. 4).

**Table 4.** Fama-French analysis

Company	Adj. R2	Prob. (F)	HML (significance)	CMA (significance)	Mkt – Rf (Sign. <0.05)
AMZN	0.413	4.5*10 <sup>-13</sup>	-0.81 (0.004)	-0.87 (0.06)	1.25
BBY	0.338	3.3*10 <sup>-10</sup>	-	-	1.54
PFE	0.308	3.8*10 <sup>-9</sup>	-0.35 (0.06)	0.86 (0.007)	0.78
AZN	0.162	10 <sup>-5</sup>	-0.55 (0.02)	-	0.68
NFLX	0.148	0.0002	-	-2.6 (0.02)	0.93
TAL	0.008	0.3	-	Not working	-
CHGG	0.327	1.6*10 <sup>-6</sup>	-	-1.8 (0.07)	0.93
NCTY	0.09	0.005	-	-	1.85
TTWO	0.22	2.13*10 <sup>-6</sup>	-0.95 (0.01)	-	1.06
ADBE	0.54	4.2*10 <sup>-19</sup>	-	-1.05 (0.001)	0.99

**Source:** own processing

**Notes:** HML is a high minus low value premium; CMA is the return spread of the firm that invests conservatively minus aggressively. We used monthly data from the 2010 to 2020.

## Conclusion

The use of the stock market instrument allows us to confirm assumptions about several hypotheses we have put forward. Based on the behavior of stock market participants, the most sensitive areas of human life can be analyzed. We have singled out the following factors: cumulative returns, risk as daily simply returns, stock price dynamics and long term strategies. The status of these factors has supported our assumptions. For our portfolios participants we've got a list of descriptive characteristics: growth of cumulative return, acceptable risk dynamics, predictable stock price dynamics, and existing supportive long term strategies. Fama – French analysis allowed us to talk about prevailing aggressive strategies and "growth stock" status. The portfolios of market leaders, presented in the Table 2, were used as the research material.

As supportive tools for such analysis, have been used a range of packages of Python, machine learning methods, Fama-French analysis.

Based on the descriptive characteristics of the investigated companies the confirmation was found for the faster dissemination of knowledge, e-commerce acceleration, and bigger interpenetration of the Internet communications, virtualization, and accelerated circulation of information flows.

If a person's behavior is in tune with such trends, it is adapted to these new requirements, then logically such a person can be considered competitive in the labor market and obviously it is perfectly adapted to everyday life. If the business adjusts to such trends of the stock market, it will not have lack of skilled employee's problems, profitability will increase, and volatility mainly will decrease.

The instrument of the stock market based on the interest of a small shareholder (in our opinion, such are the American markets) allows us to consider the process 'market – person' as a two-way pulsating living mechanism.

At first glance, it may seem that the concentration of analysis on such narrow packages does not allow conclusions to be drawn about the interaction between human and the stock market. It is sufficient to say that most of us never read financial statements, never calculate financial indicators, and never build prediction models. At the same time, most are exposed to advertising information. The companies we have chosen are among the most famous and influencing therefore their average life dynamics with the high probability correlates with the life dynamics of the average market player. This is similar to a kind of parliamentary election, which takes place on a regular basis on the stock market. It provides a recall of a deputy (a particular company) and the emergence of new members of such a conditional parliament. There are daily advertising campaigns and conditional political (market) incidents. We vote for companies – leaders who form a conditional majority, whose decisions affect society.

Does new human care more about her health? The assertion is not yet obvious. Apparently, other tools are needed to answer this question. Our approach based on the analysis of the stock market does not give an unambiguous answer.

The new human enjoys much more online purchases. And so, it seems that pandemic restrictions have significantly accelerated the process of adaptation to such new trade instruments. Moreover, ordinary retail chains are beginning to adapt to such a new person.

It does not stop at its education and uses actively online services. It communicates much more through the internet with video – connection. It is looking for special services. Such person spends much more time with online games. And thanks to the stock market, the developers of such games will have more and more resources to improve such products, where mobile games, e-sports and classic games come first. Can we expect significant changes in this market after overcoming the effects of the epidemic? This does not seem to be the case, as the significant growth during the epidemic was only an accelerated imprint of the previous period.

Therefore, it relies much less on previous heuristics. And this change is not due to a pandemic, but as shown by

our analysis based on the dynamics of the last decade.

Why are the findings of this study important for public policy makers? First of all, the presence of a developed stock market allows us to talk about the formation of public policy directly by society with the application of stock market tools. That is, the system of voting on goals and values takes place constantly.

If the business follows the new heuristics of modern human, reflected in the trends of the stock market, it has every chance to maintain its competitiveness at the appropriate level.

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