ATLANTIS PRESS

Advances in Economics, Business and Management Research, volume 203

Proceedings of the 2021 3rd International Conference on Economic Management and Cultural Industry (ICEMCI 2021)

The Impact of the COVID-19 on Private Equity

Yuehan Chen[1, a, *, †], Wenlong Yang[2, b, *, †], Lizhi Zhang[3,c, *, †]

[1] *Rotman Commerce, University of Toronto, Toronto M5S 1A4, Canada*
[2] *Oakes college, University of California Santa Cruz, Santa Cruz, 95060, USA*
[3] *College of Foreign Languages, Guangdong University of Finance & Economics, Guangzhou, 510000, China*
[*] *Corresponding author. Email: [a]yuehan.chen@mail.utoronto.ca, [b]wyang44@ucsc.edu, [c]lizhizhang1999@gmail.com*
[†]*These authors contributed equally.*

ABSTRACT

The COVID-19 are disruptive events that have profound consequences for the global economy. Based on this starting point, this paper aims to present an analysis of the economic impact of the COVID-19 on the private equity (PE) firms and the industry and discuss what adjustments they have adopted to respond to the crisis actively. The literature reference in this paper draws from the latest research and provides a wealth of ideas for the economic impact of the pandemic. Our paper suggests that the epidemic has greatly changed financing and due diligence, which helps the future development of PE institutions. In addition, the epidemic has also stimulated the development of some investable market segments, such as healthcare and online service. Therefore, this paper may provide a wealth of ideas for further investigations on the long-term economic impact of the pandemic and the adjustment system of PE firms formed by the risk.

Keywords: *Private equity, COVID-19, Fundraising, Due diligence, Investment opportunities*

1. INTRODUCTION

Private equity (PE) investment is a broad concept in financial business [1]. Broadly speaking, PE investment refers to raising funds in a non-public manner to make various types of equity investments in enterprises. In a narrow sense, PE investment mainly refers to the PE investment part of mature companies, which has formed a certain scale and generates stable cash flow and mainly refers to the PE investment part in the later stage of venture capital [2]. PE investment is usually a fund-raising tool, operated by a professional fund management company. Internationally renowned investment institutions such as KKR, Blackstone Group, and TPG Capital operate multiple investment funds in different segments [3]. Nowadays, KKR likes to invest in tobacco and food manufacturers. TPG prefers the transportation industry while The Blackstone Group invests in some self-media apps such as BMBL [4]. Now the recent investment direction has mainly shifted to the self-media and software design industries.

The COVID-19 has dramatically and unexpectedly shocked the global economy. For PE, fundraising and investment decisions have been significantly affected as a result of the restrictions on due diligence and the uncertainty of future cash flow. But on the bright side, the crisis provides an opportunity for the whole industry to reflect and adjust. We analyzed what adjustments have been made by the PE firms in order to weather the crisis from the perspective of fundraising, due diligence, and future investment segments. Those companies that responded and changed in a timely manner did not lose much due to the epidemic. On the contrary, the epidemic has also helped them deepen crisis awareness and understand the most investable segments in the market, such as healthcare and online service, thereby making their future investment portfolios more defensive and profitable.

The paper will contribute to the extant literature in two important ways. First, the paper will assist financial-related academic researchers who intend to investigate the implications of the COVID-19 in the near future. Second, it has some inspiration for the improvement of the company's investment decision-making process to deal with the economic impact of the sudden outbreak.

The paper proceeds as follows. Section 2 describes the operation process of PE. Section 3 discusses the impact of the COVID-19 on PE. Section 4 analyzes the adjustment taken by PE firms in response to the crisis. Finally, Section 5 concludes the paper.

2. THE BASIC PROCESS OF PE OPERATION

The entire operation process of PE funds is divided into four steps: fundraising, investment, management and exit. In order to invest in a company, PE investors raise funds from limited partners (LP) to form a fund [5]. Once they reach their fundraising goals, they will close the fund and invest the funds in promising companies that are stagnating or in trouble but still showing growth potential. Although the investment structure may vary, the most common types of transactions are leveraged buyouts or leveraged buyouts [5]. In leveraged buyouts, investors use a combination of equity and debt to buy a controlling stake in the company. During this period, investors will improve profitability, thereby reducing the financial burden of debt repayment on the company. When a PE company sells a company in its portfolio to another company, it usually makes a profit and distributes the return to the LPs. Some PE-backed companies may go public [6].

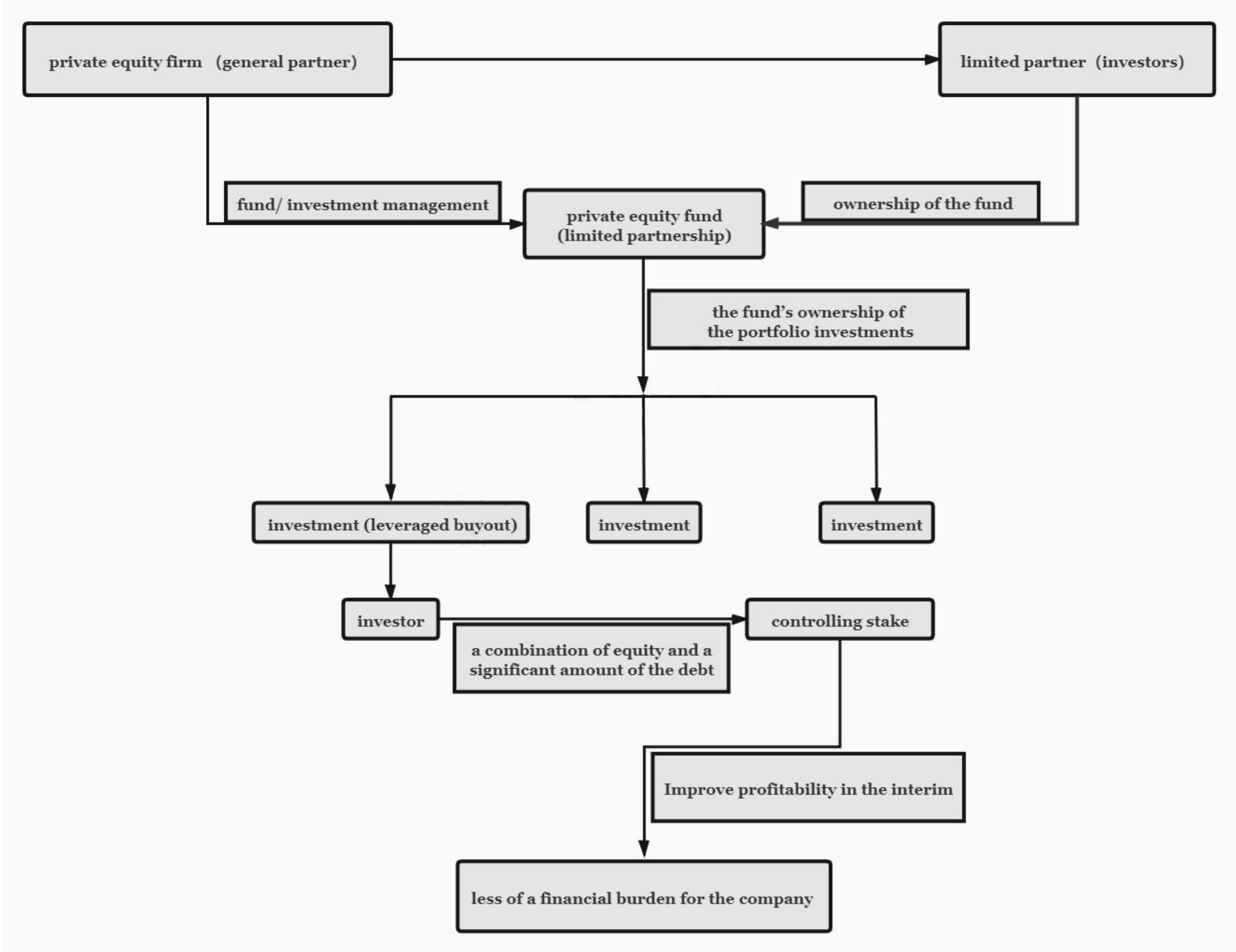

Figure 1. The operation of PE.

2.1. The Main Investment Methods of PE

Distressed financing: Make necessary changes through operations and sell its assets to obtain profits to reverse the situation. Companies that are not performing well or are in trouble usually use this type of financing. [7].

Leveraged buyout involves the company's complete acquisition to improve its business and financial situation and resell it to stakeholders for profit or initial public offering [6]. The assets of the acquired company are usually used as collateral for the loan, and the assets of the acquired company [8].

Real estate PE: Mainly include commercial real estate and real estate investment trusts (REITs). Compared with other types of funds in PE, real estate funds have higher requirements for minimum investment capital. In this type of fund, investors' funds are locked for several years at a time.

Fund of Funds: Mainly focus on investing in other funds, mainly mutual funds and hedge funds. They provide a backdoor approach for investors who cannot afford the minimum capital requirements of such funds [7]. But critics of such funds point out that their higher management fees and unrestricted diversification may not always lead to the best results of multiplying returns. [1].

Venture capital is a form of PE in which investors provide funds for entrepreneurs based on the stage provided. Seed financing refers to funds provided by investors to expand ideas from prototypes to products or services, while Series A financing allows them to actively participate in a market competition or create markets [1].

3. THE IMPACT OF THE COVID-19 EPIDEMIC ON THE PRIMARY MARKET

In Section 2, we discussed the main direction of PE investment before the COVID-19 epidemic happened. However, the sudden epidemic has changed the entire industry tremendously. In this section we will discuss the impact of the COVID-19 on the primary market from three views: PE institution, invested company and PE Industry.

3.1. PE Institution

3.1.1. Impact of Fundraising

In the era of the COVID-19 epidemic, PE companies experienced fundraising difficulties that were caused by cautious and pessimistic attitudes about the market and the inability to reach the new LP. During the epidemic, people stayed at home, most of the real economy such as shopping malls and movie theaters was almost stagnant, the global economy had suffered a major blow. The global economy experienced a serious lockdown, and the asset valuation became uncertain. Due to the huge investment uncertainty and market volatility caused by the COVID-19, many investors suspect it's a good time to invest and keep a cautious attitude towards the market. Therefore, they took a “wait-and-see” approach to fund commitments [9]. LPs who are relatively conservative and risk-averse may also choose to delay their investment decisions [10]. A survey shows those PE managers who responded they have a “Good” fundraising environment are 50% higher than those who responded “Bad” in February 2020. However, in October 2020, the net balance became -8% [10], showing that with the deterioration and spread of the COVID-19, most LPs don’t think it is a good time to make investment, which leads to PE fund managers being pessimistic about the fundraising prospects. Besides, in the European PE market, the pessimistic mood spread with respect to the fundraising environment and the access to finance of portfolio companies [11]. The COVID-19 strongly and immediately affects market activity with the decrease of fundraising and investment volumes. The negative impact of the COVID-19 may echo with the activity during the 2007-2009 global financial crisis [11].

Moreover, due to the superfast spread speed of the COVID-19 virus, many countries have closed their borders and don’t allow outsiders to enter to prevent the invasion of foreign viruses. Therefore, the PE fund managers lost the opportunities to network with their customers and greatly reduced the possibility of reaching out to new LPs [10]. As a result, the PE companies lost the chance to expand and reach potential customers, and the existing LPs are also likely to delay investment due to market instability. Overall, the unstable situation caused by the COVID-19 epidemic has severely affected the PE market's fundraising activities.

3.1.2. Impaction of Investment

Referring to the impact of the COVID-19 on investment, the PE industry did receive a certain impact in the short-term, but in the long run, the impact is not significant. The epidemic is like a sedative to calm down the frenetic investment market. In recent years, the investment industry has become a bare-handed industry as people notice it can bring returns higher than banks. They all want to become LPs and let the PE managers help them make investment plans. This phenomenon leads to a vast increase in the volume of investment portfolios. After the epidemic arrived, people became calm and started to re-examine whether they really need this investment.

Therefore, in India, the PE investment and exit activities witnessed a great reduction in 2020 compared to the previous year [12]. In 1Q 2020, the PE investment fell by over 50% both y-o-y and sequentially ($5.1 billion) [12]. Besides, the PE fund managers also re-examined the investment project to remove those combinations that performed poorly in the epidemic. Although most PE fund managers didn’t change their portfolio construction approach, two-thirds of them admitted they have slowed down the investment pace [10]. After the COVID-19 fund managers noticed the investment market had not fully recovered yet, they chose to be conservative and slow down investment progress.

However, the negative impact of the COVID-19 epidemic on the PE industry cannot last for a long time. The first reason is those companies that the COVID-19 lack of capital has hit to operate and expand and they will increase financing needs from PE fund managers. A survey shows that 57% of the PE managers said the number of investment proposals increased and 32% of them said that stayed the same [11]. This reflects those companies' urgency for financing. The second reason is PE managers are relatively optimistic about the investment market situation after the epidemic. After the COVID-19 crisis, some old industries fall, there will always be new ones. They never lack investment chances as long as they can grasp the most profitable vane. Under the survey, 34.9% of the PE managers believe they will perform much better than public markets over the next ten years [13].

Table 1. The impact of the COVID-19-Summary Tables.

Authors	Research questions	Findings
Helmut et al. (2021) [11]	PE surveys 2020: Market sentiment - COVID-19 impact.	Although travel restrictions bring difficulties of fundraising, in the long run, the PE fund managers are still optimistic about the market.
Kraemer-Eis et al. (2020) [12]	European PE and venture capital: Impact of the COVID-19.	The European PE market experienced a huge negative impact caused by the COVID-19. Managers think the PE ecosystem will recover and be more mature.
Saraswati Dr C et al. (2020) [13]	Study on trend and evolution of PE investment in India.	In India, failure to due diligence and lack of in-person meetings caused negative impaction to PE investment. At the same time, fund managers reduced new investments and maintained a cautious attitude towards the future market.
Zeidan (2020) [14]	Sustainable finance and the COVID19 crisis.	Financial return is the main goal for PE during the COVID-19. Epidemic pushes PE companies to revolutionize and be more flexible.

3.2. Invested Company

Before the COVID-19, self-media and software investment was the most popular investment by PE companies. However, affected by the epidemic, PE fund managers changed their idea, they began to prefer to invest in companies that have strong cash flow and the ability of cost control. During the COVID-19 epidemic, PE managers focused on companies with recurring revenue business models, strong cash generation and experienced management teams. Besides, the strength and resilience of the invested company itself are also considered significantly. Under the global crisis, the first goal for PE companies is searching for financial returns or minimizing financial losses [14]. Therefore, PE fund managers will first consider whether it has a stable income model when deciding whether to invest in a company. Besides, they prefer to invest in companies with strong cash flow. During the epidemic, cash flow is the capital for a company to keep operating. It determines a company's viability under a crisis. Moreover, having an excellent management team makes sure a company can still ensure normal operation when the crisis comes. The COVID-19 epidemic is also a good chance for PE companies to test the invested companies' strength and resilience [14]. Companies that can survive this epidemic must not be static. They always have the vigilance of danger and are well-prepared for unknown crises. Such companies with the ability to deal with emergencies are valuable to invest for PE fund managers.

3.3. Industry Revolution

Although the COVID-19 epidemic brought a crisis and disorder for PE markets. The negative impact is gradually dissipating. More than half of the PE fund managers thought the shock will end soon and the outlook for portfolio development will restore at the pre-crisis levels and even get a slight increase [10]. At the same time, this sudden global crisis also pushes the industry to reform and innovate. The COVID-19 brought negative impaction to the European PE market indeed. However, most analyses demonstrate that the investment activity in the wake of the COVID-19 has stalled at best [11]. Majorities maintain an optimistic attitude toward the recovery of the PE ecosystem after the crisis: a market that has stalled right now but not crashed. It will become more mature and experienced with high levels of dry power and the preparation of public policy intervention [11].

3.4. Section Summary

To prevent the spread of the COVID-19 virus, all world countries carried out vigorous control which greatly affected the flow of people and logistics. Therefore, for PE companies the market is relatively pessimistic and cautious, which causes the difficulty of raising money. Due to the travel restriction, fund managers cannot do due diligence, so investment activity has declined. The COVID-19 epidemic is also tested invested companies the ability to respond to the crisis. Finally, the negative effects brought by the COVID-19 won't last for a long time. In the short run, it gave people time to calm down and examine their investment behaviour, and the primary market has gradually returned to rationality from the past overheated investment. In the long run, it barely affects the overall PE market development trend. Moreover, it will also be an opportunity to reshape the industry and promote the return of value.

4. THE RESPONSE OF PE FIRMS TO THE COVID-19

As mentioned before, the epidemic's arrival is actually an unexpected opportunity for PE firms to make positive and trend-following adjustments. This volume aims to present an analysis of the changes and adjustments made by PE firms and their potential consequences for future industry from the perspectives of fundraising, due diligence and future investment segments.

Table 2. The response of PE firms-Summary Tables.

Authors	Research questions	Findings
Arundale and Mason (2020) [17]	How did PE firms weather the pandemic?	PE firms find opportunities through undervalued companies and restructuring under-performing businesses.
Bruch et al. (2021) [22]	The substantial role of PE investment in healthcare during and after the pandemic.	The pandemic has created an urgent need for PE involvement. With PE, the implications for patient care and societal resources are an important domestic policy issue.
Song et al. (2020) [23]	Economic and Clinical Impact of the COVID-19.	Millions of workers have filed for unemployment during the pandemic and some small healthcare institutions in financial peril had to furlough additional workers, cut salaries, and near closure or selloff.
Wang and Day (2020) [23]	The funding of digital health in 2020.	The year 2020 is the largest funding year ever for digital health. The stock market's sharp recovery and pandemic-initiated policy changes intensify serious competition and commercialization activities.
Tashanova et al. (2020) [27]	Investment opportunities and strategies in an era of pandemic.	Online service, healthcare and food industry are the main sectors that gained during the pandemic and could help in creating a full picture of the stock performance on the market.

4.1. Adjustment on Fundraising

Both the capital and activities of fundraising saw a more sizable drop year-over-year as predicted. There are several reasons that could explain the limited new capital flowing into PE funds. The main factors can be explained as the "denominator effect". The volatility of the stock market leads to the rebalance of asset allocations. Therefore, if the value of their other types of investments goes down, they will become over-allocated to PE, which prompts general partners (GPs) to pull back their investment in PE [15]. Another limiting factor is the liquidity squeeze LPs are experiencing because of the increasing capital calls and distressed debts. The capital call-back will exceed distributions payouts to LPs as the decrease in exit activity, which could worsen the pressure on LPs` cash flow management [15].

Moreover, there are some new fundraising methods that have been widely adopted recently. For example, some GPs may sell minority equity stakes in their firms as an alternative to seeking a public listing [16]. Especially for fund managers who struggle to raise new vehicles while managing underperforming portfolios, GPs may offer co-investment rights to them for the prospects of talent retention [17]. Besides, early-bird discounts may be given by GPs at first close to attract capital [18]. Moreover, the trend of cross-border fundraising with GPs marketing to LPs in overseas markets may intensify the complexity of the fund structure, operational complexity and regulatory obligations [18].

4.2. Transformation on Due Diligence

The lockdown of the pandemic has greatly changed the way of due diligence. Today, many PE investors have already adapted to meet with people virtually via online meeting rooms, which helps them save hours of flying time and significantly speeds up due diligence to make more agile investment decisions. However, due diligence processes are already being augmented in several ways during the crisis. First of all, an unprecedented level of scope and detail with diligence assignments are used to distinguish between underlying business fundamentals and the COVID-19 impact to understand how the pandemic has reshaped the target market [19]. Second, for successful due diligence and value creation, PE investors need to understand sophisticated data analytics and probe beyond standard metrics of value. The differentiated tactics are essential to capture outsized returns while dynamic financial scenarios and deep target analytics contribute to developing a more informed view of future cash flows in the COVID-19 world [20]. In addition, compliance issues would be attached to great attention because a number of regulatory changes occurring during the COVID-19 emergency will present significant compliance challenges. PE investors will need to determine if targets have overly relied on numerous regulatory waivers and other changes that state regulators issued in response to the pandemic only, as well as whether these exemptions will have a significant negative impact on the company if they cease to be used after the pandemic [21].

4.3. Future Investable Segments

It cannot be denied that PE firms always benefit from a crisis and change. Those firms focused on the healthcare and online service segment would be better able to weather and even benefit from the current crisis.

In the healthcare segment, financial distress is the main reason for PE acquisitions because hospitals and health systems have collectively lost billions of dollars in revenue [22]. One-third of independent primary care providers would sell the practice to PE firms if there was no additional financial assistance [23]. Furthermore, the pandemic has threatened the financial viability of health care providers across the country and created an urgent need for capital and further PE involvement among practices and hospitals [22]. In addition to acquisition, digital health is regarded as the most potential investment opportunity in care delivery. Digital health companies in the US raised an estimated $12 billion from PE in 2020, the largest funding year ever for digital health [24].

Second, the global coronavirus outbreak made millions of people prisoned at their houses. This resulted in the popularization of online services. Zoom Video Communications is one of the companies that has scored the biggest increase from the disease. In less than a year, it went from a relatively unknown company that provides remote-conferencing services to one whose products are used by hundreds of millions of people around the world [25]. Some companies, like Spacial, have created a virtual reality version of Zoom with VR products, and their usage has increased by 1000% since March 2020 [26]. The arrival of the epidemic has just given the trend of remote online work a push on its mainstream. Besides, online entertainment and education have also skyrocketed during the coronavirus outbreak. The popularity of online video streaming such as Netflix and online gaming system Switch has seen a surge [27]. Some online education, such as Coursera, is causing a huge revolution that brings potential considerable profits to some technology companies under the pandemic and in the long-run horizon [27].

4.4. Section Summary

In a sense, the arrival of the epidemic has forced PE investment institutions to make positive adjustments, which will actually be more conducive to the company's vigorous development in the later period. In terms of financing, despite the challenges in absorbing funds and cash flow management, GPs and LPs have a more stable and trusting relationship, and a true community of interests has been established. In addition, great changes have taken place in the way of due diligence. In the past, investment researchers always relied on on-site investigations, but the epidemic highlights the importance of modelling a range of scenarios in due diligence and preparing for the worst. Factoring in foreseeable but unpredictable disruption will become a standard part of due diligence in the future. Due to the lockdown during the epidemic, industries with strong potential and growth value have been striving and prospering in times of crisis, such as health care and Internet-based online platforms. Many PE institutions have also actively seized these opportunities to take investment activities and obtain returns.

5. CONCLUSION

In this paper, we have discussed PE investment and prospects under the COVID-19 epidemic. We discussed this issue from two perspectives: the PE market's impact and the changes brought to PE firms. Affected by the COVID-19, the amount of fundraising volume has decreased, but according to the continuity of the PE market, the money raised from the primary market will be invested gradually between 2-4 years after the establishment of funds. The worst period of the epidemic lasted less than two years, so it doesn't slow down the speed of the total investment process. One of the advantages of PE is that it can actively take real-time adjustments to diagnose and mitigate problems in real-time. But if some died during the epidemic, the root cause is the loopholes and irrationality of their own financial arrangements. In the wake of the last crisis, firms have built new capabilities and learned important lessons about fundraising and due diligence considering risk. The successful PE firms that are best prepared to weather this crisis—and the next one—always know how to navigate a downturn and seize new investment opportunities, such as healthcare and online service. Successfully managing what's to come will likely involve reaching out to a broad ecosystem of resources to help weather the storm and prepare for the next wave of prosperity.

However, this paper still has some limitations that need attention. First of all, the lack of first-hand research on the frontline workers of PE firms makes it a less comprehensive and in-depth analysis when analyzing the epidemic's impact. Second, due to the special nature of the PEindustry, it is difficult to provide accurate data in regard to their investment and financing activities during their epidemic. Third, the writing perspective of this article is based on a global macro perspective, so there is no specific discussion on the impact of the epidemic on PE investment in a certain country or region.

Therefore, on the one hand, we suggest that follow-up research can go deep into PE firms and workers through field research, trying to understand their views and ideas and how each company responds to the risk. On the other hand, since the epidemic's impact varies greatly from country to country, it would be more appropriate to narrow the scope of the study to a certain country or region.

REFERENCES

[1] Chen, J., Private equity definition. Investopedia, 27 Jul., 2021. Available at: https://www.investopedia

.com/terms/p/privateequity.asp

[2] Kolakowski, M., World's top 10 private equity firms. Investopedia, 8 Sep., 2021. Available at: https://www.investopedia.com/articles/markets/011116/worlds-top-10-private-equity-firms-apo-bx.asp.

[3] Hilker, H., The Top 10 Largest Private Equity Firms in the World. USNews, 8 July, 2021. Available at: https://money.usnews.com/investing

/funds/articles/top-10-largest-private-equity-firms

[4] Segal, T., Understanding private equity. Investopedia, 8 Sep., 2021. Available at: https://www.investopedia.com/articles/financial-careers/09/private-equity.asp

[5] Wood, G., Mike, W., Private equity: a review and synthesis. International Journal of Management Reviews, 2009, vol. 11, pp. 361-380. DOI: https://doi.org/10.1111/j.1468-2370.2009.00264.x

[6] What is private equity and how does it work. PitchBook, 9 June 2021. Available at: https://pitchbook.com/blog/what-is-private-equity.

[7] Davis, S., Haltiwanger, J., Handley, K., et al., Private equity, jobs, and productivity. National Bureau of Economic Research, 2013. DOI: http://dx.doi.org/10.3386/w19458

[8] Kaplan, S., Strömberg, P., Leveraged buyouts and private equity. National Bureau of Economic Research, 2008. DOI: http://dx.doi.org/10.3386/

w14207

[9] Haarmeyer, D., Private equity and the COVID-19 economic downturn: opportunity for expansion, Journal of Applied Corporate Finance, 2020, vol. 32, pp. 87-91. DOI: http://doi/epdf/10.1111/

jacf.12420

[10] Krämer-Eis, H., Botsari, A., Kiefer, K., et al., EIF venture capital, private equity mid-market and business angels surveys 2020. EIF Working Paper, 2021. Available at: https://ideas.repec.org/p/zbw/

[11] eifwps/202171.html

[12] Krämer-Eis, H., Botsari, A., Lang, F., et al., The market sentiment in European private equity and venture capital: impact of covid-19. EIF Working Paper, 2020. Available at: https://www.eif.org

/news_centre/publications/EIF_Working_Paper_2020_64.html

[13] Swaminathan, N., Saraswathy, C., A study on trend and evolution of private equity investment in India. Journal of Xi'an University of Architecture & Technology, 2020, no. 1006-7930, pp. 686-699 [in Chinese]. Available at: www.xajzkjdx.cn/

gallery/70-oct2020.pdf

[14] Gompers, P., Kaplan, S., Mukharlyamov, V., Private equity and COVID-19, National Bureau of Economic Research, 2020. DOI: http://dx.doi.org/

10.3386/w27889

[15] Zeidan, R., Obstacles to sustainable finance and the covid19 crisis. Journal of Sustainable Finance & Investment, June, 2020, pp. 1-4. DOI: http://dx.doi.org/10.1080/20430795.2020.1783152

[16] Macarthur, H., Elton, G., Rainey, B., The impact of Covid-19 on private equity. Bain, 9 Apr., 2020. Available at: https://www.bain.com/insights/the-impact-of-covid-19-on-private-equity/

[17] A year of disruption in the private markets. McKinsey, April 2021. Available at: https://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/mckinseys-private-markets-annual-review

[18] Arundale, K., Mason, C., Private equity and venture capital riding the COVID-19 crisis. A New World Post COVID-19, 31 Jul., 2020, pp. 193-204. DOI: https://doi.org/10.30687/978-88-6969-442-4/014

[19] North American private equity outlook 2020. Intertrust Group, 14 Sep., 2020. Available at: www.intertrustgroup.com/insights/north-american-private-equity-outlook-2020-a-new-world-for-private-equity-after-a-global-pandemic/

[20] Olsen, R., Post-COVID private equity: Thriving in a bifurcated world of opportunity. Deloitte, 2020. Available at: https://www2.deloitte.com/global/en/

pages/finance/articles/postcovidprivateequity.html

[21] Thompson, A., Differentiated diligence after COVID-19: Asia Pacific. KPMG, 2020. Available at: https://home.kpmg/xx/en/home/insights/2020

/07/differentiated-diligence-after-covid-19.html

The impact of COVID-19 on health care private equity due diligence. Bricker and Eckler, 5 May., 2020. Available at: https://www.bricker.com/industries-practices/health-care-transactions/insights-resources/publications/covid-19-update-the-impact-of-covid-19-on-health-care-private-equity-due-diligence

[22] Bruch, J., Gondi, S., Song, Z., COVID-19 and private equity investment in healthcare delivery, JAMA Health Forum, 1 Mar., 2021. DOI: https://doi.org/10.1001/jamahealthforum.2021.0182

[23] Song, Z., Giuriato, M., Lillehaugen, T., et al., Economic and clinical impact of the Covid-19 on provider practices in Massachusetts, Mejm Catalyst Innovations in Care Delievery (Massachusetts Medical Society), 2020. DOI: http://dx.doi.org/10.1056/CAT.20.0441

[24] Wang, E., Day, S., A new annual record for digital health. Rockhealth, 2021. Available at: https://rockhealth.com/reports/q3-2020-digital-health-funding-already-sets-a-new-annual-record/

[25] Yang R, 3 stocks that will benefit from the coronavirus pandemic. The Motley Fool, 23 Mar., 2020. Available at: https://www.fool.com/

investing/2020/03/23/3-stocks-that-benefit-from-coronavirus-pandemic.aspx

[26] Higginbottom, J., Virtual reality is booming in the workplace amid the pandemic, CNBC, 4 Jul., 2020. Available at: https://www.cnbc.com/2020/07/04/

virtual-reality-usage-booms-in-the-workplace-amid-the-pandemic.html

[27] Tashanova, D., Sekerbay, A., Chen, D., et al., Investment opportunities and strategies in an era of coronavirus pandemic, 3 Apr., 2020. DOI: https://doi.org/10.2139/ssrn.3567445