Private Equity Exit Strategies and Profitability during the Global Pandemic: Evidence from around the World

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Abstract

Private Equity (PE) exit strategy is important for investors as a planned and effective exit strategy improves the chance of realising higher profit. In this paper, we examine how PE exit strategies are being affected by the ongoing global pandemic. The current COVID-19 pandemic has created unprecedented exogenous shock to nearly every economy and it is important to see how this uncertainty affects economic activities such as the PE exit decision. Using 20 years of PE fund data from across 79 countries, we find that the current COVID-19 global pandemic has significantly affected the PE exit decision and the effect is stronger than that of the recent financial crisis. Out of all the exit strategies, acquisition is the most popular, and COVID-19 exerts a significant negative impact on the others. We also find that COVID-19 has negatively affected deal values across all the exit strategies, limiting the profit potential for investors. Moreover, the paper provides evidence that PE investors tend to wait for a good time to exit rather than rushing to exit during an uncertain time such as this global pandemic. Our results are robust for various alternative econometric specifications.

Keywords: Private equity; Exit strategy; COVID-19; Global pandemic; Deal value; Exit duration.

1. Introduction

The recent surge in private equity (PE)[1] has attracted the attention of both academics and practitioners regarding the PE activities (Wood and Wright, 2009; Gompers, Kaplan and Mukharlyamov, 2016). PE is defined as the provision of capital and management expertise given to companies to create value and consequently generate big capital gains after the deal (Caselli and Negri, 2018). PE investments have a finite lifetime and the portfolio companies are typically held for a period of between three and seven years (Cumming and Walz, 2010). As a result, the exit decision becomes immensely important to PE investors because the benefits, which come mostly as capital gain, can only be realised and distributed to investors after PE investors exit from the venture [Lerner, Leamon and Hardymon, 2012; Cumming and MacIntosh, 2003a (Here after CM 2003a)]. A number of papers, so far, have examined various aspects of the exit decision. For example, CM (2003a) examine the relative suitability of various exit strategies subject to the quality, duration and sector of investment. Cumming and MacIntosh (2003b) examine full and partial exit using all five exit vehicles[2] and conclude that greater information asymmetry (IA) between seller and buyer would lead to a partial exit to signal quality of investment. Cumming and Johan (2008), Cumming, Fleming and Schwienbacher (2006) and Johan and Zhang (2016) examine exit strategies in both developed and emerging markets. However, looking at the exit strategies during external shocks such as COVID-19 or financial crisis (FC) is very rare. External shocks create significant threats to organisations and lead to strategic changes to cope with those threats (Tushman and Romanelli, 1985; Meyer, 1982). As COVID-19 and the recent FC are significant external shocks to PE

[1] According to the American approach, venture capital (VC) is a cluster of private equity (PE) but the European definition considers VC and PE as two separate clusters. Caselli and Negri (2018) state that, in recent years, the American definition has been adopted in the European context too. Moreover, Cumming and Walz (2010) state that the PE fund includes both earlier-stage VC fund and late-stage and mezzanine funds.

[2] PE can exit using five different forms of exit vehicles: initial public offering (IPO), mergers and acquisitions (M&As) or trade sales, secondary sales, buyback and write-off (Cumming and MacIntosh, 2003a).

firms, it is inevitable that PE managers would respond to those shocks by making strategic changes such as selecting an appropriate exit vehicle or changing the duration of the exit strategy to maximise the value of their investments. Therefore, in this study we examine various PE exit strategies and their duration and value creation during COVID-19 and extend our analysis to look at the effect of FC. To the best of our knowledge, this is the first study to examine the effect of COVID-19 on the choice of exit vehicles, deal values and duration of exit strategies of PE firms.

CM (2003a) argue that IA between sellers and buyers plays a crucial role in the choice of exit vehicle and exit duration. While sellers tend to have comprehensive information about the venture, buyers may not have the same. Hence, buyers may undervalue the firm. The VCs should therefore prefer the exit vehicle that has the potential to minimise IA. They also argue that information about firm quality accumulates over time. Therefore, PEs or VCs would prefer to stay longer with the venture so that investment value increases along with decrease in IA. COVID-19 is an exogenous shock that has increased uncertainty within financial markets and affected firms' revenues and cash flows (Gompers, Kaplan and Mukharlyamov, 2020). Baker et al. (2020) state that the shock and panic associated with the COVID-19 pandemic have caused severe uncertainty around the world. This increased level of uncertainty in financial markets causes a significant rise in IA. Gao, Liu and Shi (2020) point out the cross-sectional difference in people's perception of rare disasters and state that people with different experience use different inputs to form their beliefs and then make decisions. This leads to considerable asymmetry among the market players. Moreover, the unprecedented level of unsystematic information flow during the COVID-19 pandemic has caused a significant rise in IA in financial markets (Tripathi and Pandey, 2021). The IA during COVID-19 is more pronounced for PE firms as lockdown and social distancing have made it substantially harder for PE managers to conduct due diligence by using face-to-face meetings or physically visiting

the production plants or clients' offices (Green, Oxman and Seghers, 2020)[3]. Given the possibility of increased IA, we argue that COVID-19 will have a direct effect on the exit decision of PE firms. The recent FC has also been an exogenous shock to the global economy and has been subject to an increased level of IA within the financial markets (Bhat and Jayaraman, 2009). As a result, we also argue that, like COVID-19, FC should also have effect on PE exit strategy.

Using PE data from April 1999 to July 2020 collected for 79 countries, we have found strong evidence of the effect of COVID-19 and FC on PE exit strategies. The main findings of our paper include: (i) the choice of exit strategy of a PE fund is different during the periods with exogenous shocks and without exogenous shocks. The sponsors prefer to exit via mergers (MER) during the time of exogenous shocks such as COVID-19 or FC. (ii) COVID-19 has a significant negative impact on the value of exit deals. We have applied three different deal values in this study, and our findings remain statistically robust. (iii) The sponsor of a PE fund slows down the exit during COVID-19 as compared to FC. We have run several additional tests to check the robustness of our results. For example, we have included various PE fund characteristics such as structure of fund, current status of fund and known equity capital invested in our main models. Moreover, we have examined PE exits in emerging markets and the time-varying effect of COVID-19. We have found similar results in all our additional tests, which confirms the robustness of our results.

Our paper makes several important contributions to PE literature and also to the growing literature on the current pandemic to help understand how businesses and management respond to external shocks by bringing changes to firms' strategic decisions. First, Sheng et al. (2020) describe the COVID-19 pandemic as an extremely rare and difficult to predict event.

[3] Green, A., A. Oxman and L. Seghers (2020). 'Preparing for private equity exits in the COVID-19 era', McKinsey & Company.

Anecdotal evidence suggests that the exit decision of PE firms has been significantly affected by the global pandemic due to substantial barriers to deal execution, changes in the competitiveness of portfolio companies and sudden shifts in valuation (Green, Oxman and Seghers, 2020). In this paper, we empirically examine the effect of COVID-19 on PE firm exit strategies. Our results are in line with Tushman and Romanelli (1985) and Meyer (1982), who observe that external shocks create significant threats to organisations and lead to strategic changes to cope with those threats. Moreover, the findings are in line with Gompers, Kaplan and Mukharlyamov (2020), who find overwhelming support from survey data on the effect of COVID-19 on PE firms' exit strategies. Second, the paper extends the analysis to see the effect of the recent FC on PE firms' exit decisions. The results show that FC has a considerable effect on PE exit strategies. Third, our paper has examined any possible differences between PE exit decisions in developed and emerging markets. Following the suggestion by Khanna and Palepu (2011) regarding the greater presence of institutional voids in emerging markets, a number of studies such as Arellano, Bai and Mihalache (2020) and Topcu and Gulal (2020) conclude that emerging markets are less capable of tackling the adverse impacts of COVID-19. IFC (2021) provides evidence that, during a global pandemic, PE funds in emerging markets are hit by a reduction in activities and growth prospects of their portfolio companies. Given the possibility of a differential effect of COVID-19 on PE exit strategies between emerging and developed markets, it is important to examine these differences. Moreover, Budhwar and Cumming (2020a) state that the COVID-19 crisis has renewed the importance of an international perspective, suggesting that a broader view should be taken to inform a wider audience when possible. Following this important suggestion and growing anecdotal evidence of the differential effect of COVID-19 on PE operations in emerging and developed markets, we have examined the effect of COVID-19 on PE exit strategies using data from both markets. Fourth, Budhwar and Cumming (2020b) suggest that the impact of COVID-19 is felt globally by most

businesses and organisations and call for new research to identify new approaches and initiatives that would help businesses and organisations cope with this extreme degree of uncertainty. COVID-19 has undoubtedly affected the PE industry by reducing the value and growth of portfolio companies. To maximise the value from investment, PE managers are trying to bring in strategic changes such as changing the exit duration and exit mode to reduce IA and value loss. Although there are some studies that have examined PE exit strategies (such as Cumming and MacIntosh (2003a, 2003b), Cumming and Johan (2008) and Johan and Zhang (2016)), looking at the exit strategies during the COVID-19 pandemic is very rare. We fill this gap by examining the various PE exit strategies and their duration and value creation during COVID-19 and FC.

The rest of the paper is organised as follows: section two presents the theory and hypotheses, section three describes the data and methodology, section four presents the results of our basic model and robustness tests, section five presents the discussions and limitations of the study, and section six provides the conclusion.

2. Theory and Hypotheses

The primary goal of PE investors is to maximise their return by selling the portfolio company at exit (Tykvova, 2018). CM (2003a) state that the desire to secure the highest price for the investment affects the timing and choice of exit vehicle. CM (2003a) have provided a comprehensive theory of PE exit where they suggest that IA would affect the value and choice of the exit vehicle and also the timing of the exit decision by the PE or VC firms. For example, due to higher level of IA, the value attached to the investment by sellers and buyers would differ significantly. Sellers generally have more information about the prospect of the underlying investment but buyers would be more sceptical about the prospect of the managed firm. Therefore, buyers tend to undervalue the firm under management. The theory further

argues that, as the sellers (VC or PE firms) want to maximise their return, they would select the exit vehicle that would help to improve the value of the investment by minimising the IA. The theory further argues that the timing of exiting from the investment would be affected by IA as this is closely linked to exit value and exit choice. The authors state that the information about the quality of the firm accumulates over time and longer involvement of VC or PE firms with their portfolio companies signals better quality of the firm. As a result, buyers would feel more positive about the firm and hence would revise the valuation.

In this paper, we are extending the arguments of CM (2003a) by examining the effect of external shocks such as COVID-19 and FC on PE exit strategies. We argue that extreme external shocks such as COVID-19 or FC would increase the IA in the financial markets. Our stand is based on several compelling reasons. First, exogenous shocks create uncertainty in financial markets (Gompers, Kaplan and Mukharlyamov, 2020) and such uncertainties change the likelihood of future cash flows, which, in most cases, are difficult to predict. Guo and Ma (2014) state that the probabilities of new events are difficult to calculate due to lack of historical data. De Finetti (1975) argues in favour of subjective probabilities in the case of new events and states that subjective probabilities would differ among the decision makers. As a result, it is reasonable to assume that IA would be higher during the COVID-19 pandemic or FC. Second, Clarke and Shastri (2000) state that IA in financial markets is not directly observable and can only be measured by various proxies. Fee and Thomas (1999) and Clarke and Shastri (2000) mention about stock market volatility as an indication of IA. As markets have been highly volatile during COVID-19 (Uddin et al., 2021), it is reasonable to assume a higher degree of IA during the pandemic. Third, Smith and Watts (1992) argue that IA is more pronounced for high growth firms. As PE managers mostly invest in firms with high growth opportunities, it is reasonable to expect that IA would be higher for the PE portfolio companies. Moreover, lockdown and social distancing measures during the pandemic have made it

substantially harder for PE managers to conduct due diligence by using face-to-face meetings or physically visiting the production plants or clients' offices (Green, Oxman and Seghers, 2020). This has also contributed to a higher level of IA during COVID-19. In addition, the current global pandemic is characterised by an unprecedented level of unsystematic information flow that has caused a significant rise in market volatility and IA (Tripathi and Pandey, 2021). Due to the higher IA during COVID-19 and FC, the PE investors face the challenge of mitigating IA so that they get maximum capital gain upon exiting the investment. Although there are five different types of exit vehicles, PE investors should select the exit vehicle that would minimise the IA between PE investor and new buyer.

CM (2003a) argue that an initial public offering (IPO), as an exit vehicle, offers the least possibility of minimisation of IA. The authors state that IPO investors are not sophisticated investors and they rely heavily on investment bankers for relevant information. Compared to IPO, trade sales or secondary sales would be much more effective in mitigating IA. Therefore, value of investment would be maximised by pursuing an exit through trade sales or secondary sales as opposed to IPO. Jenkins and Sousa (2015) state that IPOs are time consuming and do not provide certain proceeds. The authors also argue that IPOs are good at hot markets rather than cold markets. As opposed to IPO, trade sales are quick and offer certain proceeds, which is important for PE investors in a time of uncertainty such as COVID-19 or FC. The market timing theory tells us that IPO performs better in terms of value gain during good economic times. Korajczyk, Lucas and McDonald (1992) show that firms abandon IPO during bad economic condition due to higher IA and wait for a good time to go for IPO. As COVID-19 and FC correspond to severe economic downturns, IPOs are not suitable during these times. As discussed above, trade sales or secondary sales could avoid IA problems as opposed to IPO. However, CM (2003a) mention that trade sales (mergers) are superior to secondary sales in resolving the IA problem due to the limited bargaining power of new buyers

in the case of secondary sales. In the case of buybacks, these are considered as good options in terms of minimising IA on the grounds that insiders are involved in buyback and insiders should have better information than outsiders. However, buybacks are not particularly good in terms of value maximisation as entrepreneurs are not as skilled in processing information as VC or PE managers, and therefore this would not be a good exit vehicle during a time of external shocks. Considering the effect of IA on the value of PE investment and choice of exit vehicle and given the evidence of a higher level of IA during exogenous shocks such as COVID-19 and FC, we propose the following hypothesis:

H1a: During exogenous shocks such as COVID-19 or FC, PE investors would prefer trade sales (mergers) over other forms of exit vehicles.

H1b: During exogenous shocks such as COVID-19 or FC, PE investors would realise more value by exiting via trade sales (mergers) compared to other forms of exit vehicles.

PE firms invest in their portfolio companies for a finite period of time, which typically ranges between three and seven years (Cumming and Walz, 2010). However, IA between buyers and sellers may influence the length of PE investment. While PE investors would have more information about the firm and its future potential, outside buyers would have less information regarding potential investment. This IA would reduce the value of the firm. CM (2003a) posit that, the longer the duration of a VC's investment, the less the IA between seller and buyers, and therefore the possibility of realising the seller's expected price would be higher. As the IA remains at a very high level during various exogenous shocks such as COVID-19 or FC, the value gap between sellers (PE investors) and potential buyers would also be larger. Therefore, PE investors would be willing to hold their stakes for relatively longer during COVID-19 or FC.

In addition to IA, real option theory also supports the extended exit timing of PE firms during uncertain times. O'Brien and Folta (2009) state that real option theory demonstrates that uncertainty about future outcome creates a zone of inaction where the wisest decision is to wait until more information is gathered. Similarly, Gimeno et al. (1997) conclude that, in the face of uncertain future payoff, managers tend to accept lower profits for the short run and continue with the business with the hope that conditions will improve soon. Thanh (2020) also argues that high uncertainty may increase the value of option to wait for better timing in future. As both the COVID-19 pandemic and FC have created significant IA within the economy and firms due to high uncertainty, managers of PE firms would prefer to wait to realise expected capital gain at the time of exit, when IA would fade away. Based on the above discussion, we propose the following hypothesis:

H2: Exogenous shock such as COVID-19 or FC would delay the exit decision by the PE firms.

3. Data and Empirical Models

3.1 Private Equity Exit Data

In this paper, we use the dataset on global PE funds to investigate the impact of COVID-19 and FC on PE exit strategies. For the empirical examination, we collect daily exit data based on exits filed by PE funds across the world between 1st April 1999 and 1st July 2020. Table-1 provides the detailed list and definitions of variables that we have collected over the sample period. The descriptions of our data are presented in Table-2 and Figure-1. Panel-A of Table-2 show the number of exiting PE funds in our sample sorted to the country where they are headquartered. Out of a total 70,062 observations distributed among 79 countries, 59.93% of PE fund exits are reported in the U.S. alone. The two other nearest figures are 6.82% in the

U.K. and 4.69% in France. Altogether, almost 88% of our sample PE exit funds are from developed countries. Data described in Panel-B of Table-2 shows the popularity of Trade Sales (Mergers) as an exit strategy over other options, accounting for 55.89% in our sample. The Secondary Sales (21.98%) and IPOs (17.4%) are the other two preferred strategies used by the PE managers.

The yearly sum of daily PE exits filed is presented in Figure-1. The figure shows that the number of exits filed was highest in 2014 but significantly less during the 2008 FC and in 2020, when the world was hit by COVID-19. The figure clearly indicates that the effect of COVID-19 is more severe than that of the 2008 FC. The description of the structure of exiting PE fund entities and current investment status is presented in Appendix-A. Figure-2A suggests that around 61% of exiting PE funds in our sample are venture capital, and around 22% are buyout funds. Figure-3 suggests that around 70% of exiting PE funds in our sample have the status of currently making an investment, whilst only around 23% are liquidated. We use the Refinitiv (Thomson Reuters) database to collect all these datasets.

Insert Table-1 here

Insert Table-2 here

3.2 Methodology

For our empirical analysis, we first use the non-parametric Wilcoxon rank-sum (Mann-Whitney) test in a univariate analysis that compares the median choice of PE exit strategy between crises (i.e. COVID-19 and FC) versus other periods. We then apply various forms of regressions to analyse the impact of COVID-19 on the PE exit strategies. The general specification can be expressed as:

$$y_{it}^{*} = \alpha_1 + \beta_1 CRI_t + \beta_2 COV_t + \beta_3 X_{it} + \varepsilon_{it}, \qquad \text{(i)}$$

where CRI and COV are the recent FC and COVID-19 pandemic, respectively. X_{it}, is a vector of PE-related control variables. *i* and *t* denote the observations (i.e. exiting PE) and time, respectively. ε_{it}, is the error term. The dependent variable, y_{it}^{*}, is the types of exit strategies filed by the PE managers. To apply in empirical models, we provide numeric codes for each exit strategy without giving any order. For the simplicity and ease of discussion, we combined the choices of Buyback, Write-Off and Reverse Takeover as other strategies (BWR), which only accounted for 4.79 per cent in our total observations. Thus, the numeric codes are as follow:

$$y_{it}^{*} = \begin{bmatrix} 1 = if\ exit\ type\ is\ IPO \\ 2 = if\ exit\ type\ is\ MER \\ 3 = if\ exit\ type\ is\ SEC \\ 4 = if\ exit\ type\ is\ OTH \end{bmatrix}, \text{where} \quad \begin{matrix} 1 \neq 2 \neq 3 \neq 4 & OR \\ 1 > 2 > 3 > 4 & OR \\ 1 < 2 < 3 < 4 & \end{matrix} \qquad \text{(ii)}$$

Since our dependent variable represents an unordered choice that can be any of the four types of exits, we use a multinomial logit model (MNL) instead of an ordered logit approach, and this model does not impose an arbitrary structure on the outcomes (Long, 1997). The MNL regression is an extension of the binary logistic regression that is used when a categorical outcome variable has more than two values, and predictor variables are continuous or categorical. Furthermore, the MNL does not require normality, linearity or homoscedasticity assumptions (see Greene, 2020; Hensher et al., 2015). Instead, the MNL applies maximum likelihood estimation to evaluate the probability of categorical membership and does the initial data analysis through careful univariate, bivariate and multivariate assessment (Starkweather and Moske, 2011).

In line with the MNL structure, we rewrite equation (i) as a random utility modelling framework (see, Michelsen and Madlener, 2012). The manager of a PE fund i $(i = 1, 2, \dots, I)$ might select any option out of the finite set of alternatives, J $(j = 1,2, \dots, J)$. Hence, the utility of a particular alternative j is:

$$Y_{ij} = \beta_j Z_i + \varepsilon_{ij} \quad \text{(iii)}$$

where, j represents the four different exit types as specified in equation (ii). Y_{ij}, thus, represents the utility of PE fund i of alternative j. Z_i, is the vector of variables of our interest including control variables (i.e. FC, COVID-19, fund size and value of the exit deals). β_j is the unknown coefficient to estimate and ε_{ij} is the error term, which is assumed as independently and identically distributed with Gumble (type 1 extreme value) distribution (see McFadden, 1974). The MNL model specifies the following probability of a PE fund i for exit type $j(j = 1,2, \dots, J)$:

$$Prob(Y_i = j) = P_{ij} = \frac{\exp(\beta_j Z_i)}{1+\sum_{k=1}^{j} \exp(\beta_k Z_i)} \text{ for } j = 1,2, \dots, j \quad \text{(iv)}$$

To interpret the results of the MNL analysis, we could also determine the marginal effect (i.e. partial effect) of variable Z_i on the dependent variable (i.e. choice probability) P_{ij}. The estimation of the partial effect of a change in variable Z_i would be:

$$\delta_{ij} = \frac{\partial P_{ij}}{\partial Z_i} = P_{ij}\left[\beta_j - \sum_{k=0}^{J} P_{ik}\beta_k\right] = P_{ij}\left[\beta_j - \bar{\beta}\right] \quad \text{(v)}$$

Thus, as equation (v) shows, the marginal effect is not only dependent on the coefficient's estimate β_j, but also on the remaining coefficient and variables of the model (see Michelsen and Madlener, 2012).

We design our second empirical model around equation (i) to examine the effect of COVID-19 and FC on PE exit deal values. The multivariate regression model is as follows:

$$V_{it} = \alpha_1 + \beta_1 CRI_t + \beta_2 COV_t + \beta_3 X_{it} + \beta_4 Y_{ij} + \varepsilon_{it}, \quad \text{(vi)}$$

where V_{it} represents the total exit value of PE funds, and we use three different values for the empirical check, i.e. proceeds amount (PMOM), rank value (RVM) and value of the

consideration (MDVM). Note that this study uses the log of the median figure provided in the Refinitive database for all three deal values rather than the average or total sum. The CRI and COV represent the FC and COVID-19 pandemic, respectively. X_{it}, is a vector of our control variables, which includes various characteristics of exiting PE funds, and ε_{it} is the i.i.d. error term. We have included the choices of exit strategies, Y_{ij}, as an explanatory variable in our model to control the impact of managers' exit preference on the deal value.

In our final empirical model, we redesign equation (i) to investigate the relationship between exit duration and COVID-19 and FC. The empirical setting is as follows:

$$EXTD_{it} = \alpha_1 + \beta_1 CRI_t + \beta_2 COV_t + \beta_3 X_{it} + \beta_4 Y_{ij} + \varepsilon_{it}, \quad \text{(vii)}$$

where $EXTD_{it}$, represents the exit duration of a PE fund as defined in Table-1. The definitions of other components of this equation are similar to equation (vi). We run several robustness tests for each of our empirical models and also run various post-estimation tests to confirm the statistical validity.

4. Empirical results

4.1 Descriptive statistics

Table-3 presents the descriptive statistics and correlation matrix. Panel-A of Table-3 shows the mean, standard deviation and percentile mean of the variables of this study. As reported in Table-1, we have converted the numeric values into the natural log. The median value of PMOM, RVM and MDVM are 7.97, 8.00 and 8.10, respectively, with a low standard deviation. The medians of the other two values [i.e. the amount of earnout portion of deal value (VEM) and the amount of cash portion of deal value (PURM)] are also very close to the earlier three. The mean size of the PE fund (EXFS) is 7.92, which represents the total amount of capital committed to an exiting PE fund by its limited partners and general partners. The closeness of

EXFS and deal value's mean and median clearly indicates that the deal value of an exiting PE fund is primarily influenced by the size of the fund. However, comparing the mean of EXFS with the mean of total amount the exiting funds sought to raise (EXST) implies that an exiting PE fund had raised less funds than what it sought to raise when fundraising began. The mean of EXTD is 6 in our sample, which means that a PE fund takes six years on average to file for exit from the year it first receives investment. However, for the lower and higher percentiles, such as 25% and 95%, it is 3.9 and 14 years, respectively. Therefore, we observe a high standard deviation (4.04) in the distribution of this variable. The median of total known equity investment of PE funds (TEQ) is 8.57. However, the median of estimated equity investment amount to date (EQITD) is 7.68 in our sample.

In Panel-B of Table-3, we provide the correlation matrix between our primary variables. A negative correlation is observed (-0.0089) between COVID-19 and exit choices. Similarly, the deal values are negatively correlated with FC and COVID-19 except for the RVM. EXFS and TEQ are positively and negatively correlated with COVID-19 and FC, respectively. Between the deal values, the results show a strong positive correlation of MDVM with VEM (0.7786) and PURM (0.8423). Similarly, VEM and PURM are also positively (0.5359) correlated with each other.

Finally, we use a non-parametric Wilcoxon rank-sum (Mann-Whitney) test to compare the exit strategies to assess whether their population of daily choice median rank statistically differs between the crises (i.e. COVID-19 and FC) and other episodes. We find the *z-value* of the rank-sum test is -6.820, with a *p-value* of 0.000. Thus, the result implies that the median exit choice of fund managers is statistically different across crises and non-crises periods.

Insert Table-3 here

4.2 The Exit Strategies and COVID-19

Table-4 presents the results related to our primary objective, the impact of COVID-19 on PE's choice of exit strategy. We report the choice of trade sales or merger (MER) as the base outcome for discussion as it is the most popular choice for PE exits and accounted for more than half of our sample. Results show that PE manager's choice of other exit alternatives is negatively affected by COVID-19 as compared to MER. Moreover, these results remain statistically significant regardless of the deal values, as evident from the coefficients reported in columns (1) to (3). We find that COVID-19 has a similar effect on the choice of exit strategy while using RVM and MDVM as the deal values. From columns (4) to (9), the coefficients of COVID-19 are all statistically significant and negative. This lends support to our hypothesis 1a. This finding is in line with the suggestion put forward by CM (2003a), who argue that a merger would be more effective to minimise IA between the parties.

In Table-4, the impact of FC is also negative, except in columns (5) and (8). Our results suggest that the FC is negatively and significantly affecting the exit choice of BWR over MER across the table. The choice of IPOs over MER as a preferred exit strategy is also significantly and adversely affected by FC in columns (4) and (7). Compared to FC, the influence of COVID-19 is strongly negative to all other exit alternatives over MER. Hence, following COVID-19 uncertainty, PE managers prefer to exit via MER than IPOs, SEC or BWR options. Furthermore, the coefficient values show that the impact of COVID-19 is far more substantial than that of FC across the table. Results on marginal effects (reported in Appendix B) further document that COVID-19 could influence managers to choose MER as an exit strategy by up to 17.65%, whereas the FC could influence the preference for MER by up to 5%. Likewise, the choice of BWR is adversely influenced by COVID-19 up to 11.41% and by FC only up to 1.6%. These results provide further support to hypothesis 1a.

Insert Table-4 here

4.3 The Impact on the Deal Value

Table-5 reports the results of the impact of COVID-19 and FC on the value of exit deals. Across the table, COVID-19 is negatively associated with the exit deals regardless of the value we are considering as the dependent variable. The results are statistically significant up to 5% level. For example, COVID-19 could reduce the deal value measured in MDVM by 1.3326 and RVM by 1.1026, which are significant at the 1% level. However, the minimum adverse impact of COVID-19 is found on the PMOM, which is -0.1572, and it is significant at the 5% level. This has lent support to hypothesis 1b. The FC, on the other hand, is positively linked with RVM and MDVM, and only negatively influencing PMOM. The coefficients of FC are significant at the 1% level across the table. The exit deal values measured in RVM and MDVM are increased by 0.1755 and 0.1574, respectively, due to FC. The PMOM, however, has reduced due to the FC by 0.2179. Therefore, in contrast to COVID-19, FC had a mild impact on PE exit value in our dataset. It has a substantial influence only on the PMOM compared to COVID-19, as in column (1). However, the impact of COVID-19 is more prominent and adverse on RVM and MDVM in columns (1) and (2), where FC is positively related. This has lent further support to hypothesis 1b.

Insert Table-5 here

4.4 The Impact on Exit Duration

In Table-6, we present results related to the effect of COVID-19 and FC on PE exit duration. The results suggest that exit duration receives a positive impact from the COVID-19 pandemic, and the relationship is robust to deal values we use in the models. From columns (1) to (3), the coefficients of COVID-19 are 0.6618, 0.7130 and 0.6906, respectively, and are

significant at 5% level. The impact of FC is negative on the exit duration. The corresponding coefficients of FC are -0.5896, 0.5697 and -0.5656, respectively, in columns (1) to (3) and these are significant at 1% level. This difference in result is surprising but not unexpected. At the beginning of the pandemic, people were expecting it to be a sudden event with a short life span. Moreover, global concerted efforts towards finding a vaccine raised the hope of a quick recovery from the pandemic. As a result, business in general and PE funds in particular adopted a policy of waiting for the pandemic to be over. This is in line with the findings of CM (2003a) who state that extending the PE involvement with portfolio companies would be helpful to reduce IA and increase the deal value. However, in the case of FC, the opposite effect could be due to the prolonged nature of the crisis and because PE managers were not particularly keen to wait due to acute uncertainty regarding the duration of FC. This lends partial support to hypothesis 2.

The choices of exit strategies are positively linked to exit duration across Table-6. The value of coefficients is relatively large (between 10.3420 and 11.3048) and significant at 1% level. This means the speed of exit deviates less between the PE's choice of exit strategies. However, the size of exiting PE funds (EXFS) has a clear-cut impact and larger funds filed to exit earlier than smaller funds. The coefficients of EXFS are all negative in columns (1) to (3) and significant at 1% level. Among the deal values, PMOM is significantly and negatively related to exit duration. However, RVM and MDVM are positively associated with exit duration, though the volume of coefficients is significantly less than for PMOM.

Insert Table-6 here

4.5 Robustness Checks

In this study, we run several tests to check the robustness of the relationship between COVID-19 and PE exit strategies reported in the earlier section. For the robustness tests, we

have added various characteristics of exiting PE funds as additional control variables in our models. For example, we have added: (i) structure of exiting PE fund's entity (EXFT); (ii) current investment status of exiting PE fund (EFIS); (iii) total known equity an exiting PE fund has invested (TEQ); and (iv) deviation between total amount of capital committed to an exiting fund by its sponsors and total amount they sought to raise (DEV). While using these control variables in the models, we create dummies for the categorical variable EXFT and EFIS. Also, to avoid the dummy variable trap, we present our results using a reference category for each categorical variable, such as Buyout (BOU) for EXFT, Others (OTHS) for EFIS and BWR for EXT.

Table-7 exhibits the results of MNL regressions using MER as our base outcome and by adding categorical variables EXFT and EFIS. Results in Table-7 suggest that choice of PE exit, such as IPO, SEC and BWR over the MER, is negatively affected by COVID-19. FC has a similar effect on exit choice as MER is preferred over IPO and BWR. Moreover, the deal values, e.g. RVM and MDVM, are also negatively affecting all other exit choices over MER, which is in line with our earlier findings. At the bottom of Table-7, we report the results of control variables related to exiting PE funds' current status (EXIS). The statistical significance of negative coefficients (the difference to OTHS) in columns (2), (4), (5), (7) and (8) implies that the funds which are currently making investment (CMI), defunct (DEF), inactive for at least three years (INA) and liquidated (LIQ) do not prefer to exit via either secondary sales (SEC) or IPO over MER. In Table-8 and Table-9, we report the results of our robustness tests concerning the impact of COVID-19 on the value of exit deal and exit duration, respectively. We have included several additional control variables, such as EXFT, EFIS, DEV and TEQ, in our empirical settings. The results confirm the significant negative impact of COVID-19 on deal values and the positive association with the duration of exit. Therefore, these findings are well in line with the relationship found in the earlier section.

Insert Table-7 here

Insert Table-8 here

Insert Table-9 here

4.6 Additional Robustness Tests

In this section, we run further robustness tests and investigate: (i) the impact of the COVID-19 crisis on the choice of PE exits in emerging (EMG) versus developed markets, (ii) the impact of the advancement of COVID-19 over time on the exit strategies, and (iii) the moderating effect of an exiting PE fund's entity (EXFT) during the COVID-19 crisis. The results of these three robustness tests are reported in tables 10, 11 and 12, respectively. In Table-10, we have used the IMF's classification to separate the emerging markets (EMG) from developed markets[4]. For the advancement of COVID-19 over time in Table-11, we have shown the impact of daily global COVID-19 cases on PE exits over three different periods as defined in Panel-B of Table-1.

Findings in Panel-A of Table-10 suggest that, in emerging markets, the choice of PE exits, such as SEC and BWR, is negatively affected by COVID-19 compared to MER. The effect of COVID-19 on the choice of MER as the preferred exit vehicle in emerging markets is relatively stronger (statistically) than in developed markets. However, we did not get any substantial variations in results comparing COVID-19 and FC in relation to PE exit choices in emerging markets and developed markets. In Panel-B, results reported in columns (1) to (3) for all types of rank values suggest that the mean exit value during the normal period in emerging

[4] In Table-10, we have lost some observations as there are 3326 unclassified PE funds in our sample, and a few countries shown in Panel-A of Table-2 are classified as LDCs (Low-income Developing Countries) by the IMF that are excluded from analysis.

markets is lower than in developed markets. However, the mean exit value is higher in emerging markets during FC and COVID-19 compared to developed markets. Results in columns (4) to (6) suggest that the mean exit duration has increased during COVID-19 compared to FC in developed countries. In the case of emerging markets, the coefficients show a similar effect of COVID-19 and FC on exit duration but the results are not statistically significant.

Table-11 presents the results for the time-varying effect of COVID-19. Panel-A shows the MNL regressions of PE exit choices, and Panel-B exhibits the multivariate regressions of deal values and exit durations. Significant findings include: (a) the choice of other exit alternatives over MER is adversely affected by the advancement of COVID-19 over time. Results suggest that PE managers prefer to exit via MER with the advancement of the coronavirus crisis; (b) the impact of the initial uncertainty of the COVID-19 crisis (i.e. CCH) is more prominent on the alternative exit choices over MER; (c) from the statistical significance, we observe that, over time, the adverse impact of COVID-19 on exit choice switches from IPO to SEC and BWR; (e) similar to exit choice, the exit duration is also strongly influenced by COVID-19 during the initial phase of the pandemic.

The moderating effect of exiting PE fund's entity (EXFT) during the COVID-19 crisis is displayed in Table-12. The interaction terms across Panel-A suggest that the EXFT has significant moderating power on exit choices during the COVID-19 episode. For example, we find that, compared to BOU, the managers of funds of fund (FOF) prefer to exit via MER during this crisis. In Panel-B of Table-12, we report the moderating effect of EXFT on the exit deal value and exit duration during the COVID-19 crisis. Columns (1) to (3) show that the exit deal value of FOF during COVID-19 is negatively affected compared to BOU. Finally, in columns (4) to (6), the interaction terms exhibit that, during COVID-19, exit duration of PE

funds is moderated by the structure of the exiting fund's entity (i.e. EXFT). The results suggest that FOF and real estate (RES) fund's exit duration are negatively affected by COVID-19.

Insert Table-10 here

Insert Table-11 here

Insert Table-12 here

5. Discussion

5.1 Theoretical Implications

PE literature has been growing over time in line with its importance as a value-generating investment strategy. Exit is the final step of the PE investment process. A timely and well-planned exit is important as this would be a decisive factor for the profitability of PE investors (Caselli and Negri, 2018). One of the most influential theories to explain the PE exit strategy is IA theory. CM (2003a) suggest that IA would affect the value and choice of the exit vehicle and also the timing of the exit decision by the PE or VC firms. We extend this theoretical stand and argue that COVID-19, as an external shock, increases IA among the market participants and therefore would affect the exit decisions. The results of our study lend support to the existing IA theory of PE exit strategies. We have found strong support to the notion that PE firms predominantly choose mergers as an exit vehicle over others such as IPO or secondary sales. This is in line with the findings by CM (2003a), who confirm that mergers help the PE firms to minimise IA between the parties. Moreover, we find strong support for the extended exit duration during COVID-19, which is again in line with CM (2003a), who argue that PEs or VCs would prefer to stay longer with the venture so that investment value increases along with decrease in IA. To better inform the readers about the effect of external shocks on

PE exit strategies, we also extend our analysis to examine the effect of the recent FC. We find similar results to confirm that external shocks such as COVID-19 or FC would affect the PE exit strategies. As mentioned earlier, COVID-19 has been more international in nature rather than specific to a country or region (Budhwar and Cumming, 2020a). This certainly warrants more international evidence on its effect on PE exit strategies. We, therefore, extend our analysis to see the effect in both developed and emerging markets. The results confirm that emerging market PE firms prefer mergers over other exit vehicles and exit values are higher during COVID-19 compared to exit values during the same time in developed markets. We could not get any substantial difference between exit duration of PE firms from emerging markets and developed markets. In the case of the time-varying effect of COVID-19, we find evidence that the effect of COVID-19 on PE exit strategies is stronger in the earlier part of the pandemic. This is in line with our theoretical prediction, as IA should be higher during the earlier part of the pandemic when uncertainty was relatively more pronounced. External shocks like COVID-19 or FCs create considerable economic or policy uncertainties. Throughout the paper, we assume that an increased level of uncertainty leads to a significant rise in IA in the market. Affleck-Graves, Callahan and Chipalkatti (2002) provide evidence on the direct impact on low earnings predictability and IA. As earnings predictability remains very low during uncertain times, this should give rise to IA in the market. Brooks, Patel and Su (2003) also provide evidence of rising IA in response to unpredictable events. Similarly, Bhat and Jayaraman (2009) provide evidence on the increased level of IA during the recent FC. Given all this evidence, we have assumed that IA has been higher during the COVID-19 pandemic and also during the recent FC. However, to minimise any effect of uncertainty that may not be related to IA, we have run additional tests to control for uncertainty. The results (reported in Appendix C) show that COVID-19 or FC have a significant impact on exit choices, exit values and exit duration even after controlling for uncertainties, which lends further support to our

proposed hypotheses in relation to the effect of COVID-19 on PE exit strategies using the IA framework.

5.2 Limitations and Future Research Directions

The paper has certain limitations and we welcome further research in this area in coming days. First, the paper only uses data up to July 2020. As the COVID-19 pandemic is not over yet, and in fact it is still spreading with new variants in different parts of the world, more recent data could be used to obtain more insight into the effect of the ongoing pandemic. Second, the paper has assumed that IA would increase during the COVID-19 pandemic or during the FC based on theoretical predictions and empirical literature. However, we have not used any direct firm-level measure of IA due to limitations of data (this paper has used PE fund data rather than data for portfolio companies). Some of the proxies that are used to measure firm-level IA include analysts' coverage or market to book ratio. Future research could use data for an extended period on these variables to differentiate the roles of IA and uncertainty in exploring the effect of COVID-19 or FC on PE exit strategies. Third, one of the potential solutions to differentiate the role of IA from uncertainty could be to look into the effect of COVID-19 or FC on industries that are characterised by higher level of IA. However, the paper could not do additional industry level tests due to lack of data. Future research can use industry level data to strengthen the IA argument in explaining the effect of external shocks such as COVID-19 or FC on PE exit strategies.

6. Conclusion

Exogenous shocks create threats to PE firms and their portfolio companies (Wright et al., 2016). COVID-19, as an exogenous shock, has been changing the global business landscape; the economic impact of this pandemic is phenomenal and governments,

organisations and decision makers are all trying to understand the unfolding threat of this sudden external shock (Budhwar and Cumming, 2020b). PE managers, as value-maximising agents, try to adjust their exit decisions amid exogenous shocks so that they can maximise their gains from their investments. Building on the increased level of IA during exogenous shocks, we have examined the effect of COVID-19 on the choice of exit vehicles, value of investment at the time of exit and exit duration. Applying various empirical settings on a novel dataset of 70,062 daily exits filed by PE funds over a period from 1999 to 2020, we find that the PE firms' choice of exit strategy is affected by external shocks such as COVID-19 or FC. PE firms prefer to exit via trade sales during the periods of exogenous shocks, and this behaviour is found to be consistent across COVID-19 and the recent FC episode. The results are robust to deal values, fund size, the structure of the exiting fund's entity and the investment status of the exiting fund. Our findings also confirm that COVID-19 and FC have a significant negative impact on exit values and the effect is robust to the choice of exit strategy, fund size, amount of equity investment by the funds, and structure and status of exiting PE funds. We also find that exit duration of PE funds during COVID-19 is longer than exit duration during the recent FC. The results also confirm that the effects of COVID-19 or FC on PE exit strategies are different between emerging markets and developed markets. While the effects are more pronounced in developed markets, effects in emerging markets are relatively mild. This could be due to the fact that PE activities in emerging markets are substantially lower than in developed markets[5]. The time-varying impact of COVID-19 shows that PE funds' exit choice and exit duration were more affected during the initial phase of the COVID-19 pandemic when the IA was more pronounced due to the higher level of uncertainty represented by the higher degree of market volatility. Finally, during the COVID-19 episode, the exiting PE funds entity could moderate

[5] IFC (2021) reports that only about 23% of global PE investment goes to emerging markets such as China and India.

the fund managers' preferred exit mode. The results of this study will help academics and PE fund managers to understand the effect of external shocks such as COVID-19 or FC on PE exit strategies. Exit strategies are dynamic in nature and should be adjusted in response to external shocks so that fund managers can maintain the attractiveness of their investments.

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Table 1: Definitions of the variables

Variables	Definition of the variables
Panel A: Private Equity related variables	
EXT	The categorical variables for the type of exit strategies used by the sponsor of a private equity (PE) fund between 1 April 1999 and 1 July 2020. We use the following factor variables within the group: 1. Initial Public Offers 2. Merger and Acquisition or Trade Sales 3. Secondary Sales 4. Others (which includes Buybacks, Reverse Takeover and Write-Offs)
IPO	The choice of Initial Public Offers (*d=1*) as an exit choice versus other alternative strategies (*d=0*). The exit strategy involves selling shares to the public by the PE sponsors.
MER	The choice of Merger and Acquisitions or Trade Sale (*d=1*) as an exit choice versus other alternative strategies (*d=0*). Under this strategy, the PE sponsor sells all its shares held to a third-party purchaser.
SEC	The choice of Secondary Sales (*d=1*) as an exit choice versus other alternative strategies (*d=0*). In this strategy, the fund is sold by one PE sponsor to another PE sponsor.
BWR	The choice of Buyback, Write-Offs and Reverse Takeovers (*d=0*) as an exit choice versus other alternative strategies (*d=0*).
FIELD	Date when the private equity funds announced its exit.
PMOM	Total proceeds amount for the entire transaction plus overallotment amount (or greenshoe) sold. This figure represents all tranches of the transaction. A greenshoe clause in an underwriting agreement provides that, in the case of excess demand, the issuer will authorise additional shares or bonds to be sold through the existing syndicate. For bond issues, this figure is calculated by accumulating the principal amount plus overallotment sold multiplied by offer price for each tranche within the transaction. For common stock issues, this figure is calculated by accumulating shares plus overallotment shares sold multiplied by the offer price for each tranche within the transaction. We use the log of USD millions for analysis.
RVM	The rank value is calculated by subtracting the value of any liabilities assumed in a transaction from the transaction value and by adding the target's net debt. Net debt is

	Straight Debt plus Short-Term Debt plus Preferred Equity minus Cash and Marketable Securities as of the date of the most recent financial information before the announcement of the transaction. This value is stated in millions in the currency of the target company's nation. If the target's net debt results in a negative rank value, the rank value will be null. We use the log of USD millions.
MDVM	The total value of the consideration paid by the acquirer, excluding fees and expenses. The dollar value includes the amount paid for all common stock, common stock equivalents, preferred stock, debt, options, assets, warrants, and stake purchases made within six months of the announcement date of the transaction. Liabilities assumed are included in the value if they are publicly disclosed. Preferred stock is only included if it is being acquired as part of a 100% acquisition. If a portion of the consideration paid by the acquirer is common stock, the stock is valued using the closing price on the last full trading day before the announcement of the terms of the stock swap. If the exchange ratio of shares offered changes, the stock is valued based on its closing price on the last full trading date before the date of the exchange ratio change. For public target 100% acquisitions, the number of shares at the date of the announcement (CACT) is used. We consider the log of USD millions for analysis.
VEM	The amount of the earnout portion of the deal's value in millions in the currency of the target's nation. An earnout is an amount to be paid, over time, if the target company meets specific financial performance criteria. The log of USD millions is used for analysis.
PURM	The amount of the cash portion of the deal's value stated in millions in the currency of the target company's nation. We use the log of USD millions for analysis.
EXTD	Indicates time in years between the company's first investment received post previous versus the fund's exit date.
EFIS	It is a categorical variable for the type of current investment status of exiting PE funds. We use the following factor variables within the group: 1. Currently making investment (CMI) 2. Defunct (DEF) 3. Inactive for at least 3 years (INA) 4. Liquidated (LIQ) 5. Others, e.g., Forming/Seeking capital, Withdraw before formed and Unclassified (OTHS)

EXFT	The categorical variable for the structure of exiting PE funds entity. We consider the following factor variables within the group: 1. Buyout (BOU) 2. Fund of Funds (FOF) 3. Generalist Private Equity (GPE) 4. Mezzanine (MEZ) 5. Other Private Equity (OPE) 6. Real Estate (RES) 7. Venture Capital (VC)
NAT	The country where the exiting PE fund's headquarters is located.
EXFS	The total amount of capital committed to an exiting PE fund by its limited partners and general partners. The log of USD value is used as the fund size.
EXST	The total amount the exiting funds sought to raise when they began fundraising. We use the log of USD value of the total amount.
DEV	The difference between the amount of capital committed to an exiting PE fund and the total amount the exiting funds sought to raise.
EQITD	The exiting PE fund's total estimated equity investment amount to date. We use the log of USD value.
TEQ	The total known equity an exiting PE fund has invested. We use the log of USD value.
Panel B: Covid-19 and other variables	
CRI	The financial crisis 2008 dummy between 2 April 2007 – 9 April 2009.
COV	The Covid-19 crisis dummy between 31 December 2019 – 1 July 2020.
EMG	The emerging-market dummy. We have used *d=1* for emerging markets in our samples and *d=0* for developed markets. For country classification, we apply the definition of the International Monetary Fund's (IMF) Fiscal Monitor (F.M.) survey, which is available via www.imf.org and updated on 14 October 2020.
CCH	The growth in global Covid-19 cases, starting from the first case on 31 December 2019 in China until the Europe has reached to one hundred cases, i.e. 22 February 2020. Source: www.ourworldindata.org
CEU	The growth in global Covid-19 cases from the date when the Europe has reached to one hundred coronavirus cases until the US has reached to one hundred cases, i.e. from 23 February 2020 – 2 March 2020. Source: www.ourworldindata.org
CUS	The growth in global Covid-19 cases from the date when the US has reached to one hundred coronavirus cases until the end of our sample date, i.e. from 3 March 2020 – 1 July 2020. Source: www.ourworldindata.org

CPRP	The pre-Covid-19 pandemic dummy, *d=1* between 31 December 2019 – 10 March 2020. Source: www.who.int
CPOP	The post-Covid-19 pandemic dummy, *d=1* from 11 March 2020 until the end date of our sample period. Source: www.who.int

Source: The *Refinitiv Database* for all data reported in Panel A of this table.

Note: *d* stands for the dummy variable.

Table 2: Description of the Data

Panel A: Exiting P.E. Fund's Country of Headquarters

S.L.	Country (NAT)	Frequency	Per cent	Cumulative	
				Frequency	Per cent
1	Argentina	29	0.04	29	0.04
2	Australia	747	1.07	776	1.11
3	Austria	177	0.25	953	1.36
4	Bahamas	3	0.00	956	1.36
5	Bahrain	25	0.04	981	1.40
6	Belgium	366	0.52	1347	1.92
7	Bermuda	18	0.03	1365	1.95
8	Brazil	128	0.18	1493	2.13
9	Bulgaria	8	0.01	1501	2.14
10	Canada	2,518	3.59	4019	5.74
11	Cayman Islands	40	0.06	4059	5.79
12	Chile	11	0.02	4070	5.81
13	China (Mainland)	1,851	2.64	5921	8.45
14	Colombia	13	0.02	5934	8.47
15	Cyprus	2	0.00	5936	8.47
16	Czech Republic	48	0.07	5984	8.54
17	Denmark	291	0.42	6275	8.96
18	Egypt	11	0.02	6286	8.97
19	Estonia	18	0.03	6304	9.00
20	Finland	408	0.58	6712	9.58
21	France	3,285	4.69	9997	14.27
22	Germany	1,490	2.13	11487	16.40
23	Ghana	3	0.00	11490	16.40
24	Greece	8	0.01	11498	16.41
25	Hong Kong	506	0.72	12004	17.13
26	Hungary	9	0.01	12013	17.15
27	Iceland	11	0.02	12024	17.16
28	India	616	0.88	12640	18.04
29	Indonesia	5	0.01	12645	18.05
30	Ireland	180	0.26	12825	18.31
31	Israel	698	1.00	13523	19.30
32	Italy	400	0.57	13923	19.87

33	Japan	965	1.38	14888	21.25
34	Jordan	7	0.01	14895	21.26
35	Kenya	2	0.00	14897	21.26
36	Kuwait	31	0.04	14928	21.31
37	Latvia	1	0.00	14929	21.31
38	Lithuania	9	0.01	14938	21.32
39	Luxembourg	134	0.19	15072	21.51
40	Malaysia	50	0.07	15122	21.58
41	Malta	2	0.00	15124	21.59
42	Mauritius	23	0.03	15147	21.62
43	Mexico	28	0.04	15175	21.66
44	Morocco	4	0.01	15179	21.67
45	Netherlands	637	0.91	15816	22.57
46	New Zealand	94	0.13	15910	22.71
47	Nigeria	1	0.00	15911	22.71
48	North Macedonia	1	0.00	15912	22.71
49	Norway	294	0.42	16206	23.13
50	Oman	3	0.00	16209	23.14
51	Pakistan	1	0.00	16210	23.14
52	Panama	3	0.00	16213	23.14
53	Philippines	26	0.04	16239	23.18
54	Poland	110	0.16	16349	23.34
55	Portugal	64	0.09	16413	23.43
56	Qatar	7	0.01	16420	23.44
57	Romania	4	0.01	16424	23.44
58	Russia	95	0.14	16519	23.58
59	Saudi Arabia	13	0.02	16532	23.60
60	Singapore	487	0.70	17019	24.29
61	Slovakia	1	0.00	17020	24.29
62	South Africa	96	0.14	17116	24.43
63	South Korea	775	1.11	17891	25.54
64	Spain	429	0.61	18320	26.15
65	Sri Lanka	2	0.00	18322	26.15
66	Sweden	617	0.88	18939	27.03
67	Switzerland	651	0.93	19590	27.96
68	Taiwan	281	0.40	19871	28.36

69	Thailand	2	0.00	19873	28.36
70	Tunisia	6	0.01	19879	28.37
71	Turkey	18	0.03	19897	28.40
72	Uganda	1	0.00	19898	28.40
73	Ukraine	10	0.01	19908	28.41
74	United Arab Emirates	43	0.06	19951	28.48
75	United Kingdom	4,778	6.82	24729	35.30
76	United States	41,985	59.93	66714	95.22
77	Uruguay	7	0.01	66721	95.23
78	Uzbekistan	2	0.00	66723	95.23
79	Vietnam	13	0.02	66736	95.25
80	Unspecified	3326	4.75	70062	100.00
	Total	**70,062**	**100**		

Panel B: Exits Field by Types

Exit Types			**Cumulative**	
	Count	**Per cent**	**Count**	**Per cent**
Buyback	383	0.55	383	0.55
IPO	12189	17.4	12572	17.94
Merger (Trade sales)	39160	55.89	51732	73.84
Reverse Takeover	455	0.65	52187	74.49
Secondary Sales	15397	21.98	67584	96.46
Write Off	2478	3.54	70062	100
Total	**70062**	**100**	**70062**	**100**

Table 3: Preliminary Statistics and Correlation

Panel A: Descriptive statistics

Var	Mean	S.D.	Percentile Mean			
			25%	*50*	*75*	*95%*
PMOM	7.9787	0.4991	7.7459	7.9657	8.2281	8.8165
RVM	7.9312	0.7926	7.4168	8.0000	8.4890	9.1303
MDVM	8.0316	0.7669	7.5454	8.0981	8.5649	9.1832
VEM	7.5041	0.7545	6.9450	7.4771	8.0937	8.7034
PURM	7.9758	0.8101	7.4751	8.0655	8.5493	9.1631
EXFS	7.9247	0.7888	7.4771	7.9916	8.4393	9.0969
EXST	8.2027	0.6209	7.8451	8.1761	8.6021	9.2900
EQITD	7.6401	0.7571	7.1855	7.6782	8.1394	8.8090
TEQ	8.3868	1.2234	7.4433	8.5674	9.6322	9.8569
EXTD	6.7562	4.0425	3.9000	6.0000	8.7000	14.2000

Panel B: Correlation matrix

Var.	CRI	COV	EXT	PMOM	RVM	MDVM	VEM	PURM	EXFS	TEQ
CRI	1.0000									
COV	-0.0369	1.0000								
EXT	0.0024	-0.0089	1.0000							
PMOM	-0.0819	-0.0344	-0.2169	1.0000						
RVM	0.0198	0.0065	-0.0652	-0.1665	1.0000					
MDVM	-0.0501	-0.0387	-0.0124	0.0640	0.2164	1.0000				
VEM	-0.0643	-0.0595	-0.0500	0.0496	0.2189	0.7786	1.0000			
PURM	-0.0258	-0.0198	0.0319	0.0575	0.1542	0.8423	0.5359	1.0000		
EXFS	-0.0399	0.0236	0.0168	-0.0171	0.0157	0.1846	0.1296	0.1960	1.0000	
TEQ	-0.0549	0.0232	0.0074	0.0833	0.0155	0.0809	0.1322	0.0411	0.0839	1.0000

Table 4: The impact of Covid-19 and Financial crisis 2008 on Exit choices

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	IPOs	SEC	BWR	IPOs	SEC	BWR	IPOs	SEC	BWR
CRI	-0.0544	-0.0064	-0.3875***	-0.5113***	0.0340	-0.3894***	-0.5124***	0.0307	-0.3907***
	(0.0733)	(0.0347)	(0.0738)	(0.0444)	(0.0351)	(0.0740)	(0.0445)	(0.0350)	(0.0740)
COV	-0.2465	-0.1938*	-2.6560***	-0.7226***	-0.3313***	-2.7836***	-0.7660***	-0.3489***	-2.8065***
	(0.2346)	(0.1140)	(0.7132)	(0.1397)	(0.1137)	(0.7123)	(0.1396)	(0.1136)	(0.7122)
EXFS	-0.0607**	0.6949***	-0.2689***	0.0427**	0.6942***	-0.2389***	0.0513***	0.6976***	-0.2351***
	(0.0269)	(0.0184)	(0.0278)	(0.0178)	(0.0177)	(0.0272)	(0.0180)	(0.0177)	(0.0273)
PMOM	0.8014***	-0.0549***	0.0737***						
	(0.0085)	(0.0065)	(0.0086)						
RVM				-0.2362***	-0.1044***	-0.1108***			
				(0.0046)	(0.0032)	(0.0062)			
MDVM							-0.2327***	-0.0982***	-0.1089***
							(0.0043)	(0.0031)	(0.0059)
Intercept	-4.5107***	-6.4596***	-0.3859*	-0.8859***	-6.1596***	-0.2209	-0.8938***	-6.1672***	-0.2184
	(0.2111)	(0.1505)	(0.2168)	(0.1407)	(0.1439)	(0.2119)	(0.1418)	(0.1439)	(0.2122)
Observations	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148
Pseudo R^2	0.3012	0.3012	0.3012	0.0636	0.0636	0.0636	0.0654	0.0654	0.0654

Note: This table shows the results of our multinomial logit regression. The dependent variables are choices of P.E. fund's exit strategies, such as IPOs, M&A or Trade Sales, Secondary Sales and Others over the sample period from 1999 to 2020. We have used merger and acquisition (MER) as our base outcome for reporting and discussing the results. The marginal effects of our variables in this table are exhibited in Appendix B. The robust standard errors are reported in parentheses.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table 5: The impact of Covid-19 and Financial Crisis on the Deal Value

	(1)	(2)	(3)
Variables	PMOM	RVM	MDVM
CRI	-0.2179***	0.1755***	0.1574***
	(0.0235)	(0.0526)	(0.0534)
COV	-0.1572**	-1.1026***	-1.3326***
	(0.0736)	(0.1574)	(0.1605)
IPO	7.7064***	-0.7765***	-0.9319***
	(0.0959)	(0.1802)	(0.1848)
MER	0.4776***	2.1078***	2.1481***
	(0.0974)	(0.1785)	(0.1832)
SEC	0.2636***	0.5358***	0.5932***
	(0.1015)	(0.1884)	(0.1933)
BWR	0.9206***	0.4723**	0.4536**
	(0.1105)	(0.1886)	(0.1942)
EXFS	0.0228*	0.2264***	0.2684***
	(0.0122)	(0.0226)	(0.0231)
Observations	46,148	46,148	46,148
R-squared	0.7463	0.4242	0.4613

Note: In this table, we present the results of the impact of Covid-19 and financial crisis 2008 on the value of exit deal using equation (vi). We have suppressed the constant (or intercept) terms across this table to report the associated coefficients of all our explanatory variables.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table 6: The impact of Covid-19 and Financial Crisis 2008 on Exit Duration

	(1)	(2)	(3)
Variables	**EXTD**	**EXTD**	**EXTD**
CRI	-0.5896***	-0.5697***	-0.5656***
	(0.0534)	(0.0531)	(0.0532)
COV	0.6618**	0.7130**	0.6906**
	(0.2883)	(0.2888)	(0.2890)
IPO	11.3048***	10.4483***	10.4322***
	(0.2231)	(0.2149)	(0.2149)
MER	11.2762***	11.1564***	11.2031***
	(0.2119)	(0.2125)	(0.2126)
SEC	10.8576***	10.8108***	10.8223***
	(0.2274)	(0.2279)	(0.2279)
BWR	10.4628***	10.3420***	10.3530***
	(0.2331)	(0.2333)	(0.2333)
EXFS	-0.4645***	-0.4743***	-0.4696***
	(0.0265)	(0.0266)	(0.0266)
PMOM	-0.1144***		
	(0.0069)		
RVM		0.0312***	
		(0.0053)	
MDVM			0.0087*
			(0.0051)
Observations	45,654	45,654	45,654
R-squared	0.7431	0.7426	0.7424

Note: This table exhibits the association of Covid-19 and financial crisis 2008 on the P.E. fund's exit duration using equation (vii). Like Table 6, we have suppressed the constant (or intercept) terms across this table to report the associated coefficients of all our explanatory variables.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table 7: Robustness Check of the impact on Exit Strategies

Variables	(1) IPO	(2) SEC	(3) BWR	(4) IPO	(5) SEC	(6) BWR	(7) IPO	(8) SEC	(9) BWR
CRI	-0.0211	0.0507	-0.4039***	-0.5227***	0.0808**	-0.4161***	-0.5270***	0.0775**	-0.4186***
	(0.0737)	(0.0372)	(0.0742)	(0.0447)	(0.0373)	(0.0745)	(0.0447)	(0.0372)	(0.0745)
COV	-0.3898*	-0.1836	-2.5913***	-0.7234***	-0.2705**	-2.7046***	-0.7670***	-0.2874**	-2.7279***
	(0.2351)	(0.1226)	(0.7118)	(0.1396)	(0.1210)	(0.7110)	(0.1394)	(0.1210)	(0.7110)
EXFS	-0.0993***	0.1881***	-0.2036***	0.0908***	0.1908***	-0.1579***	0.1027***	0.1943***	-0.1527***
	(0.0305)	(0.0197)	(0.0314)	(0.0198)	(0.0189)	(0.0306)	(0.0200)	(0.0190)	(0.0307)
PMOM	0.8099***	-0.0336***	0.0711***						
	(0.0087)	(0.0067)	(0.0086)						
RVM				-0.2380***	-0.1050***	-0.1139***			
				(0.0046)	(0.0034)	(0.0063)			
MDVM							-0.2347***	-0.0975***	-0.1121***
							(0.0043)	(0.0033)	(0.0060)
Factor variables within EXFT:									
FOF	-0.4046**	-1.1495***	0.2032	0.3882***	-1.1777***	0.2612	0.4220***	-1.1614***	0.2779
	(0.1636)	(0.1108)	(0.2180)	(0.1185)	(0.1156)	(0.2181)	(0.1197)	(0.1151)	(0.2178)
GPE	0.1656	-0.3725***	0.0412	0.0900	-0.4037***	0.0284	0.0869	-0.4053***	0.0252
	(0.1267)	(0.0542)	(0.1532)	(0.0777)	(0.0549)	(0.1536)	(0.0779)	(0.0548)	(0.1538)
MEZ	-0.1823	-0.0254	0.4228***	-0.5521***	-0.0652	0.3729**	-0.5435***	-0.0562	0.3786**
	(0.1767)	(0.0595)	(0.1586)	(0.1158)	(0.0603)	(0.1586)	(0.1162)	(0.0602)	(0.1585)
OPE	0.1789	-0.7703***	0.3171	0.5905***	-0.6879***	0.4076*	0.5682***	-0.7057***	0.3937
	(0.2037)	(0.1030)	(0.2389)	(0.1174)	(0.1034)	(0.2405)	(0.1185)	(0.1039)	(0.2411)
RES	0.0910	-0.2251	-0.4382	0.7587***	-0.1312	-0.3568	0.7575***	-0.1402	-0.3621
	(0.3457)	(0.1809)	(0.7228)	(0.2319)	(0.1905)	(0.7219)	(0.2279)	(0.1877)	(0.7210)
VC	0.0206	-1.7720***	0.3658***	0.2487***	-1.8062***	0.3790***	0.2604***	-1.8001***	0.3852***
	(0.0651)	(0.0305)	(0.0713)	(0.0381)	(0.0310)	(0.0715)	(0.0382)	(0.0310)	(0.0715)
Factor variables within EXIS:									

CMI	0.8271*	-0.9267***	0.3196	-0.7550**	-1.0810***	-0.0075	-0.8979***	-1.1267***	-0.0726
	(0.4477)	(0.3339)	(0.7354)	(0.3639)	(0.3561)	(0.7507)	(0.3412)	(0.3445)	(0.7439)
DEF	3.2645***	-1.1642**	-14.5704***	-1.2085**	-1.4043***	-14.0339***	-1.3794***	-1.4475***	-14.1124***
	(0.8027)	(0.4719)	(0.7499)	(0.4785)	(0.4871)	(0.7656)	(0.4615)	(0.4796)	(0.7592)
INA	-1.4430	-1.5858***	-0.1447	-1.8524*	-1.3601**	-0.1024	-1.9227*	-1.4410**	-0.1466
	(1.3259)	(0.5906)	(1.2500)	(1.1115)	(0.6334)	(1.3033)	(1.0907)	(0.6245)	(1.2947)
LIQ	0.5166	-1.0587***	0.4610	-0.7035*	-1.1530***	0.2313	-0.8406**	-1.2034***	0.1672
	(0.4483)	(0.3343)	(0.7355)	(0.3644)	(0.3566)	(0.7508)	(0.3416)	(0.3451)	(0.7440)
Intercept	-5.0016***	-0.4560	-1.5580**	-0.7157*	-0.0127	-1.2269	-0.6162	0.0177	-1.1747
	(0.5184)	(0.3720)	(0.7777)	(0.4029)	(0.3904)	(0.7898)	(0.3829)	(0.3797)	(0.7834)
Observations	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148
Pseudo R^2	0.3437	0.3437	0.3437	0.1130	0.1130	0.1130	0.1148	0.1148	0.1148

Note: In this table, we present the robustness test of the impact of Covid-19 and financial crisis 2008 using multinomial logistic regression. The dependent variables are choices of P.E. fund's exit strategies as in Table 4, such as IPOs, M&A or Trade Sales (MER), Secondary Sales (SEC) and Others (BWR) over the sample period from 1999 to 2020. As in the earlier section, we have used merger and acquisition (MER) as our base outcome for reporting and discussing the results. For the structure of an exiting P.E. funds entity (EXFT), we use buyouts (BOU) as a reference variable, and for the current investment status (EFIS), we use others (OTHS) as a reference variable. The robust standard errors are reported in parentheses.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table 8: Robustness Check of the impact on Deal Values

Variables	(1) PMOM	(2) RVM	(3) MDVM
CRI	-0.2847***	0.1961***	0.1769***
	(0.0310)	(0.0643)	(0.0653)
COV	-0.2109**	-0.9280***	-1.1948***
	(0.0974)	(0.1939)	(0.1990)
IPO	6.6079***	-1.2290***	-1.3940***
	(0.0757)	(0.1001)	(0.1055)
MER	-0.4747***	1.6340***	1.7217***
	(0.0764)	(0.0971)	(0.1015)
SEC	-0.6733***	-0.1200	0.0058
	(0.0796)	(0.1067)	(0.1120)
EXFS	0.1082***	0.5931***	0.6518***
	(0.0232)	(0.0391)	(0.0402)
DEV	-0.1568***	-0.4506***	-0.5151***
	(0.0286)	(0.0452)	(0.0464)
TEQ	0.0918***	0.0343*	0.0729***
	(0.0101)	(0.0178)	(0.0182)
Factor variables within EXFT:			
FOF	0.5620***	-0.2649	-0.0772
	(0.1299)	(0.2008)	(0.2076)
GPE	0.0718	-0.0674	-0.0889
	(0.0638)	(0.1190)	(0.1228)
MEZ	-0.1616***	-0.3071**	-0.2447*
	(0.0601)	(0.1293)	(0.1352)
OPE	0.3201**	0.5701***	0.4387**
	(0.1304)	(0.2149)	(0.2204)
RES	0.4165	0.2296	0.2340
	(0.2706)	(0.4457)	(0.4425)
VC	0.1514***	-0.0861	-0.0707
	(0.0324)	(0.0603)	(0.0622)
Factor variables within EXIS:			
CMI	-1.3735**	-0.9851*	-1.5124***
	(0.5392)	(0.5878)	(0.5730)
DEF	-2.4655***	-2.2075***	-2.9199***
	(0.6245)	(0.7186)	(0.7194)
INA	-1.1456	2.3901**	1.9849**
	(0.7577)	(0.9626)	(0.9047)
LIQ	-1.2829**	-0.3688	-0.9291
	(0.5395)	(0.5886)	(0.5738)
Intercept	0.8422	-1.8815***	-1.7856***
	(0.5879)	(0.6977)	(0.6900)
Observations	31,479	31,479	31,479

Note: This table reports the robustness test about the impact of Covid-19 and financial crisis 2008 on the exit deal values. We use BWR as a reference for exit type to present the results. For the structure of an exiting P.E. fund entity (EXFT), we use buyouts (BOU) as a reference variable and for the current investment status (EFIS), we use others (OTHS) as a reference variable. To avoid the dummy variable traps, we apply this reference approach rather suppressing the constant (or Intercept). The current R-squared are 0.63, 0.10 and 0.10, respectively, from column (1) to (3). However, we could achieve 0.78 as the R-squared by suppressing the constant. The robust standard errors are reported in parenthesis.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table 9: Robustness Check of the impact on Exit Duration

Variables	(1) EXTD	(2) EXTD	(3) EXTD
CRI	-0.7751***	-0.7456***	-0.7428***
	(0.0509)	(0.0507)	(0.0508)
COV	1.0761***	1.1069***	1.0830***
	(0.2695)	(0.2704)	(0.2706)
IPO	1.1026***	0.2094*	0.1798*
	(0.1155)	(0.1092)	(0.1093)
MER	0.9351***	0.9713***	1.0095***
	(0.1030)	(0.1033)	(0.1033)
SEC	1.0760***	1.1536***	1.1560***
	(0.1103)	(0.1104)	(0.1104)
EXFS	0.1436***	0.1302***	0.1374***
	(0.0279)	(0.0281)	(0.0281)
PMOM	-0.1342***		
	(0.0073)		
RVM		0.0136***	
		(0.0051)	
MDVM			-0.0095*
			(0.0050)
Factor variables within EXFT:			
FOF	-0.2753**	-0.3510***	-0.3506***
	(0.1275)	(0.1268)	(0.1271)
GPE	0.6069***	0.6065***	0.6026***
	(0.1038)	(0.1038)	(0.1038)
MEZ	0.3486***	0.3702***	0.3620***
	(0.1029)	(0.1033)	(0.1032)
OPE	-1.2736***	-1.3037***	-1.2880***
	(0.1203)	(0.1200)	(0.1196)
RES	-0.7087***	-0.7543***	-0.7410***
	(0.2480)	(0.2447)	(0.2440)
VC	1.6094***	1.5885***	1.5867***
	(0.0504)	(0.0504)	(0.0504)
Factor variables within EXIS:			
CMI	1.7420***	1.8993***	1.8585***
	(0.2237)	(0.2085)	(0.2067)
DEF	4.5976***	4.8874***	4.8180***
	(0.7145)	(0.7072)	(0.7022)
INA	2.7769***	2.8728***	2.9100***
	(0.6550)	(0.6446)	(0.6491)
LIQ	3.8407***	3.9719***	3.9472***
	(0.2262)	(0.2113)	(0.2094)
Intercept	1.9340***	1.7296***	1.7646***
	(0.3397)	(0.3306)	(0.3293)

Observations	45,654	45,654	45,654

Note: In this table, we exhibit the robustness test on the impact of Covid-19 and financial crisis 2008 on the exit duration. Like empirical models reported in Table 8, we use buyback, write-off and reverse takeover (BWR), buyouts (BOU) and others (OTHS) as reference variables to present the results. To avoid the dummy variable trap, we use the reference approach rather suppressing the constant (or Intercept). The current R-squared are 0.09, 0.09 and 0.09, respectively, from column (1) to (3). However, we could achieve up to R-squared 0.76 by suppressing the constant. The robust standard errors are reported in parenthesis.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table10: Emerging versus Developed Markets

Panel A: Choice of P.E. Exit

Variables	(1) IPO	(2) SEC	(3) BWR	(4) IPO	(5) SEC	(6) BWR	(7) IPO	(8) SEC	(9) BWR
CRI*EMG	-0.3712	0.5158*	-13.0773***	0.2567	0.5299*	-14.5187***	0.2728	0.5376*	-14.5117***
	(0.4710)	(0.2732)	(0.2178)	(0.2107)	(0.2746)	(0.2182)	(0.2152)	(0.2758)	(0.2193)
COV*EMG	0.4072	-0.2512	-10.8232***	0.1856	-0.2377	-12.2928***	0.1903	-0.2323	-12.2887***
	(0.3886)	(0.9121)	(0.7938)	(0.5337)	(0.9292)	(0.8057)	(0.5320)	(0.9258)	(0.8053)
CRI	-0.0041	-0.0157	-0.3557***	-0.4648***	0.0258	-0.3568***	-0.4675***	0.0217	-0.3590***
	(0.0753)	(0.0351)	(0.0741)	(0.0462)	(0.0355)	(0.0743)	(0.0462)	(0.0355)	(0.0742)
COV	-0.2756	-0.1819	-2.6155***	-0.7243***	-0.3147***	-2.7442***	-0.7677***	-0.3326***	-2.7671***
	(0.2432)	(0.1147)	(0.7134)	(0.1481)	(0.1142)	(0.7127)	(0.1480)	(0.1141)	(0.7126)
EXFS	-0.0664**	0.6864***	-0.2667***	0.0408**	0.6844***	-0.2366***	0.0499***	0.6880***	-0.2327***
	(0.0268)	(0.0184)	(0.0279)	(0.0185)	(0.0176)	(0.0272)	(0.0186)	(0.0176)	(0.0273)
PMOM	0.8032***	-0.0564***	0.0741***						
	(0.0085)	(0.0066)	(0.0086)						
RVM				-0.2402***	-0.1040***	-0.1093***			
				(0.0047)	(0.0032)	(0.0062)			
MDVM							-0.2355***	-0.0979***	-0.1075***
							(0.0044)	(0.0031)	(0.0060)
EMG	1.7672***	-0.3814***	-0.0868	1.5743***	-0.3234***	-0.0183	1.5393***	-0.3451***	-0.0394
	(0.1305)	(0.0877)s	(0.1465)	(0.0548)	(0.0883)	(0.1472)	(0.0546)	(0.0881)	(0.1473)
Intercept	-4.5864***	-6.3804***	-0.4112*	-0.9691***	-6.0721***	-0.2516	-0.9803***	-6.0804***	-0.2498
	(0.2090)	(0.1501)	(0.2177)	(0.1458)	(0.1435)	(0.2122)	(0.1469)	(0.1435)	(0.2125)
Observations	45,735	45,735	45,735	45,735	45,735	45,735	45,735	45,735	45,735
Pseudo R^2	0.3036	0.3036	0.3036	0.0731	0.0731	0.0731	0.0745	0.0745	0.0745

Note: This table shows the differential impact of Covid-19 on the P.E. fund's exit choice in emerging versus developed markets, in contrast to the financial crisis. Colum (1) to (9) report the results of multinomial logit regression, where the dependent variables are the choices of P.E. fund's exit strategies. Like our earlier models, we have used merger and acquisition (MER) as our base outcome for reporting and discussing the outcomes. For country-level classifications, we use the definitions of the International Monetary Fund (IMF). However, due to unspecified countries and LDCs in our sample, we have lost 413 observations relative to Table 1. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel B: Deal Value and Exit Duration

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	PMOM	RVM	MDVM	EXTD	EXTD	EXTD
CRI*EMG	0.2328	0.0918	0.1587	0.3508	0.3196	0.3221
	(0.1607)	(0.3193)	(0.3279)	(0.3072)	(0.3057)	(0.3071)
COV*EMG	-0.0162	0.3346	0.3825	0.1655	0.1606	0.1645
	(0.1299)	(0.7637)	(0.7637)	(0.8310)	(0.8467)	(0.8381)
CRI	-0.2213***	0.1855***	0.1609***	-0.6421***	-0.6217***	-0.6172***
	(0.0240)	(0.0535)	(0.0544)	(0.0543)	(0.0540)	(0.0541)
COV	-0.1544**	-1.1087***	-1.3410***	0.6602**	0.7145**	0.6913**
	(0.0767)	(0.1612)	(0.1645)	(0.2986)	(0.2990)	(0.2993)
IPO	7.7069***	-0.8032***	-0.9540***	11.6274***	10.7464***	10.7292***
	(0.0960)	(0.1813)	(0.1858)	(0.2233)	(0.2152)	(0.2152)
MER	0.4707***	2.1269***	2.1605***	11.3732***	11.2465***	11.2960***
	(0.0976)	(0.1791)	(0.1837)	(0.2118)	(0.2125)	(0.2126)
SEC	0.2531**	0.5605***	0.6101***	10.9313***	10.8825***	10.8952***
	(0.1017)	(0.1890)	(0.1939)	(0.2274)	(0.2280)	(0.2280)
BWR	0.9172***	0.5094***	0.4844**	10.5905***	10.4643***	10.4770***
	(0.1109)	(0.1894)	(0.1951)	(0.2334)	(0.2337)	(0.2337)

EXFS	0.0241**	0.2226***	0.2661***	-0.4662***	-0.4767***	-0.4719***
	(0.0123)	(0.0226)	(0.0232)	(0.0265)	(0.0266)	(0.0266)
PMOM				-0.1179***		
				(0.0069)		
RVM					0.0338***	
					(0.0053)	
MDVM						0.0102**
						(0.0051)
EMG	-0.1133***	0.5282***	0.3944***	-2.3943***	-2.3982***	-2.3854***
	(0.0427)	(0.0830)	(0.0838)	(0.0833)	(0.0830)	(0.0829)
Observations	45,735	45,735	45,735	45,248	45,248	45,248
R-squared	0.7453	0.4253	0.4622	0.7460	0.7455	0.7453

Note: This table shows the differential impact of Covid-19 on the value of exit deal in emerging versus developed markets, in contrast to the financial crisis in column (1) to (3). On the other hand, column (3) to (6) report the differential impact on exit duration in emerging versus developed markets. Like Panel A, we use the International Monetary Fund's (IMF) definitions for country classifications. However, due to unspecified countries and LDCs in our sample, we have lost some observations relative to Table 2 and 3. We have suppressed the constant (or intercept) terms across this table to report all our explanatory variables' associated coefficients. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table: 11 The impact of Covid-19 over time

Panel A: The impact on Exit Choices

Variables	(1) IPO	(2) SEC	(3) BWR	(4) IPO	(5) SEC	(6) BWR	(7) IPO	(8) SEC	(9) BWR
CRI	-0.0548	-0.0058	-0.3874***	-0.5110***	0.0345	-0.3891***	-0.5120***	0.0313	-0.3905***
	(0.0733)	(0.0347)	(0.0738)	(0.0444)	(0.0351)	(0.0740)	(0.0445)	(0.0350)	(0.0740)
CCH	-0.6741***	0.0919	-9.1865***	-0.8071***	0.0591	-9.3034***	-0.8318***	0.0524	-9.3206***
	(0.1643)	(0.0479)	(0.1373)	(0.1520)	(0.0466)	(0.1464)	(0.1539)	(0.0466)	(0.1466)
CEU	-0.2950	-0.1289	-3.4289***	-0.3421**	-0.1659*	-3.4809***	-0.3548**	-0.1715*	-3.4882***
	(0.1921)	(0.0932)	(0.0452)	(0.1497)	(0.0927)	(0.0447)	(0.1497)	(0.0927)	(0.0446)
CUS	-0.0190	-0.0916***	-0.3230***	-0.0356	-0.1197***	-0.3387***	-0.0399	-0.1208***	-0.3409***
	(0.0449)	(0.0292)	(0.1148)	(0.0256)	(0.0288)	(0.1146)	(0.0256)	(0.0288)	(0.1146)
EXFS	-0.0597**	0.6947***	-0.2685***	0.0430**	0.6948***	-0.2386***	0.0516***	0.6982***	-0.2348***
	(0.0269)	(0.0184)	(0.0278)	(0.0178)	(0.0177)	(0.0272)	(0.0180)	(0.0177)	(0.0273)
PMOM	0.8015***	-0.0548***	0.0738***						
	(0.0086)	(0.0065)	(0.0086)						
RVM				-0.2362***	-0.1044***	-0.1108***			
				(0.0046)	(0.0032)	(0.0062)			
MDVM							-0.2327***	-0.0982***	-0.1089***
							(0.0043)	(0.0031)	(0.0059)
Intercept	-4.5182***	-6.4590***	-0.3886*	-0.8887***	-6.1648***	-0.2236	-0.8967***	-6.1724***	-0.2211
	(0.2111)	(0.1504)	(0.2168)	(0.1406)	(0.1439)	(0.2119)	(0.1417)	(0.1439)	(0.2122)
Observations	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148
Pseudo R^2	0.3015	0.3015	0.3015	0.0642	0.0642	0.0642	0.0659	0.0659	0.0659

Note: This table reports the impact of Covid-19 advancement overtime on P.E. fund's exit strategies. We have applied three different periods, i.e. CCH, CEU and CUS, to represent the advancement of Covid-19 crisis as defined in Panel B of Table 2. Colum (1) to (9) report the results of multinomial logit regression,

where the dependent variables are the choices of P.E. fund's exit strategies. Like our earlier models, we have used merger and acquisition (MER) as our base outcome for reporting and discussing our findings. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel B: Impact on Deal value and Exit duration

Variables	(1) PMOM	(2) RVM	(3) MDVM	(4) EXTD	(5) EXTD	(6) EXTD
CRI	-0.2173***	0.1753***	0.1576***	-0.5884***	-0.5686***	-0.5645***
	(0.0235)	(0.0525)	(0.0534)	(0.0534)	(0.0531)	(0.0532)
CCH	-0.0572***	-0.3459***	-0.4364***	0.6212***	0.6392***	0.6319***
	(0.0388)	(0.0711)	(0.0719)	(0.2198)	(0.2202)	(0.2202)
CEU	-0.0038***	-0.3632***	-0.4353***	0.0993	0.1093	0.1025
	(0.0724)	(0.1202)	(0.1215)	(0.2144)	(0.2153)	(0.2148)
CUS	-0.0117***	-0.1782***	-0.1988***	-0.0165	-0.0100	-0.0137
	(0.0167)	(0.0338)	(0.0349)	(0.0400)	(0.0401)	(0.0402)
IPO	7.7060***	-0.7781***	-0.9347***	11.3159***	10.4607***	10.4446***
	(0.0959)	(0.1802)	(0.1848)	(0.2234)	(0.2153)	(0.2153)
MER	0.4771***	2.1062***	2.1455***	11.2831***	11.1632***	11.2097***
	(0.0974)	(0.1785)	(0.1832)	(0.2121)	(0.2126)	(0.2128)
SEC	0.2636***	0.5347***	0.5916***	10.8591***	10.8123***	10.8237***
	(0.1015)	(0.1884)	(0.1933)	(0.2272)	(0.2277)	(0.2278)
BWR	0.9208***	0.4707**	0.4514**	10.4705***	10.3498***	10.3609***
	(0.1105)	(0.1886)	(0.1942)	(0.2333)	(0.2335)	(0.2335)
EXFS	0.0227*	0.2267***	0.2687***	-0.4655***	-0.4753***	-0.4706***
	(0.0122)	(0.0226)	(0.0231)	(0.0265)	(0.0266)	(0.0266)
PMOM				-0.1142***		

				(0.0069)		
RVM					0.0314***	
					(0.0053)	
MDVM						0.0090*
						(0.0051)
Observations	46,148	46,148	46,148	45,654	45,654	45,654
R-squared	0.7463	0.4243	0.4614	0.7433	0.7428	0.7426

Note: This table reports the impact of Covid-19 advancement overtime on deal value and exit duration. We have applied three different periods, i.e. CCH, CEU and CUS, to represent the advancement of Covid-19 crisis as defined in Panel B of Table 2. Colum (1) to (3) report the results of time-varying association of coronavirus crisis with P.E. fund's deal value. On the other hand, column (4) to (6) show the associations with exit duration. We have suppressed the constant (or intercept) terms across this table to report all our explanatory variables' associated coefficients. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Table: 12 Moderating effects of P.E fund's entity

Panel A: The effect on Exit choice

Variables	(1) IPO	(2) SEC	(3) BWR	(4) IPO	(5) SEC	(6) BWR	(7) IPO	(8) SEC	(9) BWR
CRI	-0.0207	0.0509	-0.4042***	-0.5223***	0.0809**	-0.4164***	-0.5267***	0.0776**	-0.4189***
	(0.0737)	(0.0372)	(0.0742)	(0.0447)	(0.0374)	(0.0745)	(0.0447)	(0.0373)	(0.0745)
COV	-1.7725**	-0.2718	-15.4391***	-2.3821***	-0.3827**	-15.4881***	-2.4482***	-0.4120**	-15.5252***
	(0.8703)	(0.1883)	(0.1029)	(0.7188)	(0.1854)	(0.1057)	(0.7186)	(0.1851)	(0.1058)
EXFS	-0.0995***	0.1864***	-0.2053***	0.0905***	0.1889***	-0.1595***	0.1024***	0.1926***	-0.1542***
	(0.0305)	(0.0198)	(0.0314)	(0.0198)	(0.0190)	(0.0307)	(0.0200)	(0.0190)	(0.0308)
PMOM	0.8099***	-0.0335***	0.0711***						
	(0.0087)	(0.0068)	(0.0086)						
RVM				-0.2380***	-0.1050***	-0.1137***			
				(0.0046)	(0.0034)	(0.0063)			
MDVM							-0.2347***	-0.0975***	-0.1120***
							(0.0043)	(0.0033)	(0.0060)
Moderating effect of EXFT:									
FOF*COV	-15.9159***	-16.5092***	-1.2579***	-14.4722***	-16.1384***	-1.1433***	-14.4846***	-16.1565***	-1.1544***
	(1.1301)	(0.3633)	(0.3751)	(0.8053)	(0.3818)	(0.3850)	(0.8053)	(0.3800)	(0.3855)
GPE*COV	1.7519	-0.2537	-0.3262	1.7177**	-0.3177	-0.3025	1.7763**	-0.2851	-0.2697
	(1.2396)	(0.4157)	(0.3032)	(0.8698)	(0.4193)	(0.3053)	(0.8683)	(0.4167)	(0.3056)
MEZ*COV	1.2384	-0.3902	-0.2511	2.6548**	-0.4094	-0.3528	2.7756**	-0.3390	-0.2791
	(1.6921)	(0.6814)	(0.4202)	(1.0913)	(0.6719)	(0.3991)	(1.1083)	(0.7067)	(0.4234)
OPE*COV	-12.1387***	1.4456	18.2980***	-15.9513***	1.2752	17.9683***	-15.9325***	1.2978	17.9809***
	(1.1433)	(0.8902)	(1.0585)	(0.9699)	(0.8460)	(1.0096)	(0.9698)	(0.8480)	(1.0100)
RES*COV	5.6550***	18.4880***	16.5826***	2.9759***	18.9016***	17.0158***	2.9482***	18.8617***	17.0067***
	(0.9374)	(1.0334)	(0.7263)	(0.7549)	(1.0347)	(0.7278)	(0.7534)	(1.0341)	(0.7267)
VC*COV	1.6083*	0.2921	-0.5706***	1.8837**	0.2977	-0.6170***	1.9083***	0.3118	-0.6047***

	(0.9121)	(0.2594)	(0.1226)	(0.7355)	(0.2576)	(0.1295)	(0.7352)	(0.2570)	(0.1294)
Factor variables within EXFT:									
FOF	-0.3706**	-1.1192***	0.2162	0.4083***	-1.1473***	0.2735	0.4429***	-1.1307***	0.2905
	(0.1649)	(0.1114)	(0.2182)	(0.1194)	(0.1163)	(0.2184)	(0.1206)	(0.1158)	(0.2181)
GPE	0.1544	-0.3680***	0.0438	0.0824	-0.3978***	0.0312	0.0784	-0.4000***	0.0276
	(0.1274)	(0.0547)	(0.1532)	(0.0783)	(0.0553)	(0.1537)	(0.0785)	(0.0553)	(0.1539)
MEZ	-0.1859	-0.0225	0.4238***	-0.5723***	-0.0626	0.3723**	-0.5648***	-0.0543	0.3775**
	(0.1777)	(0.0598)	(0.1587)	(0.1168)	(0.0605)	(0.1586)	(0.1172)	(0.0605)	(0.1585)
OPE	0.1596	-0.7920***	0.1987	0.5886***	-0.7067***	0.2931	0.5662***	-0.7248***	0.2791
	(0.2037)	(0.1040)	(0.2488)	(0.1177)	(0.1046)	(0.2509)	(0.1189)	(0.1050)	(0.2515)
RES	0.0793	-0.2423	-0.4469	0.7414***	-0.1534	-0.3691	0.7404***	-0.1620	-0.3742
	(0.3456)	(0.1817)	(0.7227)	(0.2316)	(0.1909)	(0.7217)	(0.2276)	(0.1881)	(0.7209)
VC	0.0134	-1.7764***	0.3634***	0.2388***	-1.8110***	0.3756***	0.2502***	-1.8050***	0.3817***
	(0.0653)	(0.0306)	(0.0713)	(0.0382)	(0.0312)	(0.0715)	(0.0383)	(0.0311)	(0.0715)
Factor variables within EXIS									
CMI	0.8256*	-0.9281***	0.3204	-0.7565**	-1.0827***	-0.0068	-0.8994***	-1.1285***	-0.0718
	(0.4477)	(0.3339)	(0.7354)	(0.3639)	(0.3561)	(0.7507)	(0.3411)	(0.3445)	(0.7439)
DEF	3.2656***	-1.1666**	-15.4471***	-1.2085**	-1.4075***	-15.9094***	-1.3792***	-1.4505***	-15.9877***
	(0.8028)	(0.4723)	(0.7499)	(0.4786)	(0.4875)	(0.7656)	(0.4615)	(0.4800)	(0.7592)
INA	-1.4452	-1.5869***	-0.1446	-1.8536*	-1.3615**	-0.1029	-1.9240*	-1.4425**	-0.1470
	(1.3243)	(0.5906)	(1.2501)	(1.1109)	(0.6334)	(1.3034)	(1.0900)	(0.6246)	(1.2948)
LIQ	0.5144	-1.0615***	0.4613	-0.7061*	-1.1560***	0.2314	-0.8432**	-1.2063***	0.1673
	(0.4483)	(0.3344)	(0.7356)	(0.3643)	(0.3566)	(0.7508)	(0.3416)	(0.3450)	(0.7440)
Intercept	-4.9931***	-0.4382	-1.5433**	-0.7032*	0.0065	-1.2121	-0.6040	0.0365	-1.1601
	(0.5184)	(0.3723)	(0.7778)	(0.4029)	(0.3906)	(0.7899)	(0.3830)	(0.3799)	(0.7835)
Observations	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148
Pseudo R^2	0.3441	0.3441	0.3441	0.1135	0.1135	0.1135	0.1153	0.1153	0.1153

Note: This table shows the moderating effect of an exit fund entity (EXFT) during the Covid-19 crisis on the P.E. funds' exit choices. Column (1) to (9) report the results of multinomial logit regression, where dependent variables are the P.E. funds' exit strategies over the sample period from 1999 to 2020. Similar to earlier robustness tests, we have used merger and acquisition (MER) as our base outcome to report and discuss the results. For the structure of an exiting P.E. funds entity (EXFT), we use the buyouts (BOU) as a reference variable, and for the current investment status (EFIS), we use others (OTHS) as a reference variable. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel B: The effect on Deal Value and Exit Duration

VARIABLES	(1) PMOM	(2) RVM	(3) MDVM	(4) EXTD	(5) EXTD	(6) EXTD
CRI	-0.2846***	0.1962***	0.1770***	-0.7747***	-0.7452***	-0.7424***
	(0.0310)	(0.0643)	(0.0653)	(0.0509)	(0.0507)	(0.0508)
COV	-0.2554**	-0.7771**	-1.3057**	0.3318***	0.3769***	0.3468***
	(0.0255)	(0.0544)	(0.0547)	(0.0331)	(0.0332)	(0.0332)
IPO	6.6077***	-1.2285***	-1.3942***	1.0989***	0.2059*	0.1762
	(0.0757)	(0.1001)	(0.1055)	(0.1155)	(0.1093)	(0.1093)
MER	-0.4747***	1.6339***	1.7214***	0.9327***	0.9692***	1.0073***
	(0.0764)	(0.0971)	(0.1015)	(0.1031)	(0.1034)	(0.1034)
SEC	-0.6734***	-0.1198	0.0059	1.0737***	1.1512***	1.1537***
	(0.0796)	(0.1067)	(0.1120)	(0.1103)	(0.1104)	(0.1104)
EXFS	0.1080***	0.5926***	0.6519***	0.1431***	0.1296***	0.1368***
	(0.0233)	(0.0391)	(0.0402)	(0.0280)	(0.0281)	(0.0281)
DEV	-0.1568***	-0.4503***	-0.5148***			
	(0.0287)	(0.0453)	(0.0465)			
TEQ	0.0919***	0.0345*	0.0730***			
	(0.0101)	(0.0178)	(0.0182)			
PMOM				-0.1342***		
				(0.0073)		
RVM					0.0136***	
					(0.0051)	
MDVM						-0.0095*
						(0.0050)
Moderating effect of EXFT:						
FOF*COV	-0.1366***	0.8041	0.6750	-0.6714***	-0.7710***	-0.7614***
	(0.0927)	(1.4749)	(1.4888)	(0.6569)	(0.6190)	(0.6330)

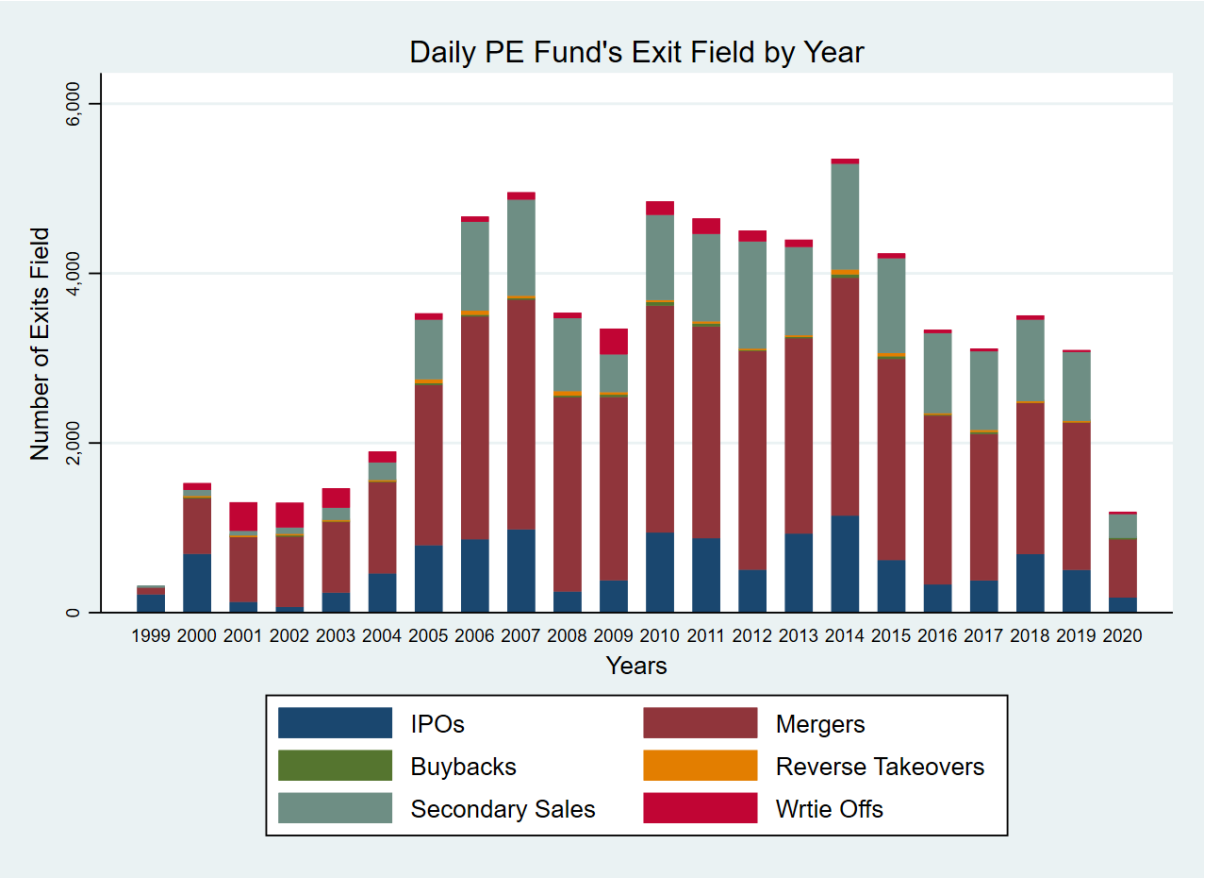
GPE*COV	0.0307	-0.2607	0.1788	0.6453	0.6317	0.6315
	(0.4476)	(0.8674)	(0.8869)	(0.6743)	(0.6751)	(0.6733)
MEZ*COV	-0.2189***	-1.9823***	-0.9219	0.3564	0.2474	0.2601
	(0.2643)	(0.6922)	(1.3615)	(1.0433)	(1.0391)	(1.0462)
OPE*COV	0.0402	0.0057	0.0003	0.0842	0.1752	0.1479
	(0.5567)	(0.6895)	(1.1833)	(0.9900)	(1.0075)	(0.9982)
RES*COV	-0.0021	-0.0302	-0.0064	-5.3777***	-5.3872***	-5.2518***
	(1.4565)	(1.5673)	(1.4715)	(0.4115)	(0.4112)	(0.4108)
VC*COV	0.0698***	-0.1435	0.1392	1.1403**	1.1246**	1.1339**
	(0.2794)	(0.5890)	(0.5936)	(0.5196)	(0.5215)	(0.5217)
Factor variables in EXFT:						
FOF	0.5656***	-0.2845	-0.0899	-0.2559**	-0.3299**	-0.3296**
	(0.1313)	(0.2027)	(0.2097)	(0.1290)	(0.1283)	(0.1286)
GPE	0.0717	-0.0640	-0.0910	0.6012***	0.6009***	0.5970***
	(0.0645)	(0.1202)	(0.1241)	(0.1050)	(0.1050)	(0.1050)
MEZ	-0.1597***	-0.2908**	-0.2367*	0.3443***	0.3667***	0.3584***
	(0.0605)	(0.1301)	(0.1358)	(0.1034)	(0.1038)	(0.1037)
OPE	0.3198**	0.5711***	0.4381**	-1.2721***	-1.3035***	-1.2874***
	(0.1304)	(0.2149)	(0.2205)	(0.1211)	(0.1209)	(0.1205)
RES	0.4163	0.2307	0.2332	-0.6747***	-0.7201***	-0.7078***
	(0.2706)	(0.4457)	(0.4425)	(0.2463)	(0.2429)	(0.2423)
VC	0.1506***	-0.0854	-0.0714	1.5978***	1.5770***	1.5751***
	(0.0326)	(0.0605)	(0.0624)	(0.0502)	(0.0502)	(0.0502)
Factor variables in EXIS:						
CMI	-1.3736**	-0.9851*	-1.5127***	1.7389***	1.8962***	1.8553***
	(0.5392)	(0.5878)	(0.5731)	(0.2236)	(0.2085)	(0.2067)
DEF	-2.4656***	-2.2080***	-2.9197***	4.5970***	4.8868***	4.8172***
	(0.6245)	(0.7187)	(0.7195)	(0.7143)	(0.7070)	(0.7020)
INA	-1.1457	2.3904**	1.9846**	2.7739***	2.8699***	2.9071***
	(0.7578)	(0.9627)	(0.9047)	(0.6554)	(0.6450)	(0.6494)

LIQ	-1.2833**	-0.3688	-0.9293	3.8359***	3.9670***	3.9422***
	(0.5395)	(0.5886)	(0.5738)	(0.2261)	(0.2112)	(0.2094)
Intercept	0.8438	-1.8795***	-1.7869***	1.9516***	1.7474***	1.7827***
	(0.5880)	(0.6979)	(0.6902)	(0.3397)	(0.3306)	(0.3292)
Observations	31,479	31,479	31,479	45,654	45,654	45,654
R-squared	0.6338	0.0951	0.1012	0.0911	0.0875	0.0875

Note: This table shows the moderating effect of an exit fund entity (EXFT) during the Covid-19 crisis on the deal value and exit duration. Column (1) to (3) report the results of the moderating effect on deal value, where the dependent variables are the P.E. funds' exit deal values (i.e. PMOM, RVM and MDVM) over the sample period from 1999 to 2020. From column (4) to (6), on the other hand, show the results of the moderating effect of EXFT on P.E. fund's exit duration (EXTD). Similar to earlier robustness tests in Table 8 and 9, we have used BWR as a reference for exit type to present and discuss the results. For the structure of an exiting P.E. funds entity (EXFT), we use the buyouts (BOU) as a reference variable, and for the current investment status (EFIS), we use others (OTHS) as a reference variable. We apply this reference approach to avoid the dummy variable traps rather suppressing the constant (or intercept). However, we could achieve higher R-square up to 0.79 per cent by suppressing the constant. The robust standard errors are reported in parentheses.

***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Figure 1: The sum of daily Exit Types Field by Year



Appendix A:

Figure 2A: Sample Description of the Structure of Exiting P.E. Funds Entity

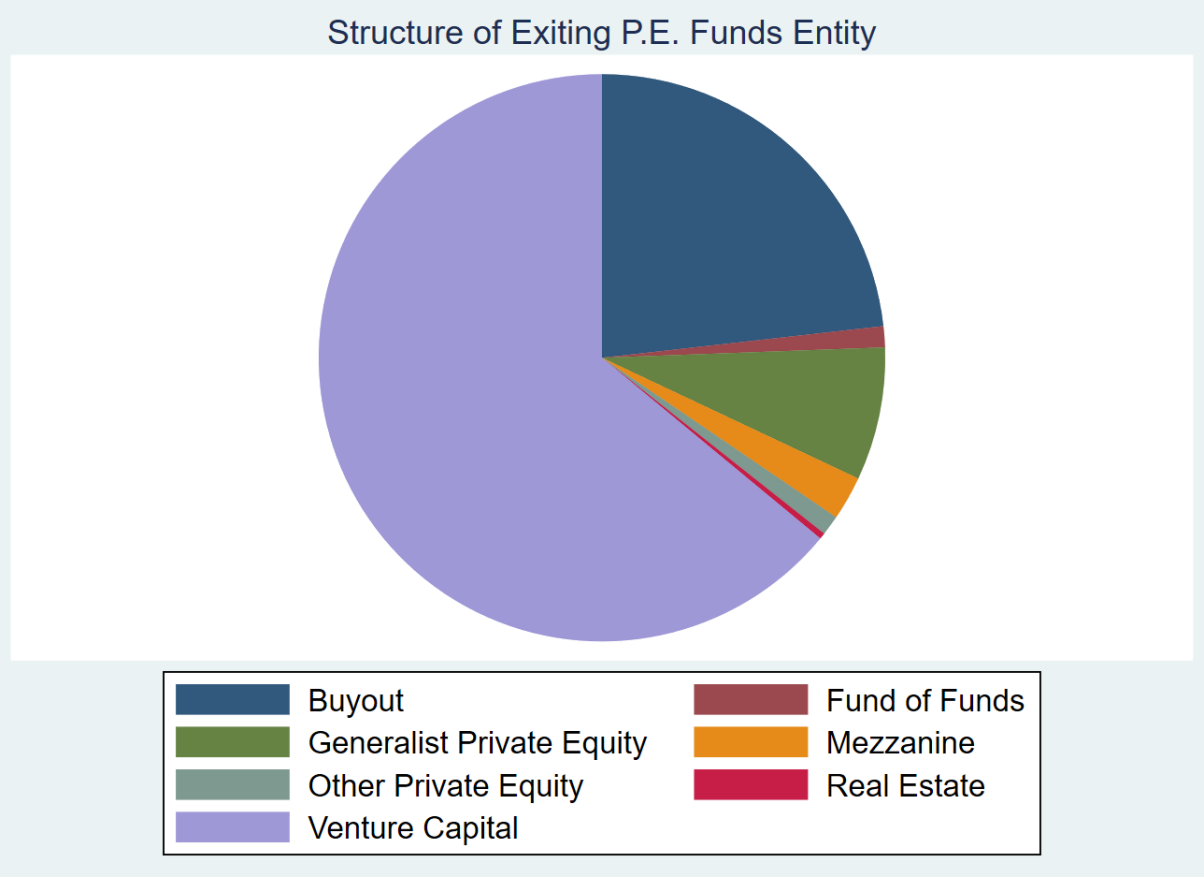
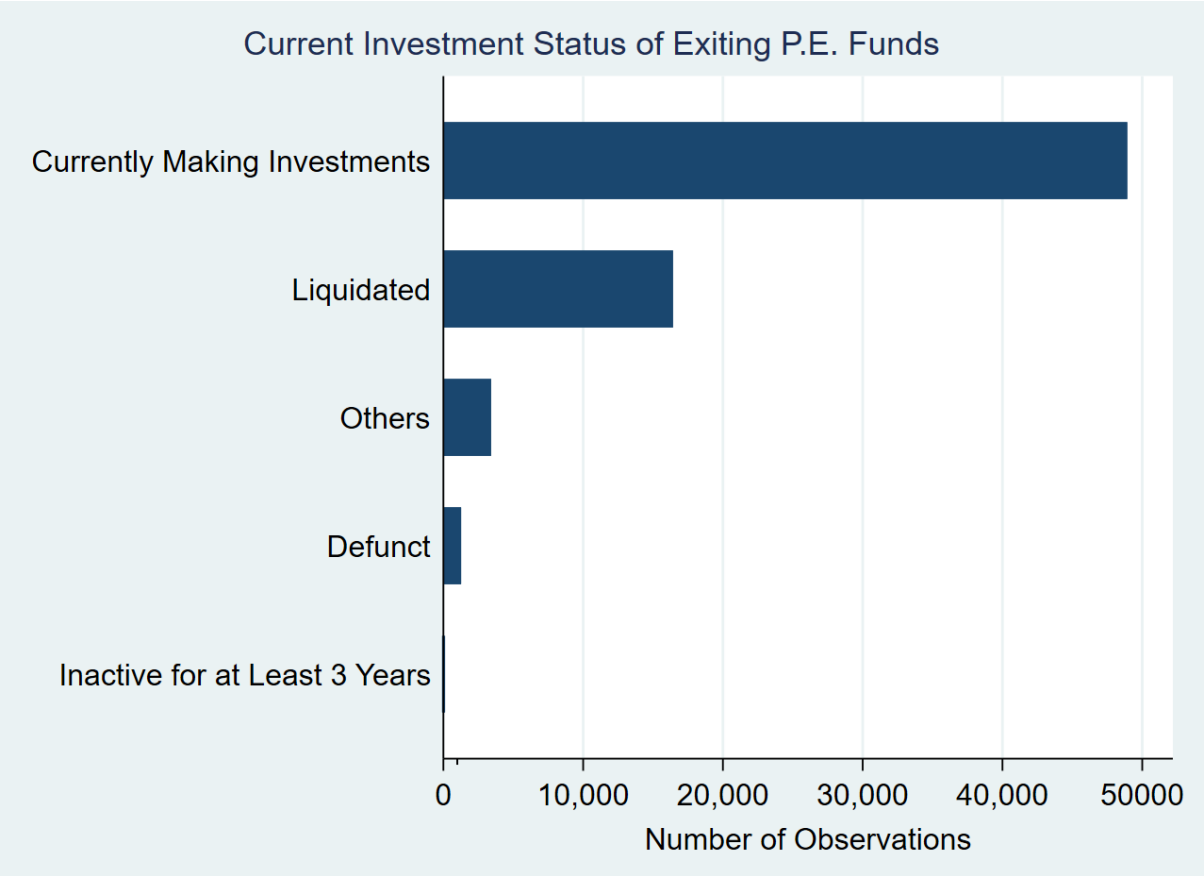


Figure 3A: Sample Description of Exiting P.E. Fund's Current Investment Status



Appendix B:

Marginal Effects of explanatory variables reported in Table 4

	(1) IPO	(2) MER	(3) SEC	(4) BWR
The model with PMOM as deal value				
CRI	-0.0007	0.0140**	0.0035	-0.0168***
	(0.0035)	(0.0062)	(0.0054)	(0.0032)
COV	0.0027	0.1123***	-0.0010	-0.1141***
	(0.0115)	(0.02810	(0.0191)	(0.0316)
PMOM	0.0385***	-0.0217***	-0.0168***	0.0000
	(0.0003)	(0.0008)	(0.0008)	(0.0002)
EXFS	-0.0081***	-0.0855***	0.1123***	-0.0187***
	(0.0013)	(0.0028)	(0.0027)	(0.0012)
The model with RVM as deal value				
CRI	-0.0673***	0.0498***	0.0302***	-0.0128***
	(0.0058)	(0.0068)	(0.0056)	(0.0032)
COV	-0.0587***	0.1706***	0.0013	-0.1132***
	(0.0196)	(0.0267)	(0.0198)	(0.0316)
RVM	-0.0268***	0.0351***	-0.0065***	-0.0017***
	(0.0006)	(0.0005)	(0.0005)	(0.0003)
EXFS	-0.0203***	-0.0773***	0.1152***	-0.0176***
	(0.0023)	(0.0028)	(0.0027)	(0.0012)
The model with MDVM as deal value				
CRI	-0.0668***	0.0500***	0.0296***	-0.0128***
	(0.0058)	(0.0067)	(0.0056)	(0.0032)
COV	-0.0630***	0.1765***	0.0001	-0.1136***
	(0.0195)	(0.0266)	(0.0199)	(0.0316)
MDVM	-0.0264***	0.0339***	-0.0058***	-0.0017***
	(0.0005)	(0.0005)	(0.0005)	(0.0002)
EXFS	-0.0192***	-0.0788***	0.1156***	-0.0175***
	(0.0023)	(0.0028)	(0.0027)	(0.0012)

Note: In this table we report the marginal effects of our results of multinomial logit regression displayed in Table 4. The dependent variables are choices of P.E. fund's exit strategies, such as IPOs, M&A or Trade Sales, Secondary Sales and Others over the sample period from 1999 to 2020. The robust standard errors are reported in parentheses.

*** , ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Appendix C: Global Economic Policy Uncertainty Index (CEPUI)

Citation: **Davis, S. J. 2016. An Index of Global Economic Policy Uncertainty. NBER Working Paper 22740.**

Panel A: On Exit Choices

Variables	(1) IPO	(2) SEC	(3) BWR	(4) IPO	(5) SEC	(6) BWR	(7) IPO	(8) SEC	(8) BWR
CRI	-0.0952	0.0126	-0.4300***	-0.7592***	0.0265	-0.4773***	-0.7625***	0.0234	-0.4795***
	(0.0754)	(0.0353)	(0.0751)	(0.0447)	(0.0359)	(0.0757)	(0.0446)	(0.0359)	(0.0756)
COV	-0.0954	-0.2606**	-2.4596***	-0.2808*	-0.2831**	-2.4126***	-0.2480*	-0.3027***	-2.4325***
	(0.2443)	(0.1176)	(0.7134)	(0.1472)	(0.1175)	(0.7128)	(0.1473)	(0.1174)	(0.7128)
EXFS	-0.0519*	0.6906***	-0.2596***	0.1021***	0.6959***	-0.2173***	0.1120***	0.6993***	-0.2131***
	(0.0272)	(0.0185)	(0.0282)	(0.0181)	(0.0178)	(0.0276)	(0.0183)	(0.0178)	(0.0277)
GEPUI	-0.1291**	0.0760**	-0.2045***	-1.0562***	-0.0487	-0.3931***	-1.0729***	-0.0466	-0.3977***
	(0.0547)	(0.0309)	(0.0508)	(0.0366)	(0.0311)	(0.0509)	(0.0367)	(0.0311)	(0.0509)
PMOM	0.7999***	-0.0538***	0.0704***						
	(0.0086)	(0.0065)	(0.0087)						
RVM				-0.2510***	-0.1050***	-0.1162***			
				(0.0046)	(0.0032)	(0.0063)			
MDVM							-0.2476***	-0.0988***	-0.1143***
							(0.0044)	(0.0031)	(0.0060)
Intercept	-3.9678***	-6.7892***	0.5134*	3.6510***	-5.9390***	1.4905***	3.7150***	-5.9568***	1.5134***
	(0.3093)	(0.1996)	(0.3001)	(0.2138)	(0.1939)	(0.2922)	(0.2149)	(0.1938)	(0.2925)
Observations	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148	46,148
Pseudo R^2	0.3015	0.3015	0.3015	0.0733	0.0733	0.0733	0.0753	0.0753	0.0753

Panel B: On Exit value

Variables	(1) PMOM	(2) RVM	(3) MDVM
CRI	-0.2868***	0.0653	0.0930*
	(0.0237)	(0.0529)	(0.0537)
COV	-0.2913***	-0.4649***	-0.2978*
	(0.0808)	(0.1711)	(0.1753)
IPO	7.8645***	-0.2238	-0.3570*
	(0.0963)	(0.1804)	(0.1851)
MER	1.0926***	1.0733***	1.0788***
	(0.1113)	(0.1890)	(0.1946)
SEC	0.6668***	2.7692***	2.8361***
	(0.0985)	(0.1790)	(0.1836)
BWR	0.4570***	1.2114***	1.2960***
	(0.1026)	(0.1893)	(0.1943)
EXFS	0.0387***	0.2819***	0.3261***
	(0.0122)	(0.0225)	(0.0231)
GEPUI	-0.0025***	-0.0087***	-0.0090***
	(0.0002)	(0.0003)	(0.0004)
Observations	46,148	46,148	46,148
R-squared	0.7473	0.4319	0.4687

Panel C: On Exit duration

Variables	(1) EXTD	(2) EXTD	(3) EXTD
CRI	-0.2464***	-0.2152***	-0.2160***
	(0.0537)	(0.0534)	(0.0535)
COV	1.5340***	1.5871***	1.5709***
	(0.3171)	(0.3176)	(0.3177)
IPO	10.3695***	9.6330***	9.6321***
	(0.2227)	(0.2144)	(0.2144)
MER	9.5919***	9.4315***	9.4568***
	(0.2328)	(0.2328)	(0.2328)
SEC	10.3277***	10.1229***	10.1850***
	(0.2123)	(0.2127)	(0.2129)
BWR	9.8938***	9.7878***	9.8136***
	(0.2276)	(0.2280)	(0.2281)
EXFS	-0.5421***	-0.5604***	-0.5551***
	(0.0265)	(0.0266)	(0.0266)
GEPUI	0.0122***	0.0129***	0.0127***
	(0.0005)	(0.0005)	(0.0005)
PMOM	-0.0951***		
	(0.0068)		
RVM		0.0512***	
		(0.0052)	
MDVM			0.0281***
			(0.0050)
Observations	45,654	45,654	45,654
R-squared	0.7483	0.7483	0.7480