Key Takeaways

The rapid spreading of the coronavirus has paralyzed a significant part of the global economy. Incoming data suggest that the economic fallout of the global health crisis could be substantial. Private equity is not immune to macroeconomic developments and dislocations in financial markets. Reviewing the experience during the Global Financial Crisis (GFC), arguably the best benchmark for the current situation, we find the following:

➢ Buyout activity fell progressively, driven by fewer deals and a decline in average deal sizes. It started to recover relatively quickly as economic policy measures helped restore confidence and substantially lower entry multiples induced investors to deploy capital.

➢ While divestments followed similar dynamics, distributions slowed faster than capital calls, adding to investors’ liquidity challenges.

➢ With private equity valuations adjusting only with a delay, many Limited Partners (LPs) found themselves overexposed, prompting some to sell in the secondary market and postpone new commitments.

➢ Fundraising slowed substantially during the GFC. Huge shifts in market dynamics during the GFC resulted in a strong increase in performance in both the primary and secondary markets. Funds that were raised at the peak of the crisis generated significantly above-average returns.

➢ To the extent that the GFC gives LPs any guidance to what to expect in the current situation, it will be important for them to continue to commit capital to private equity, even if mechanical asset allocation models may suggest otherwise due to a denominator effect.

This paper reflects the author’s views and opinions on the global impact of COVID-19 and is not an offer to sell or a solicitation of an offer to buy any security. Please see “Important Legal Information” at the end of the paper.
01 Introduction

As the name implies, “Black Swan” events are rare. During the Global Financial Crisis (GFC) of 2008 – 2009, which culminated in the collapse of Lehman Brothers, asset prices behaved in a way that – statistically speaking – could be expected to occur only every two hundred years. Just a bit more than ten years after the GFC, investors face another Black Swan event. While the current coronavirus crisis has been caused by fundamentally different factors and is first and foremost a global health crisis, its economic impact could be even more severe than the GFC shock. Stock markets around the globe have suffered major losses, market volatility has skyrocketed, credit spreads have widened substantially, and a general flight to safety have pushed sovereign bond yields in several countries to new lows. To shore up the economy, central banks around the world have slashed interest rates, re-introduced quantitative easing, and injected huge amounts of liquidity to prevent a market freeze. At the same time, governments have introduced fiscal policy measures to support businesses and households.

Private equity is not immune to the economic fallout of the coronavirus crisis and the market turbulences it has caused. While it is impossible to predict the outcome of the current crisis and hence the impact on private equity, arguably the best benchmark we have is the GFC. Therefore, this paper reviews how private equity has behaved during this episode. The paper starts by discussing the global economic downturn in the late-2000s that was triggered by the sub-prime crisis in the United States. The next section looks at financial market indicators during the GFC. Against this background, the main part of the paper examines private equity investments and divestments, capital flows, and commitments to private equity funds. Analyzing the dynamics in the primary market, the paper then discusses their impact on developments in the secondary market. Finally, evaluating the performance of investments during the GFC, the paper concludes with key lessons learned for the coronavirus crisis.

02 Benchmarking the Current Economic Downturn

As the current situation has remained highly fluid, economists are revising their forecasts at a breathtaking speed. With global supply chains disrupted, and lockdowns and social distancing having become pervasive in many countries, some analysts believe that output in major economies could contract by as much as 20 – 30% in the second quarter of 2020.\(^1\) Such projections do not seem implausible considering incoming data on manufacturing, services, and unemployment. Looking further ahead, most economists expect output to bounce back in the final quarter of this year – predicated on

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the assumption that measures to contain the spreading of the coronavirus soon bear fruit and economic policies are sufficient to restore economic confidence.

If these views turn out to be broadly correct, the economic fallout of the coronavirus crisis could be larger than the Great Recession that was triggered by the sub-prime crisis and the housing bubble burst in the United States in 2007 – 2009. The much-chronicled GFC culminated in the collapse of Lehman Brothers on September 15, 2008, that took the global economy perilously close to a global financial meltdown. However, bold central bank actions, backed by huge fiscal stimulus packages, succeeded in arresting the crisis, and although the Great Recession was the deepest since the Great Depression in the 1930s, arguably the outcome could have been much worse.

In the United States, the Great Recession lasted for six quarters (as determined by the National Bureau of Economic Research). In the final quarter of 2008, which marked the peak of the crisis, US output contracted by 8.7% (quarter-on-quarter, annualized; Figure 1). In 2009, US real GDP thus fell 2.5%, the worst performance in the post-war era. In 2010, output bounced back to 2.6% amid ultra-low interest rates and expansionary fiscal policy measures.3

With European banks having significant exposure to US sub-prime debt, the financial crisis rapidly spilled over into the euro area. As it turned out, the ensuing recession was even deeper than in the US. In Q1 2009, output in the euro area contracted by 12.7% (quarter-on-quarter, annualized), causing real GDP to fall by 4.5% in 2009 as a whole.4

By contrast, Asia proved relatively robust (Figure 2). Although its economy also slowed meaningfully, this deceleration was significantly less pronounced than in the United States and Europe. Emerging Asia showed particular resilience. Although China’s quarterly GDP more than halved between H2 2007 and Q1 2009, its economy was still growing at a rate of around 6.5%.5 To differing degrees, other emerging economies defied gravity, too.6 Thus, the International Monetary Fund (IMF) estimates that world GDP declined by 2% in 2009.7 However, with emerging economies having become even more integrated over the last ten years, the coronavirus crisis is expected to cause significantly more damage in these countries as well. Early indicators for China, such as the purchasing managers index (PMI) for manufacturing, suggest that output in the first quarter was significantly negative.

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6 In aggregate, real GDP in emerging markets increased by 2.8% in 2009, while output in advanced economies fell by 3.3%.
7 This estimate is based on market exchange rates. In purchasing power parity terms, which gives a larger weight to emerging economies, world GDP growth was essentially flat.
Figure 1. United States and Euro Area: Real GDP Growth (% qoq, annualized)


Figure 2. Asia and China: Real GDP Growth (% YoY)

Source: OECD, accessed 3/23/20
03 Financial Markets

Fears of a global credit crunch and a deep recession prompted a substantial sell-off in global equity markets and a massive shift into risk-free assets, especially US treasuries. From its peak in September 2007, the S&P declined by more than 50%, the largest fall since the Great Depression in the 1930s. Non-US equity markets also suffered substantial losses, with the MSCI AC World index declining by 44.4% during the GFC. Meanwhile, 10-year treasury yields declined by 315 bps between mid-2007 and late 2008 amid a broad flight to safety and aggressive monetary policy easing. While the sell-off in US equities lasted for around 18 months, it took the S&P 500 around four years to return to its pre-crisis peak. This was moderately shorter than the preceding crisis in the early 2000s, which was triggered by the bursting of the tech bubble. During this crisis, the S&P 500 lost around 43%. By contrast, equity prices recovered substantially faster in the aftermath of the sell-off in 1987 when equity prices fell by 27% in just four months (Figure 3).

Figure 3. United States: Comparing Last Three Bear Markets (S&P 500)

In the current crisis, equity prices have fallen even faster than in 1987. In the United States, leading indexes lost around 30% between their peak in February and March 24 (although they recouped some of their losses in the last week of March as a large fiscal support package was announced). This market correction has been subject to tremendous volatility, with circuit breakers halting trading numerous times. Global equity markets have largely followed the United States, with some emerging markets having been subject to even larger corrections. The notable exception has been China where stocks have fallen significantly less than in most other major economies.

Meanwhile, the coronavirus crisis resembles closely the GFC in terms of market expectations of volatility. Calculated on the basis of S&P 500 index options, the CBOE Volatility Index (VIX) is often referred to as the “fear gauge.” During the GFC, the VIX skyrocketed to 80.9 on 20 November 2008, around two months after Lehman Brothers declared bankruptcy. In the current crisis, the VIX reached its (preliminary) peak on 17 March 2020 at 82.7, a new record (Figure 4).

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Figure 4. CBOE Volatility Index (VIX)


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Leveraged Finance Markets

The key risk during the GFC was a global credit crunch. To prevent a meltdown of the global financial system and restore confidence, central banks around the globe focused on three objectives: (1) contain and reverse the stress in financial markets through liquidity provision and funding guarantees; (2) cleanse banks’ balance sheets of impaired assets; and (3) recapitalize and restructure viable but undercapitalized financial institutions and resolve nonviable ones. In pursuing these objectives, central banks implemented a multiplicity of objectives, including unprecedented amounts of liquidity injections, accessible to a broadened set of counterparties; credit easing through purchases of credit instruments (such as commercial paper and corporate bonds or taking them as collateral for nonrecourse liquidity provision); guaranteeing bank liabilities; injecting capital into financial institutions; and, in some cases; introducing schemes to relieve banks of their impaired assets.

While these measures proved successful, bank lending standards tightened substantially. At the same time, institutional demand for loans and other credit instruments also fell progressively as risk aversion surged. In this environment, the leveraged loan and high-yield bond markets essentially shut. While high-yield spreads are reported to have widened to around 2,200 bps (Figure 5), in practice issuance disappeared for several months (Figure 6). In December 2008, investors bought less than $3 billion of leveraged loans and high-yield bonds issued by US and European issuers. However, as economic policy measures helped restore confidence and extreme risk aversion receded, leveraged finance issuance regained momentum. By the middle of 2009, monthly issuance had already recovered to around $40 billion, before accelerating to pre-crisis levels.

In the current crisis, leveraged finance markets seem to have come to a sudden stop. In the leveraged loan market, US and European companies issued debt totaling $143 billion in January and February 2020. In March (as of 3/25), leveraged loan issuance totaled just $1 billion. This huge drop has been mirrored in the US and European high-yield bond market, where issuance fell from $90 billion in the first two months of the year to less than $4 billion in March. Meanwhile, high-yield credit spreads have widened materially to almost 11 percent as investors require substantially higher risk premiums. While this level is still considerably below the peak during the GFC, the underlying dynamics show significant similarities.

Rising risk premiums required by investors in newly issued leveraged loans and high-yield bonds were shadowed by huge discounts in the secondary market. At the peak of the GFC, around 90% of loans issued by US and European companies traded at distressed levels (at least 1,000 bps above par). However, relatively few of them actually defaulted (Figure 7). Although default rates surged to around 10% in the US and Europe (by issuer amount), this rate was broadly in line with previous default cycles. Thus, investors in distressed debt found attractive investment opportunities, while holders of leveraged loans and high-yield bonds enjoyed substantial returns as credit spreads started to narrow (Figure 8).
Figure 5. US High-Yield Spreads


Figure 6. US and Europe: Leveraged Finance Issuance ($B)

Figure 7. US and Europe: Distressed Ratio & Default Rates


Figure 8. US and Europe: Total Return of Leveraged Loans

Current default rates are still below their historical average. In February, around 2% of loans had defaulted on a 12-month trailing basis (by issuer amount); in Europe, the default rate was even lower.\textsuperscript{11} Looking forward, default rates are generally expected to climb. However, we believe that two factors are likely to limit the expected rise in defaults: First, the majority of leveraged loans issued in the last few years were covenant-lite, reducing the number of triggers resulting in a default. Second, as private equity sponsors (GPs) have continued to chip away at the maturity wall, relatively few maturities are expected to fall due in 2020 – 2022.\textsuperscript{12}

### Private Equity

The temporary shutdown of global leveraged finance markets and extreme macroeconomic uncertainty resulted in a sharp decline in announced private equity transactions. Figure 9 depicts announced leveraged buyout transactions (LBOs) per quarter between Q1 2004 and Q1 2020. This decline already began in the second half of 2007 when announced transactions fell to $165 billion worldwide from almost $400 billion in the first six months of the year.\textsuperscript{13} Several deals that were announced at that time were withdrawn as credit market conditions worsened. The situation deteriorated progressively in 2008. In the final quarter of the year – following the collapse of Lehman Brothers, GPs announced transactions of merely $7.2 billion, a fraction of some individual deals that were done during the boom years. The trough was reached at $5.6 billion in Q1 2009, which coincided with the turnaround in global equity markets. The subsequent recovery in deal activity picked up steam relatively quickly. In 2010, announced deal volume worldwide totaled $145 billion, a near-tripling from 2009.\textsuperscript{14}

Figure 10 provides a more granular picture about the dynamics during the boom period, the GFC and the subsequent recovery. Specifically, it shows all buyout transactions that were announced between January 1, 2002 and March 25, 2020 and for which deal values are reported.\textsuperscript{15} Importantly, the huge increase in deal volume in 2005 – H1 2007 was driven not only by a significant increase in the number of transactions, but also by substantially larger deal sizes. In fact, no fewer than 17 announced buyouts during this period had a deal value of $15 billion or more, with the largest transaction amounting to almost $44 billion. During the crisis and the initial phases of the recovery, mega and large deals essentially disappeared as banks were rapidly de-risking their balance sheets and governments around the world tightened financial regulation. Between mid-2008 and mid-2009, the largest announced LBO

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\textsuperscript{12} S&P LCD data, accessed 3/27/20. A more detailed discussion on the maturity profile of leveraged loans can be found in AlpInvest, Global Private Equity Quarterly, Q1 2020. Available upon request from institutional investors.
\textsuperscript{13} Dealogic database, accessed 3/27/20.
\textsuperscript{14} Dealogic database, accessed 3/27/20.
\textsuperscript{15} The sample size is 7,494. Many more deals were announced during this period. However, deal values are only available for the sub-sample shown in Figure 10.
had a deal value of $1.8 billion. While the first mega deal was not announced before 2013, those transactions have remained relatively rare even in more recent years.

The current crisis is not yet visible in the data on private equity activity. In Q1 2020 (as of 3/26/20), announced LBOs totaled around $70 billion worldwide. While this amount is somewhat less than in the previous quarter, it implies a 17% increase compared with the same quarter a year earlier. However, with leveraged finance markets subject to severe dislocations, the experience during the GFC suggests that several transactions that were announced in the first three months could be withdrawn. This appears particularly likely for larger transactions. To the extent that market dislocations persist, and the economic fallout of the crisis deepens as implied by recent forecasts, announced deal volume could decline substantially in the near term. However, if current macroeconomic projections turn out to be broadly correct and a sustained recovery begins in the final quarter, we could see a turnaround in the buyout market.

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**Figure 9. Announced Leveraged Buyout Transactions, Q1 2004 – Q1 2020**

Source: Dealogic, accessed 3/21/20

Figure 10. Announced Leveraged Buyout Transactions, 2002 – March 25, 2020


Figure 11. Exits of Buyout-Backed Companies, 2006 - 2019

In the GFC, the recovery in buyout activity was driven by two factors. First, as economic confidence improved, and economic activity gained traction, buyout-backed portfolio companies benefited from strong tailwinds helping accelerate top-line growth and allowing companies increase margins. Second, as asset valuations fell precipitously during the crisis, GPs were able to acquire assets at much lower prices, improving the room for multiple expansion. In the United States, purchase price multiples decreased from 9.7x (12-month trailing EBITDA) in 2007 to 7.7x in 2009.17 Although the adjustment process in Europe took longer, entry prices followed a similar downward trajectory (Figure 11). Thus, GPs who were able to look through the huge market dislocations found a set of attractive opportunities, explaining the relatively rapid recovery in overall deal activity.

Arguably, this recovery would have been even stronger in the absence of significant credit constraints. Thus, equity contributions rose significantly during and in the aftermath of the GFC. As bank balance sheets remained impaired and financial regulation was tightened, private credit funds gained significantly in prominence as suppliers of loans in buyout transactions. While private credit funds had already emerged in the US before the GFC, they played an increasingly important role in Europe after the crisis, as European banks’ balance sheets remained significantly impaired.

**Figure 12. Exits of Buyout-Backed Companies, 2006 - 2011**

![Exits of Buyout-Backed Companies, 2006 - 2011](chart)


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To the extent that the GFC provides guidance for the current situation, one would expect purchase price multiples to adjust from the record levels at the end of 2019. Reflecting the substantial increase in public valuations in recent years, entry multiples are reported (by S&P LCD) to have averaged 11.5x on both sides of the Atlantic, even higher than prior to the GFC. While these levels have significantly restricted the room for multiple expansion, mean reversion in purchase price multiples amid the coronavirus crisis could add to the expected tailwinds in the recovery phase.

Turning to the exit side, the picture is similar to the buyside. While more than 1,400 buyout-backed companies were exited in 2007, this number fell to around 800 in 2009 (Figure 12). The decline in exits was particularly pronounced in the market for initial public offerings (IPOs). Although sales to strategic buyers also fell substantially, compared with other exit routes this channel remained relatively more open. Exiting larger companies proved particularly challenging as evidenced by a 71% decrease in the reported value of exits between 2007 and 2009. As exits slowed progressively during the crisis, holding periods of portfolio companies lengthened. While companies that were divested in 2007 had on average been held for less than four years, in 2009 the average holding period was more than five years. However, exit markets recovered quickly in the aftermath of the GFC. By 2010, the number of exits had returned to its pre-crisis level, with the exit volume following one year later.

These observations have important implications for LPs’ cash flow expectations. During the GFC, capital calls fell as credit markets shut and buyout volume dropped. However, distributions decreased even faster as exit conditions worsened progressively. As a result, net distributions turned negative during the GFC (Figure 13). This development added to the liquidity issues many investors were confronted with, for example due the margin calls they received from hedge funds. In the current situation, the cash flow profile of private equity funds could be accentuated by the impact of working capital facilities whose use has become more widespread in recent years.18

In the GFC, the liquidity effect was accentuated by the denominator effect. With private equity valuations adjusting with a delay of a couple of quarters and the performance of private equity investments having proven more robust than in public markets (Figure 14), many LPs found themselves over-exposed relative to their own private equity exposure targets. LPs’ responses varied significantly. Some LPs adjusted their exposure targets upwards to avoid any portfolio sales, which would have been dictated by standard asset allocation models. Others accepted the overshooting, which to some degree self-corrected as private valuations were catching up with public valuations. This group included LPs who had set target bands for each asset class as opposed to point targets. As discussed below in more detail, a final group decided to rebalance their portfolios by selling parts of their private equity holdings in the secondary market, thus bringing their exposure back in line with their model targets, generating liquidity and reducing unfunded commitment.

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Figure 13. Capital Calls and Distributions, 2000 - 2019


Figure 14. Index Performance of Buyouts

Liquidity issues and the denominator effect also impacted new commitments. Commitments to buyout funds declined meaningfully in 2009 and 2010 (Figure 15). While buyout funds had raised around $240 billion per year in 2007 – 2008, fundraising dropped to less than $100 billion per year in 2009 – 2010. Meanwhile, average fund sizes came down significantly. Although there was a profound flight to quality and brand names during and after the GFC, those funds that were raised were significantly smaller than during the boom years.

Liquidity issues and the denominator effect could also play a role in the current situation. However, in weighing their options, LPs should consider the return implications of cyclical commitment strategies. As it turned out, the median buyout fund that was raised in 2009 generated a net IRR of 18.5%, substantially higher than its peers that were raised at the peak of the cycle and well above the long-term average (Figure 16). Similar observations can be made in the context of the previous recession that was triggered by the bursting of the tech bubble, with the median buyout fund raised in 2001 reported to have generated 24.8%. In both episodes, funds that were raised in or shortly after recession periods, benefited from low entry multiples strong tailwinds in the recovery phase, helping accelerate sales and improve margins.

If this pattern holds in the current downturn, one might expect a positive impact on fund returns. While the outlook is clouded with exceptional uncertainty, it is important to recall that private equity funds have several years to invest their capital. Thus, there is considerable flexibility in identifying attractive opportunities in a situation that remains highly fluid. Against this background, AlpInvest believes that a consistent commitment strategy over time is the best way for LPs to manage downside risk, while taking advantage of investment opportunities that may arise in periods of severe market dislocations.

While a non-trivial number of LPs sought to address their liquidity needs and the denominator effect through sales in the secondary market during the GFC, this created attractive opportunities for investors in secondaries. Initially, as the valuations of underlying funds took 1-2 quarters to reflect public market valuations, transaction volume in the secondary market halved (Figure 17); this was most pronounced in the first 6-12 months after the Lehman Brothers bankruptcy. This provided for smaller volumes from highly distressed buyers at very attractive discounts to NAV. Thereafter, secondary transaction volume picked up quickly as mainstream investors started to rebalance their portfolios due to over-allocation to PE, the “denominator effect”, and regulation putting a limit on the capital available for PE investments. As NAVs declined in PE funds, fund valuations became even more attractive for secondaries investors, and substantial discounts to these lower NAVs allowed secondary buyers to buy some of the strongest funds at very attractive target returns. These trends continued well into 2013, having provided secondary buyers with a distinctive “buyers’ market” for the four years post-GFC.

Secondary funds that had their final close in 2009 at the peak of the crisis raised $22 billion, a more-than-tripling from the previous year Figure 18). This huge inflow was followed by two years that saw significantly lower commitments. However, unlike in the primary fund market where commitments remained subdued for several years, it appears that inflows recovered comparatively quickly. Returns of secondary funds that were raised before the GFC had typically still capital to deploy and also benefited from attractive valuations. The median secondary fund that was raised in 2009 generated a net IRR of nearly 15%, 800-900 bps more than funds that were raised during the boom period 2005 – 2006.
Benchmarking the COVID-19 Crisis

Figure 15. Commitments to Buyout Funds and Average Fund Size


Figure 16. Global Buyouts: Median Net IRR Per Vintage Year

Figure 17. Transaction Volume and Price Dynamics in the Secondary Market


Figure 18. Commitments to Secondary Funds and Net Returns

Conclusions

The rapid spreading of the coronavirus has paralyzed a significant part of the global economy. While central banks and governments around the world have responded with aggressive monetary and fiscal policy measures to support businesses and households, incoming data suggest that the economic fallout of the global health crisis could be substantial. Although the situation remains highly fluid, there is concern that the expected contraction in output could be as deep – if not deeper – as during the GFC. Against this background, investors have switched to risk-off, with financial markets being subject to an unprecedented degree of market volatility.

Private equity is not immune to macroeconomic developments and dislocations in financial markets. While private equity activity and return data generally have a low frequency and come in with a significant delay, this paper has reviewed the experience during the GFC, arguably the best benchmark for the current situation. Our review reveals the following:


- The sharp fall in buyout activity was driven by fewer deals and a huge decline in average deal sizes.

- Buyout volume started to recover relatively quickly as economic policy measures helped restore confidence and substantially lower entry multiples induced investors to deploy capital.

- A similar picture was observable on the exit side. While divestments slowed substantially during the GFC, sell-side activity regained considerable momentum as economic growth recovered and financial markets stabilized.

- However, as distributions slowed faster than capital calls, net distributions turned negative during the GFC, adding to investors’ liquidity challenges.

- With private equity valuations adjusting with a delay, many LPs found themselves overexposed to private equity. In response to liquidity issues and the denominator effect, some LPs adjusted their exposure targets, while others decided to sell parts of their portfolios in the secondary market and postpone new commitments.

- Fundraising this slowed substantially during the GFC. At the same time, investors in the secondary market found themselves confronted with a substantial increase in investment opportunities.

- Huge shifts in market dynamics during the GFC resulted in a large increase in performance in both the primary and secondary markets. Funds that were raised at the peak of the crisis generated significantly above-average returns.
While there is much uncertainty about the degree to which the current coronavirus situation will follow the GFC, the key lesson learned from the GFC is follow a consistent investment strategy overtime. Market dislocations tend to give rise to attractive investment opportunities, and long-term private equity investors should be particularly well positioned to exploit current dislocations. Private equity funds deploy their capital over several years and can often respond flexibly to opportunities as they arise in a highly fluid environment. We believe that if the GFC gives us any guidance for what to expect in the current situation, it will be important for LPs to continue to commit capital to private equity, even if mechanical asset allocation models may suggest otherwise due to a denominator effect.
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