A New World Post COVID-19
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Mergers and Acquisitions in the Years of COVID
Slowing Down Before Accelerating Yet Again

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Abstract Mergers and acquisitions (M&As) have been less frequent during crises. The COVID-19 pandemic has resulted in a global economic shock and a surge in uncertainty, depressing M&A activity to record low levels. The unpromising economic prospects, the persisting high valuations, and potential liquidity crunches will restrict acquisitions for the foreseeable future. Companies with large cash balances may perform opportunistic acquisitions when asset prices drop to attractive levels. Acquisition activity can be further affected by government actions, especially if governments discourage acquisitions to promote market competition.

Keywords Mergers. Acquisitions. Growth. Corporate investments. Investment banking.

Summary 1 Introduction. – 2 M&A Activity. – 3 Valuation Multiples and Premia. – 4 Liquidity, Cash Reserves and Dry Powder. – 5 Concluding remarks, the Future of M&As and the Role of Regulators.

1 Introduction

Mergers and Acquisitions (M&As) have been an integral part of the corporate success story for the last few decades. Acquiring firms have been absorbing other companies with the aim of improving their offering, enhance their market share, or enter new markets. At the same time, companies have been divesting assets and company segments in an effort to shift their activity focus (Mavis et al. 2016). Selling or target firms have been divesting full

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or partial ownership of their assets, usually in exchange for hefty returns, i.e. 'premia',[1] or for a chance to save their business from a wide array of challenges, such as financial constraints, obsolescence, and productivity inefficiencies (see e.g. Hopkins 1991). A sizeable industry serving both sides of the transaction has mushroomed over the years, providing auxiliary services such as due diligence, financing, even match-making between buyers and sellers.[2] While M&A activity almost never stops, it follows a wave-like pattern over the years, with peaks and troughs in the number and total value of deals. The troughs usually coincide with economic shocks related to surges in market uncertainty, economic slowdown, and liquidity crunches.

The current COVID-19 pandemic posits an unprecedented shock to the modern, global economy. While an accurate prediction on the economic damage is impossible at the time of writing (June 2020), the OECD expects the impact to be the worst during peace-time for at least the last 100 years (Giles 2020). As a result, M&A activity has also taken a hit. In this chapter, we will look at several aspects of M&As and the ways the current pandemic has affected them. When appropriate, we will extrapolate from past experience and try to predict the implications for prospective acquirers and the overall M&A industry for the foreseeable future.

2 M&A Activity

The number of deals and aggregate deal value per annum fluctuate over time. In 2019, the global M&A market saw 49,849 deals totalling a value of $3.70 trillion, which is markedly higher than 2009, when the market saw 40,710 deals totalling $2.19 trillion (IMAA 2020). In 2007-08, all major economies were affected by the Global Financial Crisis and, as a result, the number of transactions plummeted. The US market, which usually yields most of the global deal activity, experienced a severe drop in deal making as well. Figure 1 shows the annual M&A activity in deal numbers and total value for the US **[fig. 1]**. Both activity metrics follow the pattern of waves that span over several years; activity usually plummets at the onset of an economic shock, which introduces uncertainty for corporate performance and, therefore, unfavourable economic prospects for acquisitions. Three distinct waves can be identified in figure 1: the "Dot-Com" wave in the late 1990, a consolidation wave in the mid-2000s,

1 For a review of acquisition premia, see Laamanen 2007; Alexandridis et al. 2013; Nielsen, Melicher 1973.

2 For a review of investment banks and deal auxiliary services, see Chemmanur, Ertugrul, Krishnan 2019; Golubov, Petmezas, Travlos 2012; McLaughlin 1992.

and a mega-deal wave in the 2010s, where the total deal value surpassed the previous wave, but deal number did not recover (see e.g. Alexandridis, Antypas, Travlos 2017).

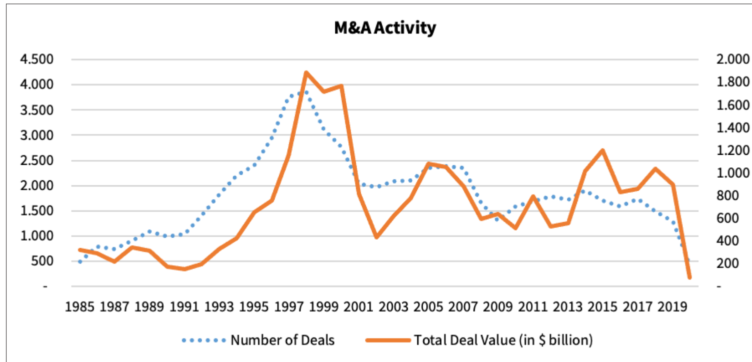

Figure 1 Deal activity by year. The deals include transactions by US-based acquirer and deal value of at least $1 million. The following types of transactions have been excluded: Minority Stake Purchases, Privatizations, Leveraged Buyouts, Repurchases, Recapitalizations, Self-Tenders, Exchange Offers, Acquisitions of Remaining Interest. Source of data: Securities Data Company (SDC) by Refinitiv

The economic uncertainty introduced by COVID-19 has resulted in the near total suspension of deal-making in 2020. The decrease in activity, as presented in figure 1, shows an unprecedentedly low level of deals, although the 2020 data reflect only the activity during January-June. In order to have a fair understanding of the COVID-19 impact on deals during early 2020, I have created a month-by-month comparative analysis. In figures 2-3, we see the number and total value of deals, respectively, during the first few months of 2020 and the average of the same months over the years 1985-2019 **[figs. 2-3]**. The M&A activity started deteriorating in February, when COVID-19 was developing into a pandemic and capturing an increasing portion of the news headlines. Since then, most US-listed companies have announced a major hit to their first-quarter earnings due to the sudden drop in economic activity across most sectors, especially in transportation, consumer products, and hospitality services (see e.g. Morris 2020). The broad economic effect of the pandemic has cast doubts, not only on the short-term prospects for the economy, but also on the duration of the recession. As the crisis persists, transaction metrics are expected to remain depressed.

Corporate executives have acknowledged the unpredictable duration and impact of the pandemic, which has forced them to revise their acquisition plans. According to a small-scale survey, more than 50% of prospective acquirers have either withdrawn from deal negotiations or postponed their acquisition plans, while about 23% expect to con-

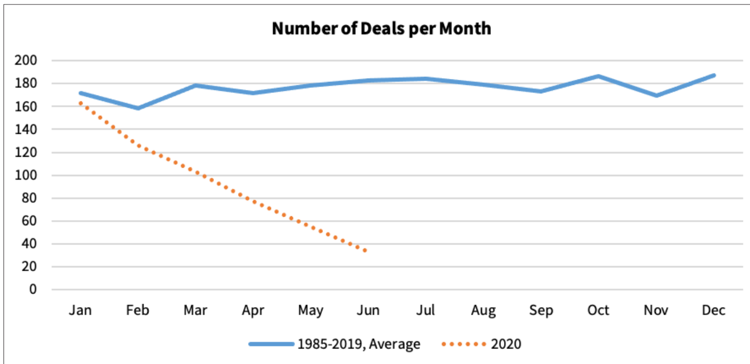

Figure 2 Number of Deals per Month. The deals include transactions by US-based acquirer and deal value of at least $1 million. The following types of transactions have been excluded: Minority Stake Purchases, Privatizations, Leveraged Buyouts, Repurchases, Recapitalisations, Self-Tenders, Exchange Offers, Acquisitions of Remaining Interest. Source of data: SDC by Refinitiv

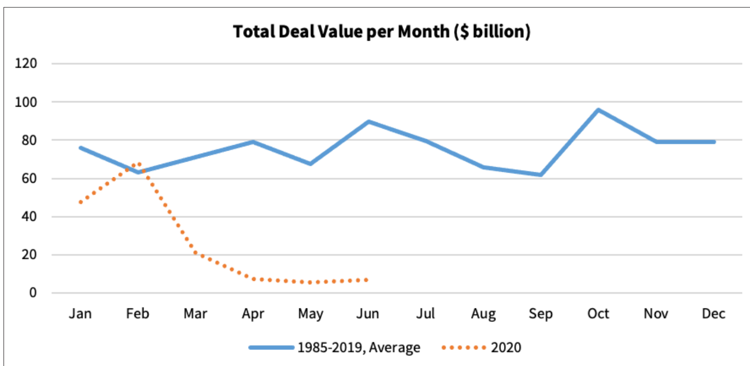

Figure 3 Total Deal Value per Month. The deals include transactions by US-based acquirer and deal value of at least $1 million. The following types of transactions have been excluded: Minority Stake Purchases, Privatizations, Leveraged Buyouts, Repurchases, Recapitalisations, Self-Tenders, Exchange Offers, Acquisitions of Remaining Interest. Source of data: SDC by Refinitiv

tinue their investments in the second half of 2020 (Herndon, Bender 2020). Their plans should be contingent to two main factors. First, a potential second wave of infections may lead state governments to enforce a second lockdown, unless an effective and readily available treatment has been introduced by then. Second, consumption may not recover to pre-pandemic levels, since the increase in unemployment and bankruptcies may have resulted in a permanent loss of income for a critical proportion of the population. Therefore, prospective acquirers may have to postpone their plans once again and wait for market prospects to improve before continuing with their investments.

It is important to note that regardless of the changes in the aggregate level of M&A activity, companies may still conduct acquisitions while the pandemic persists. Their decision will have to factor in the economic and strategic prospects of the deal, the absolute and relative cost of the acquisition, capital availability, and potential regulatory concerns. We will be looking into these factors in the following sections.

3 Valuation Multiples and Premia

One of the most important features of a deal is the price. Acquirer and target shareholders have to come to an agreement on a fair price for the target firm's shares, as well as the appropriate consideration structure, i.e. cash, stock, or a mix of the two. It is common for acquirers to pay a 'premium' for a target's shares. In general, the premium is an amount paid on top of the target's fair equity value. In the case of publicly listed targets, the premium is defined as the percentage by which the target market capitalisation implied by the offer price exceeds the target's recent market capitalisation. Historically, the average premium has been around 20-30%.[3] The premium serves as an enticement to target shareholders, who would otherwise have little incentive to sell their shares at current market prices. The premium can also be viewed as the target firm's share of the future synergistic gains that are expected to be achieved by the new, combined entity. If the premium is low, the acquirer's shareholders may enjoy a larger share of the future synergies; while if it is too high the acquirer's shareholders may receive only a small part of the synergies, or they may lose part of their current value. Therefore, it is apparent that the pricing exercise is a key step in designing an acquisition, and is the single most important aspect that can 'make or break' a deal.

The complexity of pricing has been further complicated during the pandemic. In previous economic and financial crises the market has reflected the decrease in economic prospects in security prices. The lower expected revenue and higher probability of insolvency have led to a decrease in stock prices, even for individual stocks with relatively good prospects. However, in 2020 the stock market in most western countries has substantially recovered after a quick and sharp correction, while the economic prospects of the respective countries have deteriorated. Although it may be too early to identify the causes of the market-economy disconnection, the prevalent explanation is complex and involves the following factors:

3 The premium figure is calculated based on SDC data for deals with US acquirers that are valued at more than $1 million.

1. the reported willingness of central banks to provide unlimited support to the economy (Lewis 2020),
2. optimism for the discovery of an effective vaccination within the next 12 months (Gallagher 2020),
3. the gradual re-starting of economic activity in countries with imposed lockdowns (BBC 2020).

Regardless of the causes for the market-economy disconnection, stock prices do not reflect the cash flow potential of the underlying businesses. As can be seen in **[fig. 4]**, US stock prices have remained near an all-time high, after a sharp, short-lived correction. In order to understand the stock market optimism and the disconnection between the market and the economy, we will look into the price-to-earnings (P/E) ratio for the S&P 500 index. For shares, the P/E ratio shows the amount investors are willing to pay today in order to have a claim on one unit of earnings. The aggregate index P/E ratio can be interpreted as being based on investor expectations for future earnings growth; a high P/E ratio can indicate either high growth expectations or overvaluation, while a low P/E ratio indicates uncertainty about future growth or undervaluation.

Figure 5 shows the S&P 500 P/E ratio since 1985. The recent P/E ratio is no lower than for the past 20 years **[fig. 5]**. Despite the 13.3%[4] US unemployment rate and the 45 million new unemployment claims in the US between February and June,[5] the market seems to have maintained unreasonably high expectations regarding future earnings growth. We can refine this conclusion after adjusting the P/E ratio for inflation and long-run earnings. The refined measure, labelled "Shiller P/E ratio" after Robert Shiller, provides a smoothed measure of valuation.[6] Figure 6 shows the S&P 500 Shiller P/E ratio since 1985 **[fig. 6]**. The interpretation of this new measure suggests that valuations have been near the highest levels since the outbreak of the "DotCom bubble" in the late 1990s. Most surprisingly, if we ignore the period of irrational valuations of the late 1990s and go further back in time, the current S&P 500 Shiller P/E ratio is near its highest level since the retro-fitted estimation of the index for back to 1872. This is indicative of the market-economy disconnection, and the optimism portrayed in the markets despite the dreadful recession ahead of us.

Prospective acquirers attempting to take control of a public target should be willing to pay a premium on top of the aforementioned historically high prices, while the prospects of revenue and earn-

4 For more details, see `http://www.bls.gov`.

5 For more details, see `https://www.dol.gov`.

6 For more details on the calculation and interpretation of Shiller's P/E ratio, see `https://www.multpl.com/shiller-pe`.

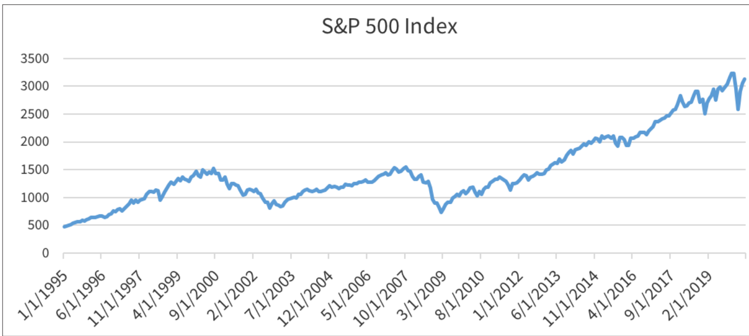

Figure 4 S&P 500 Index. Source of data: EIKON by Refinitiv

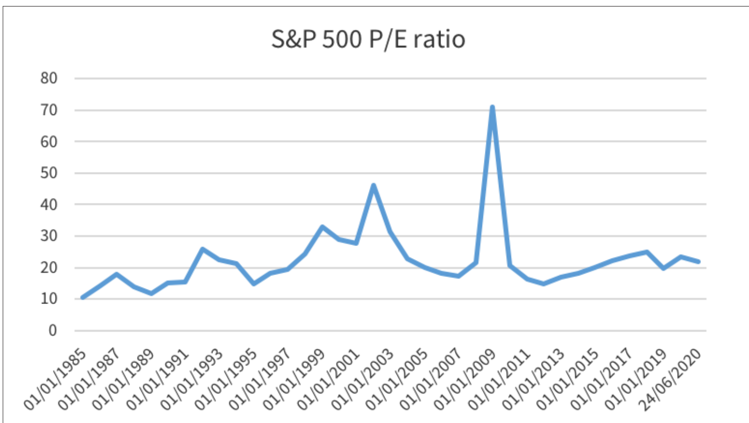

Figure 5 S&P 500 P/E ratio. Source of data: `https://www.multpl.com/`

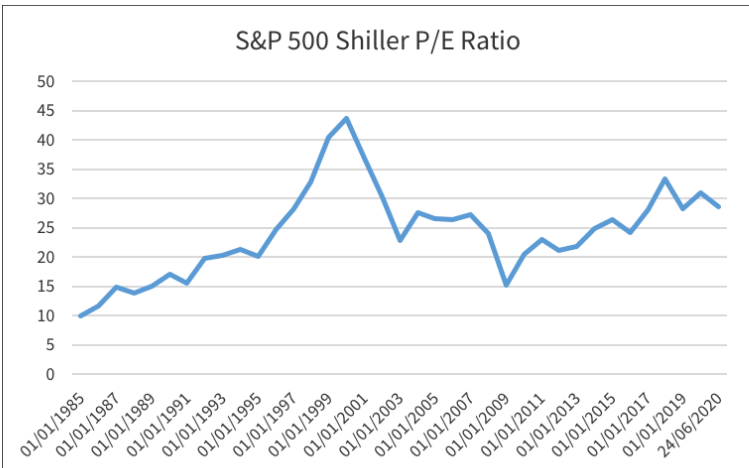

Figure 6 S&P 500 Shiller P/E ratio. Source of data: `https://www.multpl.com/`

ings growth are uncertain for the foreseeable future. Cautious acquirers usually avoid the risk of overpaying for assets, and the high stock market valuations may hamper M&A activity during the pandemic. An exception to this expectation can be the consolidation of ailing sectors, such as transportation and hospitality, where companies may need to join forces in order to survive. In these cases, we may see more mergers of equals instead of acquisitions.

Nevertheless, some deal activity may also continue in the least affected sectors, especially deals with stock swap consideration, since there is evidence suggesting that the absolute level of valuation may be less important than the relative valuation between the acquirer and the target (see e.g. Rhodes-Kropf, Viswanathan 2004). Specifically, acquirers that are overvalued relative to their targets will still pursue the acquisition in order to take advantage of the beneficial overvaluation. The window of opportunity for such acquisitions is unknown, since the disconnection between the securities market and the economy may be reduced at any time. In any case, due to the high uncertainty in the securities market, we may see the application of strict price collars, that define the exchange rate of acquirer and target shares within and outside pre-agreed price ranges.[7]

4 Liquidity, Cash Reserves and Dry Powder

The poor short- and mid-term prospects for the economy may be less of a deterrent for aspiring acquirers with sufficient liquidity. Robust cash reserves fulfil a double role during the pandemic. First, they support the operations of the companies during the recession. Since the duration of the downturn cannot be forecast with reasonable accuracy, the large reserves place these cash-rich firms at the advantage of maintaining operational capacity and being ready to capture the recovering demand. Second, the excess cash reserves can be used as consideration for M&As in case raising capital in the securities markets is too slow for a time-sensitive investment opportunity, or the market uncertainty results in low demand for equity and debt issuance.

Large companies have been amassing cash for the better part of the last decade, waiting for the opportunity to buy undervalued assets of strategic importance to their business (Rocco 2019). In table 1, we can see the cash balance in absolute terms, and as a percentage of total assets for the largest 10 US companies in 2008 and 2019. The reason we compare these two years is because they preceded years of major economic shocks. We also see the net cash position for each firm, which is calculated by subtracting debt from cash. One

7 For a review of price collars, see Officer 2004.

takeaway from table 1 is that many of the top 10 cash-holding firms, as a group, have stronger positions in 2019 ($754 billion) compared to 2008 ($323 billion) even after accounting for inflation. This can be partially attributed to the companies that were in the list in 2008 having even larger cash balances in 2019. Another key insight, taken from untabulated information, is that the top cash-holders of 2008 proceeded to perform a series of strategic acquisitions in the aftermath of the crisis. We expect that this will be the case for the post-COVID-19 era as well, especially since cash balances have grown more than ever before.

Table 1 Top 10 cash-holding companies in 2008 and 2019. Financial and utility companies have been excluded from the list due to dissimilarities in accounting standards and regulatory treatment. Source of data: Compustat by Capital IQ

2008	Company name	Cash (in 2019 $bn)	Cash over Total Assets	Net Cash (in 2019 $bn)
1	GENERAL ELECTRIC CO	59.59	6%	-332.41
2	EXXON MOBIL CORP	38.01	14%	29.67
3	FORD MOTOR CO	37.23	14%	-70.3
4	BERKSHIRE HATHAWAY	35.19	11%	-3.95
5	CISCO SYSTEMS INC	31.16	45%	23.57
6	APPLE INC	29.09	62%	29.09
7	PFIZER INC	28.18	21%	18.73
8	MICROSOFT CORP	28.1	33%	28.1
9	ALPHABET INC	18.82	50%	18.82
10	WYETH	17.27	33%	4.42
	Sum	**322.64**		**-254.26**
	Average	**32.26**	**29%**	**-25.43**

2019	Company name	Cash (in 2019 $bn)	Cash over Total Assets	Net Cash (in 2019 $bn)
1	BERKSHIRE HATHAWAY	135.22	17%	36.39
2	MICROSOFT CORP	133.82	47%	54.71
3	ALPHABET INC	119.68	43%	104.91
4	APPLE INC	100.58	30%	8.77
5	AMAZON.COM INC	55.3	25%	-7.91
6	FACEBOOK INC	54.86	41%	44.92
7	ORACLE CORP	43.06	37%	-27.67
8	ABBVIE INC	39.92	45%	-23.3
9	GENERAL ELECTRIC CO	36.92	14%	-33.48
10	FORD MOTOR CO	34.65	13%	-67.76
	Sum	**754.01**		**89.58**
	Average	**75.40**	**31%**	**8.96**

A considerable portion of the M&A activity during the next few months may originate from professional investors such as Private Equity (PE) and Hedge Funds (HF). The capital available for investments, i.e. 'dry powder', was at a record of $2.5 trillion in 2019 (Espinoza, Platt 2019). PE companies rely on their ability to pinpoint the firms with strong cash-flow statements, as well as growth and cost-cutting potential. A market fall may trigger a buying spree from professional investors. It is important to note that both PE and HF companies have a unique advantage compared to other investment management firms: their investment horizon is significantly longer than the average investor, and spans more than the few years the pandemic is expected to directly affect the markets. The average investment horizon for PE companies is about seven years, while some HFs invest with horizons of decades. As a result, we may see professional investors wait patiently for short-term liquidity crunches to occur, rendering them irresistible partners to distressed firms.

The overall outlook in terms of capital availability can be favourable for some acquirers, regardless of the downturn in aggregate economic output. An additional contributing factor is the persisting and historically low interest rates. The Federal Reserve, the Bank of England, and the European Central Bank have declared that they will allow benchmark interest rates to remain at low, even negative levels, for the foreseeable future in order to support their respective economies (Financial Times 2020). As a result, corporations with healthy cash flows and sustainable leverage levels could take advantage of the favourable debt market, and fund their M&A plans with inexpensive debt capital.

5 Concluding remarks, the Future of M&As and the Role of Regulators

Since the beginning of the 20th century, the US economy has experienced at least seven M&A waves, i.e. wave-like patterns of M&A activity levels. There are various theoretical explanations for the formation of waves (see e.g. Maksimovic, Phillips, Yang 2013; Goel, Thakor 2010), and the most widely accepted framework is the neoclassical theory (see e.g. Ahern, Harford 2014), which is based on the field of neoclassical economics. The neoclassical theory of acquisitions is that the market for corporate control reacts to an industry-wide shock, such as the introduction of ground-breaking technology, or a sudden decrease in supply of raw materials. When industry-specific shocks coincide and, most importantly, capital availability is high, a market-wide M&A wave is formed (Harford 2005). If all these conditions are fulfilled, we could be soon see the onset of a new merger wave.

Regulators should be aware that the form of economic stimulus they provide, and the criteria they attach to the help they offer, may

contribute to a rise in deal activity and the creation of an M&A wave. For instance, if companies are offered debt in order to survive the economic slowdown in the short-run, they may face accelerated insolvency issues when they need to pay back the loans, unless economic activity recovers materially or state support is prolonged until recovery. This predicament will increase the acquisitions of distressed firms by more liquid acquirers. Instead, if companies are incentivised to cut costs and downsize, which would be a politically charged policy, more companies would divest their assets and focus on their core business segments. The policies to be announced and implemented may yet be the most significant factor determining M&A activity during and after the crisis.

The contribution of the state is significant, even if a merger wave does not materialise in the near future. As has been mentioned earlier, the cash balances of some companies have stayed strong for a few years, and these companies have increased their relative 'buying' power relative to companies that are struggling during the recession. As a result, we may observe sector-specific market consolidation led by industry leaders with large cash reserves, spare debt capacity, or high stock valuations, e.g., price-to-earnings ratios. There have been discussions among regulators about preventing a consolidation wave during the pandemic, especially banning acquisitions by firms that have received state funding, so that markets remain competitive (Fontanella-Khan, Fedor 2020). The government institutions responsible for maintaining market competition, such as the Federal Trade Commission (FTC) in the US and the Competition and Markets Authority (CMA) in the UK, may face intense pressure to forbid deals that could save target companies from insolvency, so that markets remain competitive.

At every turn of the economy, the market for corporate control has followed suit in an attempt to decrease efficiencies and empower corporations to thrive. The current pandemic is poised to become one of the sharpest turns in modern economic history and, thus, the M&A activity during and after this crisis should reflect the proportions of such a novel shock. Companies with good access to capital are expected to benefit most from this turmoil, while companies that have already been struggling will become inexpensive targets when security markets adjust to match their share price with their poor economic prospects. Finally, regulators will have to balance their efforts between saving existing corporate structures via allowing consolidation, and maintaining market competition at healthy levels. Whatever lies ahead, we will most certainly look back to these times for instruction in extremity, same as we do with the Global Financial Crisis and previous major crises.

Bibligraphy

Ahern, K.R.; Harford, J. (2014). “The Importance of Industry Links in Merger Waves”. *The Journal of Finance*, 69(2), 527-76. https://doi.org/10.1111/jofi.12122.

Alexandridis, G.; Antypas, N.; Travlos, N. (2017). “Value Creation from M&As: New Evidence”. *Journal of Corporate Finance*, 45, 632-50. https://doi.org/10.1016/j.jcorpfin.2017.05.010.

Alexandridis, G.: Fuller, K.P.; Terhaar, L.; Travlos, N.G. (2013). “Deal Size, Acquisition Premia and Shareholder Gains”. *Journal of Corporate Finance*, 20, 1-13. https://doi.org/10.1016/j.jcorpfin.2012.10.006.

BBC (2020). “Coronavirus: How Lockdown is Being Lifted Across Europe”. *BBC*, 2 July. https://www.bbc.co.uk/news/explainers-52575313.

Chemmanur, T.J.; Ertugrul, M.; Krishnan, K. (2019). “Is It the Investment Bank or the Investment Banker? A Study of the Role of Investment Banker Human Capital in Acquisitions”. *Journal of Financial and Quantitative Analysis*, 54(2), 587-627. https://doi.org/10.1017/S002210901800073X.

Espinoza, J. (2019). “Private Equity Races to Spend Record $2.5tn Cash Pile”. *Financial Times*, 27 June. https://www.ft.com/content/2f777656-9854-11e9-9573-ee5cbb98ed36.

Financial Times (2020). “Negative Interest Rates are a Tool, not a Gift, Viewed”. *Financial Times*, 26 June. https://www.ft.com/content/319b2a3a-9a98-11ea-8b5b-63f7c5c86bef.

Fontanella-Khan, J.; Fedor, L. (2020). “Warren and Ocasio-Cortez Propose M&A ban during crisis”. *Financial Times*, 27 June 2020. https://www.ft.com/content/35442f52-2230-4867-96fe-2975532a1098.

Gallagher, J. (2020). “Coronavirus Vaccine: When Will We Have One?”. *BBC*, 20 June. https://www.bbc.co.uk/news/health-51665497.

Giles, C. (2020). “OECD Warns of Deepest Economic Scars in Peacetime for a Century”. *Financial Times*, 15 June. https://www.ft.com/content/498b43bf-4813-40f8-9953-022e0d7820b5.

Goel, A.M.; Thakor, A.V. (2010). “Do Envious CEOs Cause Merger Waves?”. *The Review of Financial Studies*, 23(2), 487-517. https://doi.org/10.1093/rfs/hhp088.

Golubov, A.; Petmezas, D.; Travlos, N.G. (2012). “When It Pays to Pay Your Investment Banker: New Evidence on the Role of Financial Advisors in M&As”. *The Journal of Finance*, 67(1), 271-311. https://doi.org/10.1111/j.1540-6261.2011.01712.x.

Harford, J. (2005). “What Drives Merger Waves?”. *Journal of Financial Economics*, 77(3), 529-60. https://doi.org/10.1016/j.jfineco.2004.05.004.

Herndon, M.; Bender, J. (2020). “What M&A Looks Like During the Pandemic”. *Harvard Business Review*, 10 June. https://hbr.org/2020/06/what-ma-looks-like-during-the-pandemic?

Hopkins, H.D. (1991). “Acquisition and Divestiture as a Response to Competitive Position and Market Structure”. *Journal of Management Studies*, 28(6), 665-77. https://doi.org/10.1111/j.1467-6486.1991.tb00985.x.

IMAA, Institute for Mergers, Acquisitions and Alliances (2020). “M&A Statistics”, viewed 26 June. https://imaa-institute.org/mergers-and-acquisitions-statistics/.

Laamanen, T. (2007). "On the Role of Acquisition Premium in Acquisition Research". *Strategic Management Journal*, 28(13), 1359-69. https://doi.org/10.1002/smj.639.

Lewis, L. (2020). "Will Central Banks Serve Up Fresh Stimulus?". *Financial Times*, 20 June. https://www.ft.com/content/22822338-5a08-4169-9197-3f70702518d1.

Maksimovic, V.; Phillips, G.; Yang, L. (2013). "Private and Public Merger Waves". *The Journal of Finance*, 68(5), 2177-217. https://doi.org/10.1111/jofi.12055.

Mavis, C.; McNamee, N.; Petmezas, D.; Travlos, N.G. (2016). "Selling to Buy: Asset Sales and Method of Payment in M&As". *University of Surrey working paper*.

McLaughlin, R.M. (1992). "Does the Form of Compensation Matter? Investment Banker Fee Contracts in Tender Offers". *Journal of Financial Economics*, 32(2), 223-60.

Morris, S. (2020). "Investment Banks Braced for Pandemic Earnings Wipeout". *Financial Times*, 10 June. https://www.ft.com/content/43dcabdd-68af-4d9c-83a4-46a74265d4a1.

Nielsen, J.F.; Melicher, R.W. (1973). "A Financial Analysis of Acquisition and Merger Premiums". *Journal of Financial and Quantitative Analysis*, 8(2), 139-48. https://doi.org/10.2307/2330006.

Officer, M.S. (2004). "Collars and Renegotiation in Mergers and Acquisitions". *The Journal of Finance*, 59(6), 2719-43. https://doi.org/10.1111/j.1540-6261.2004.00714.x.

Rhodes-Kropf, M.; Viswanathan, S. (2004). "Market Valuation and Merger Waves". *The Journal of Finance*, 59(6), 2685-718. https://doi.org/10.1111/j.1540-6261.2004.00713.x.

Rocco, M. (2019). "US Corporate Cash Pile Shrinks as Spending Climbs After Tax Cuts". *Financial Times*, 25 June. https://www.ft.com/content/81ff6034-8b91-11e9-a1c1-51bf8f989972.