

A Bird Eye (Re)view of Key Readings

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This section of the journal indicates some and briefly commented references that a non-expert reader may want to cover to obtain a first informed and broad view of the theme discussed in the current issue. These references are meant to provide an extensive, though not exhaustive, insight into the main issues of the debate. More detailed and specific references are available in each article published in the current issue.

On the economic impact of epidemics and pandemics

The current Covid-19 pandemic has vividly shown that public health issues can significantly impact the financial system due to its enormous **economic costs**. Notably, related **containment** and **social distancing measures** are likely to shatter the productive sector, households' behaviour, and financial institutions' performance through various transmission channels (Angelini et al., 2020).

Before the Covid-19 outbreak, we may find previous research warning us to anticipate the economic costs of possible future epidemics and pandemics. Accurately, Bloom et al. (2018) discuss the economic concerns that are now at the forefront after the Covid-19 outbreak, specifically increasing costs to the health system, medical treatment of infected patients and outbreak control, loss to employee productivity, or the impact on tourism, social distancing measures which may well disrupt economic activity, and impact on foreign direct investment. Interestingly, Fan et al. (2018) estimate that pandemic risks cost

approximately 0.6% of global income per year. Nevertheless, the cost of the Covid-19 crisis exceeded this threshold at the time of writing this note (Goodell, 2020).¹⁶

The current literature endeavoring to forecast the Covid-19 dynamics is built on Kermack and McKendrick's (1927) seminal work. In particular, Eichenbaum et al. (2020) investigate the equilibrium interactions between economic decisions and epidemics based on Dynamic Stochastic General Equilibrium (DSGE) models. Interestingly, Eichenbaum et al. find that, although reducing consumption and work mitigates the severity of the epidemic, the magnitude of the recession might be accentuated. In other words, the competitive equilibrium is not socially Pareto efficient as the infected group do not completely internalize the effects of their decisions about consumption and work. Their benchmark model predicts that the optimal containment policy tightens the severity of the recession but saving roughly half a million lives. Similarly, Chronopoulos et al. (2020) analyses consumer spending response to the onset and spread of the virus¹⁷ and the subsequent lockdown imposed in Great Britain (England, Scotland, and Wales). They find that consumers remained relatively stable during the initial phases of the Covid-19 crisis. Then, discretionary spending declined as consumers anticipated the lockdown and continued to do so after being announced. Lastly, a temporary decline in consumer spending was registered in Great Britain after the 'stay alert' announcement.

Importantly, it should be noted that previous authors who demonstrate that contagious disease outbreaks were contained to a lesser level than their potentiality (Bloom and Canning, 2004; Lewis, 2004; Madhav et al., 2017; Tam et al., 2016, Yach et al., 2006). Accurately, Thomas (2018) describes that the lethal outbreak of the respiratory disease Nipah in India created a significant global health issue.¹⁸ Interestingly, the World Health Organization (2020) report warned that the world was insufficiently prepared to take on the Covid-19

16. Goodell (2020) describes the repercussions of past pandemics such as the impact of the HIV/AIDS outbreak or the cost of future pandemics. Likewise, Haacker (2004) shows that the capacity of governments to cope with the HIV/AIDS epidemic eroded as the mortality and morbidity increases. Similarly, Santaelulàlia-Llopis (2007) find that HIV/AIDS prevalence delays the transition from agricultural to industrial regimes by about 105 years and reduce per capita consumption by 12% at the peak of the epidemic. Hansen and Prescott (2002) develop a population model that relates the age distribution of the population and to preceding fertility. Lastly, Yach et al. (2006) discusses the impact of obesity and diabetes on economic growth.

17. The SARS-CoV-2 virus is the agent that causes the coronavirus disease, namely COVID-19.

18. The World Health Organization lists contagion diseases outbreaks from 1996, including Middle East Respiratory Syndrome coronavirus (MERS), Zika, Ebola virus disease, Severe Acute Respiratory Syndrome (SARS), Rift Valley fever, among others (see URL: <https://www.who.int/csr/don/archive/year/en/>).

pandemic, particularly global collective actions, coordination and engagement with global systems, and financing.

On the impact of Covid-19 on the banking sector

The foremost financial literature shows that deteriorations in public health conditions might induce aggregate risks, thus subsequently impacting financial development and the banking sector's stability. Undoubtedly, banks are vulnerable to aggregate risk, which might increase the likelihood of accumulating non-performing loans, and bank runs. In this regard, Lagoarde-Segot and Leoni (2013) carry out a theoretical model that shows that the banking industry of a developing country is relatively more likely to fail as the prevalence of large epidemics increases. Indeed, most of microfinance institutions and banks' lending to the poor will be pressured by the aggregate risk (Binswanger and Rosenzweig, 1986; Skoufias, 2003). Particularly, Leoni (2013) finds that the spread of HIV in developing countries is associated with large deposit withdrawals attributed to patients' need to pay for individual treatments.

Nowadays, economists are concerned about the impact of the Covid-19 crisis on financing points out firms' need for liquidity and the capacity of banks to meet liquidity demand. In the first weeks of March 2020, non-financial businesses drew funds from banks' credit lines, anticipating possible disruptions to cash flow and taking on deteriorations in funding conditions. Consequently, commercial and industrial (C&I hereafter) credit exploded on banks' balance sheets. Indeed, the three first weeks of March 2020 were an unprecedented stress test on banks' capacity to supply liquidity. Li et al. (2020) show that both bank and market characteristics explain the growth mentioned above of lending. Interestingly, large banks experienced relatively greater drawdowns than smaller ones. Besides, drawdowns came mainly from larger firms, which typically borrow from large banks (see Prior, 2020; Prior et al., 2020). Consequently, the largest banks granted C&I credit relatively faster than other banks.

One might raise the question of whether banks' ability to meet the unforeseen increase in liquidity demand depends on their **pre-shock financial conditions**. Earlier research suggests that combining deposits and off-balance

sheet credit commitments creates diversification synergies that might allow banks to hold less cash (Kashyap et al., 2002). Gatev and Strahan (2006) find that synergies are beneficial during periods of market stress because deposits flow into banks while borrowers' liquidity demands peak.¹⁹

Remarkably, previous studies analysing liquidity distress following the 2008 Financial Crisis converge on certain similarities with the Covid-19 crisis, which draws a stimulating theoretical framework for future research. In this regard, Cornett et al. (2011) study a related show that banks adjust to shocks to liquidity demands by reding new credit origination, and changes in credit supply depend on banks' access to financial resources. Accurately, banks more reliant on core deposits, holding more liquid assets, and better capitalized are more prone to increase lending –and reduce less their credit supply-. Consistently, Ippolito et al. (2016) find that banks relatively more exposed to wholesale funds experienced more significant credit-line drawdowns during the European sovereign debt crisis. In addition, Li et al. (2020) find that, during the Covid-19 crisis, aggregate deposits inflows were enough to fund the increase in liquidity demand, explaining why the size of banks' pre-crisis deposit base was independent of lending across banks. Interestingly, their results suggest that liquidity movements from off balance-sheet onto bank balance sheets will automatically increase risk-weighting assets, thus moving closer the regulatory minimum capital ratios. Furthermore, increases in loan loss provisions due to expansionary credit and risks going forward, are bound to reduce capital ratios.

Consequently, shortage of capital might constrain credit supply unless banks **reduce capital distributions** -i.e. **dividends**- and/or **raise new equity**. In this regard, Blank et al. (2020) conduct simulations for the future path of bank capital following the Covid-19 crisis. Their results suggest that significant declines in capital ratios could severely limit future credit supply.

Significantly, literature is growing towards the effects of debt and liquidity on non-financial firms following the Covid-19 outbreak. In this regard, O'Hara and Zhou (2020) find that the bond-market liquidity collapsed in early March but recovered after the Federal Reserve announced its intention to intervene.

19. Although Ivashina and Scharfstein (2010) find consistent results, Acharya and Mora (2015) highlight that banks pay higher rates to attract deposits.

Fahlenbrach et al. (2020) show that a firm with more financial flexibility performs comparatively better. De Vito and Gómez (2020) find that firms would deplete their cash holdings in an interval of two years, consistent with non-financial firms relying upon bank liquidity. Importantly, Acharya and Steffen (2020a,b) document that the access to bank credit lines during the Covid-19 crisis was helpful for non-financial firms, based on stock return analysis. Acharya and Steffen (2020a,b) investigate the role of access to liquidity financing from the borrower (demand-side) perspective, whereas Li et al. (2020) do it from the bank (supply-side) view.

On the impact of the Covid-19 on financial markets

Little is known about how financial markets react following epidemics outbreaks, setting aside pandemics.²⁰ The spillover associated with other previous natural disasters provides valuable insight into the impact of the Covid-19 on the financial markets. Previous authors examining the impact of terrorist events on financial markets might provide a parallel view since they create a widespread impact on the public mood. In particular, the analysis of the ‘spillover effects’ of terrorist events suggests abroad-based or ‘systematic’ contribution to overall risk (Karolyi, 2006). Although this evidence is limited, he has conducted few tests which assess volatility or beta risks with asset-pricing models. Previous authors show that the September 11 events affected shifts in market betas (Choudhry, 2005) and increase correlation among global markets (Chesney et al., 2011; Corbet et al., 2018; Hon et al., 2004; Nikkinen and Vähämaa, 2010).

As discussed above, the Covid-19 crisis has been found to deleteriously impact domestic demands. Thus, financial markets neglect to price the potentiality of tail-risk events that would not be survivable anyway. Consequently, a long-term impact on firm financing and the costs of capital is expected. Firms located in relatively more disaster-prone areas are shown to be less levered (Elnahas et al., 2018). In line with the trade-off theory of capital

20. So far, investors are found to respond to other natural disasters such as volcanos, earthquakes, or terrorist acts (Bosch et al., 1998). Nevertheless, the Covid-19 outbreak has impacted heterogeneously across industries and affected extremely domestic demands worldwide (Goodell, 2020).

structure, firms being impacted in disastrous areas increased their costs of capital and tightened financial flexibility (Huang et al., 2018).

Recent empirical papers investigate the stock market reactions to the pandemic, finding a strong response of equity prices to news about the virus and increases in market volatility (Acharya et al., 2020; Alfaro et al. 2020; Baker et al. 2020; Caballero and Simsek, 2020). Some studies compare how different types of stocks react to the pandemic. Ding et al. (2020) show that firms more exposed to the global supply chain fared worse, whereas Ramelli and Wagner (2020) find that exposure to international trade is related to poor stock performance.

On the impact of Covid-19 on FinTech companies

The pandemic contributed to developing alternative forms of financial intermediation. The Financial Technologies (FinTech hereafter) has increased in different credit and other financial services by both unregulated non-banking firms and regulated banks (Erel and Liebersohn, 2020).²¹ Stulz (2019) discusses two well-acknowledged FinTech companies, LendingClub and Kabbage, making traditional small-business lending through a bank subsidiary or a funding bank. Remarkably, FinTech companies have been found to compete aggressively on the funding side of financial institutions' balance sheets (Abrams, 2019).

A thought-provoking research question that can be raised is whether FinTech companies responded differently to the Covid-19 crisis than traditional banks. Furthermore, FinTech is experiencing a growing path within the financial sector, which might induce changes in the supply of financial services due to this expansion. Erel and Liebersohn (2020) study the response of FinTech to financial services demand created after the implementation of

21. Scarce access to traditional bank credit is one of the main reasons for borrowers to approach FinTech loans (Butler et al., 2016; Cole et al., 2019; Galema, 2020). Interestingly, FinTech companies can serve the 'unbanked' and fill the gap in lending, when it has been contracted due to regulatory reasons during and after a financial crisis. FinTech companies offer relatively faster processing through an advanced technology (Fuster et al., 2019). They also offer relatively lower interest rates and bank fees, and unsecured debt, thus increasing consumers' wellbeing (Carlin et al., 2020). On the other hand, although FinTech companies can substitute transactional-based lending, they might be unable to compensate the loss of soft-information lending from in-market banks (Balyuk et al., 2020).

the Paycheck Protection Programme (PPP) in the United States. The role of FinTech in PPP provision is comparatively more relevant in locations where the economic effects of Covid-19 were more severe. They show that borrowers were more likely to obtain a FinTech-enabled PPP loan where local banks could not originate it. Likewise, Cororaton and Rosen (2020), for a sample of firms using the PPP, document that only 13% of eligible firms end up participating. Using preliminary data, Granja et al. (2020) investigate whether areas more affected by the pandemic, measured as declined hours worked or business shutdowns, and get more allocations.

To sum up, the interaction and competition of FinTech companies and traditional banks during the Covid-19 pandemics is a fertile field for the ongoing research agenda.

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