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Reshaping the Future
Unlocking the Potential of Alternative Data for the Post-COVID-19 World

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Abstract Alternative data has steadily become more mainstream in investment decision-making. These non-traditional datasets provide a channel to draw insights from information as diverse as satellite images, news, tweets, mobile and internet traffic and credit card purchases. While alternative data has become an industry buzzword, making meaningful use of it remains a challenge. The ongoing financial crisis caused by the COVID-19 pandemic poses unprecedented challenges. This chapter explores examples of how alternative data can be used to help economic recovery.

Keywords Alternative data. COVID-19. Data interface. Decision-making.

1 Introduction

As many countries around the world continue to face unprecedented challenges from COVID-19, the longer-term economic impact of the crisis is uncertain. In the best-case scenario, the path out of the pandemic-induced recession may be 'V-shaped', that is, a quick rebound. But a protracted 'U-shape' or 'L-shape' recession or a 'W-shape' double-dip recession caused by another wave of infections may not be ruled out at present. How should governments respond to this situation? Could technology and alternative data sources be leveraged to correct the current economic contraction and pave the way for a fast recovery?

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Alternative data comprises information as diverse as satellite images, news, tweets, mobile and internet traffic and credit card purchases. For example, Bloomberg, a data provider, offers a Tesla production tracker (Randall, Halford 2019) that monitors the vehicle identification numbers (VINS) registered by Tesla with safety regulators before production and VINS submitted to Bloomberg by Tesla car owners. This enables Bloomberg to provide real time forecasts of Tesla production rather than rely on infrequent (i.e. quarterly) company reports. Other examples are Nasdaq's acquisition of Quandl, one of the largest alternative data platforms,[1] and Refinitiv's partnership with BattleFin to integrate alternative datasets with Eikon and its quantitative analytics platform.[2]

These non-traditional datasets also provide a channel to draw insights from the financial profile of a consumer or business. These data sources have the potential to overcome barriers to financial inclusion and enable more diversified risk assessment models for marginalised individuals or small and medium-sized enterprises (SMEs). Over the last few months, most SMEs have likely seen their liquidity buffers come under pressure because of the pandemic-induced economic slowdown (OECD 2020). It is therefore necessary to accelerate the digitisation of the financial industry in order to provide new frameworks for credit decisions, as small businesses and the self-employed are extremely vulnerable. While there is still substantial scepticism over how useful this new information will ultimately prove to be, this chapter seeks to review potential solutions and draw early lessons in order to effectively cope with, recover from or adapt to today's challenging situation. For example, in the current context, it is of interest to identify effective ways to exploit alternative datasets to inform prompt corrective actions in response to the global economic recession. This could include, for instance, impact analyses of markets and industry sectors such as healthcare, consumer goods, transportation and utilities.

2 Alternative Data Applications

The use of alternative data for trading purposes is not new. Investors have always been adept at using it to gain an informational edge in the market. Venetian traders would use telescopes to inspect the flags of incoming ships in order to derive clues as to the type of car-

1 "Nasdaq Acquires Quandl to Advance the Use of Alternative Data". Nasdaq, 4 December 2018. https://www.nasdaq.com/about/press-center/nasdaq-acquires-quandl-advance-use-alternative-data.

2 "Refinitiv Makes Strategic Investment in BattleFin and Partners to Incorporate Alternative Datasets within Investor Workflow". Refinitiv, 18 June 2019. https://refini.tv/3jeZDQ6.

go being carried and also what commodities they would buy or sell accordingly (Wigglesworth 2020).

The ongoing financial crisis caused by the COVID-19 pandemic is unconventional, which has led investors to seek alternative data with the purpose of seeing when the market rebound is likely to begin (Georgiadis, Lockett, Wigglesworth 2020). Analysts mine figures from traffic congestion to food-delivery apps. For example, the traffic index provided by Tom Tom employs data from 600 million drivers to gauge the level of congestion in 416 major cities worldwide. It showed that the traffic congestion level of Wuhan, China, during the lockdown, was obviously lower than the previous year.[3] However, correlation can be misinterpreted as causation. For instance, the travel data provided by the Transportation Security Administration suggests that the number of Americans flying has been gradually increasing since its nadir in mid-April.[4] Further, data from Apple shows that more drivers have been searching for directions in the US since April, which might suggest that the economy is starting to recover.[5] Is this the evidence that the economic rebound is beginning? Or is there no relationship and the number is increasing purely because people feel more confident or just tired of the lockdown conditions? Without rigorous research, alternative data does not offer a clear picture of where the economy is heading or how quickly we might be able to go back to pre-crisis conditions.

Traditional monthly economic indicators such as GDP performance are released weeks or months after the events take place, and may be difficult to use for decision-makers to predict new economic trends and make timely decisions. As an economist aptly suggested, "Obviously, slow data is not helping us right now. We need to start looking at fast data: data arriving at a daily or weekly frequency" (McCracken 2020).

How we can access and utilise alternative data efficiently poses a serious challenge to its exploitation. According to Refinitiv, 80% of data is unstructured and must be processed into structured content (Gaumer 2020). How to use unstructured data? For example, unstructured text analysis via machine learning algorithm can be used to evaluate the credit risk and default potential of a company. To this end, relevant unstructured data sources include conference call transcripts, company filings and related news. However, finding, testing and using data costs considerable time, energy and money. It there-

3 "Coronavirus: Green Shoots?". *Financial Times*, 2 March 2020. https://ftalphaville.ft.com/2020/03/02/1583143211000/Coronavirus--green-shoots-/.

4 "TSA Checkpoint Travel Numbers for 2020 and 2019". Transportation Security Administration, 2020. https://www.tsa.gov/coronavirus/passenger-throughput.

5 "COVID-19 Mobility Trends". Apple, 2020. https://www.apple.com/covid19/mobility.

fore requires time and human resources that may not be affordable to every decision-maker.

Both BattleFin and Quandl, leading financial and alternative data providers, offer a solution for enabling their clients to easily obtain financial data in the form of an Application Programming Interface (API).[6] This saves people a lot of time in obtaining, cleaning and processing the data. So, access to the data is not enough, but rather how data can be easily utilised to generate meaningful analysis. For example, the New York Federal Reserve's Weekly Economic Indicator[7] is an example of how high-frequency data was compiled to provide a measure for current economic conditions. In particular, the key question is how to transform unstructured data into structured content, and also whether to encourage the use of APIs as key elements for data integration.

QR codes were used to track the health status of citizens and their movements during the pandemic in several countries. A QR code is an example of how we can build an interface for efficiently utilising alternative data in the digital world. In the last few months, China has rolled out health code systems across cities (Weinland 2020) with the purpose of identifying those who visited areas with high infection rates or who had been diagnosed with the virus, as well as to track whether individuals had completed a mandatory quarantine. Russia, France, Qatar, and many other countries also adopted similar measures to control the spread of the coronavirus.

3 Conclusion

The pandemic crisis spread extremely quickly across countries and much of its economic impact is likely yet to be seen. The ongoing financial crisis is, in many ways, atypical. In the face of the unprecedented nature of current challenges, this chapter presented some examples of how alternative data can be used to support decision-making. As the pandemic and its effects are likely to linger for some time, it is important that any informational advantage offered by new sources of data to improve our response to new infections and put our economies on a solid path to recovery is utilised to its fullest. Alternative data appear to offer promising solutions to today's world problems. Harnessing their power is the challenge of our current times and an opportunity to increase the resilience of our society.

6 "Financial Data API". Quandl, 2020. https://www.quandl.com/tools/api.

7 "Weekly Economic Index (WEI)". Federal Reserve Bank of New York, 2020. https://www.newyorkfed.org/research/policy/weekly-economic-index.

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