



9,290 | 177

Views | CrossRef citations to date | 3

Altmetric

Research Article

The Disease Outbreak Channel of Exchange Rate Return Predictability: Evidence from COVID-19

Bernard Njindan lyke

Pages 2277-2297 | Published online: 25 Jul 2020

Cite this article <https://doi.org/10.1080/1540496X.2020.1784718>



Sample our
Economics, Finance,
Business & Industry Journals
>> [Sign in here](#) to start your access
to the latest two volumes for 14 days

Full Article

Figures & data

References

Citations

Metrics

Reprints & Permissions

Read this article

Share

ABSTRACT

We provide novel evidence that disease outbreaks contain valuable information that can be used to enhance exchange rate return and volatility predictions. Our analysis exploits the novel coronavirus (COVID-19) outbreak as a good experimental setup to test our intuition. Data show that the COVID-19 outbreak has been rapid and deadly. Using the total number of infections per million, we demonstrate that COVID-19 has better predictive power over volatility than over returns for a one-day ahead forecast horizon. Conversely, COVID-19 tends to shape returns more than volatility over a five-day ahead forecast horizon. Our findings remain intact over the two forecast horizons using the total number of deaths per million as an alternative COVID-19 measure. This evidence supports a new channel of exchange rate return predictability, namely the disease outbreak channel.

KEYWORDS:

COVID-19

novel coronavirus

disease outbreaks

pandemic

exchange rate return and volatility

predictability

Notes

1. The currencies are Chilean peso per US dollar (USD-CLP), Swedish krona per US dollar (USD-SEK), Swiss franc per US dollar (USD-CHF), Chinese yuan per US dollar (USD-CNY), Israeli new shekel per US dollar (USD-ILS), Japanese yen per US dollar (USD-JPY), Peruvian new sol per US dollar (USD-PEN), Korean won per US dollar (USD-KRW), Canadian dollar per US dollar (USD-CAD), Euro per US dollar (USD-EUR), Indian rupee per US dollar (USD-INR), Poland złoty per US dollar (USD-PLN), Great Britain pound per US dollar (USD-GBP), and US dollar per Great Britain pound (GBP-USD).
2. See [Table A1](#) in appendix for full names of these currencies.
3. See <https://ourworldindata.org/coronavirus-source-data> for details.
4. These countries are Austria (AUT), Belgium (BEL), Brazil (BRA), Canada (CAN), Chile (CHL), China (CHN), France (FRA), Germany (DEU), India (IND), Ireland (IRL), Israel (ISR), Italy (ITA), Japan (JPN), Korea (KOR), Netherlands (NLD), Peru (PER), Poland (POL), Portugal (PRT), Russia (RUS), Spain (ESP), Sweden (ESP), Switzerland (CHE), Turkey (TUR), United Kingdom (UK), and United States (US).
5. We classify these countries following the MSCI market classification, the International Monetary Fund's classification, and others. See <https://www.msci.com/market-classification> and https://en.wikipedia.org/wiki/Emerging_market for details on emerging market economies.
6. These exchange rates are USD-BRL, USD-CAD, USD-CHF, USD-CLP, USD-CNY, USD-EUR, USD-INR, USD-ILS, USD-JPY, USD-KRW, USD-PEN, USD-PLN, USD-RUB, USD-SEK, USD-TRY, USD-GBP, and GBP-USD ([Table A1](#) in the appendix for details)
7. See Ince, Molodtsova, and Papell ([2016](#)).

8. See Narayan and Phan ([2020](#)) for a commentary.
9. Note that, when quoting the US dollar, we use the British pound as the base currency (numeraire). We quote all other currencies using the US dollar as the base currency.
10. We do not show these plots, to preserve space. See, for instance, <https://www.cnbc.com/2020/02/24/as-coronavirus-fuels-market-panic-some-experts-say-the-dollar-is-the-only-safe-currency.html>.

Related research 

People also read	Recommended articles	Cited by 177
------------------	----------------------	-----------------

Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2025 Informa UK Limited [Privacy policy](#) [Cookies](#) [Terms & conditions](#)

[Accessibility](#)

 Taylor and Francis Group

Registered in England & Wales No. 01072954
5 Howick Place | London | SW1P 1WG