

Artigo submetido a 30 de Abril 2021; versão final aceite a 4 de Setembro de 2021
Paper submitted on April 30, 2021; final version accepted on September 4, 2021

Long-Run and Short-Run Relationships Between Covid-19 and the Loss of Employment in Malaysia: Evidence Using GARCH-M, EGARCH-M and PGARCH-M Models

Relações de Longo e Curto Prazo Entre Covid-19 e Perda de Empregos na Malásia: Evidência Usando Modelos *GARCH-M*, *EGARCH-M* e *PGARCH-M*

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Abstract

The purpose of the present paper is to investigate the long-run and short-run relationships between the loss of employment and the Covid-19 pandemic in Malaysia's labour market. The Covid-19 measures include the number of Covid-19 new cases, the number of Covid-19 new deaths, the number of total Covid-19 cases and the Covid-19 fear index. Using cointegration analysis, we found that the loss of employment exhibit long-run relationships with the four Covid-19 measures. Our short-run analysis using the PGARCH-M model able to captures the volatility and clustering of the variability in the loss of employment. The PGARCH-M model shows evidence of the leverage effects or asymmetric effects which suggest that the

positive shocks (good news) increase volatility in the loss of employment, more than the negative shocks (bad news) in a crisis situation.

Keywords: Covid-19, Loss of employment, Cointegration, PGARCH-M, Malaysia

JEL Classification: I15, I18, C50, J68

Resumo

O objetivo do presente artigo é investigar as relações de longo e curto prazo entre a perda de emprego e a pandemia de Covid-19 no mercado de trabalho da Malásia. As variáveis usadas para medir a expressão da Covid-19 incluem o número de novos casos de Covid-19, o número de novas mortes de Covid-19, o número total de casos de Covid-19 e o índice de medo da Covid-19. Usando a análise de cointegração, descobrimos que a perda de emprego exhibe relações de longo prazo com as quatro medidas de Covid-19. A nossa análise de curto prazo recorreu ao modelo *PGARCH-M*, capaz de capturar a volatilidade e a variabilidade na perda de emprego. O modelo *PGARCH-M* mostra evidências de efeitos de alavancagem ou efeitos assimétricos, o que sugere que os choques positivos (boas notícias) aumentam a volatilidade na perda de empregos mais do que os choques negativos (más notícias) numa situação de crise.

Palavras-chave: Covid-19, Perda de emprego, Cointegração, PGARCH-M, Malásia

Códigos JEL: I15, I18, C50, J68

1. INTRODUCTION

One of the dampening effects inflicted by the Covid-19 pandemic is on the economy and the labour markets (Kong & Prinz, 2020; Deady et al., 2020; Almeida & Santos, 2020). As pointed out by Zimmermann et al. (2020) that in a globalised world, the outbreak of the Covid-19 can spread very fast with more globalised countries being affected faster and with a larger impact. Furthermore, the situation can be worst in democratic countries as the impact of the Covid-19 could be higher in terms of health effects. According to Karabulut et al. (2021), most democratic countries are not fast enough to react and are less effective in responding to such crisis. On the contrary, an autocratic government that usually will not consider any electoral consequences will act faster, stronger and mobilize more effective resources to curtail the spread of Covid-19.

In Malaysia, the threat of Covid-19 becomes a reality when the first Covid-19 positive case was reported on 25 January 2020. Studies have shown that the news about the Covid-19 pandemic caused fear, anxiety and certain level of uncertainty among the people (Ozdurak et al., 2020; Blustein & Guarino, 2020). Phan and Narayan (2020) have considered Covid-19 as the father of all fears. The fear of the unknown leads the public, the government and businesses to react and this reaction will have devastating impact on the economy.

The Malaysian population is not spared from this fear, anxiety and confusion created by the Covid-19 outbreak; and it has been argued that the fear of Covid-19 and the lockdown measures adopted by the government of Malaysia have caused job losses among the population (Shah et al., 2020). The Malaysian government enforces its lockdown measures, the so-called Movement Control Order (MCO) on 18 March 2020; in which some of the measures include the closure of non-essential businesses, schools and workplace are closed, stay at home order, mass gathering are prohibited, public events are banned, and domestic and international travelling was restricted. Since March 2020 the Department of Statistics Malaysia (DOSM) report that the unemployment rate immediately increases to 3.9% compared to the earlier rate of 3.3% in February and 3.2% in January 2020 (DOSM, 2020a). The unemployment rate peak to 5.3% in May and then starts to decline to 4.7% in August 2020.