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1. Introduction

The purpose of this report is to analyze the impact of the COVID-19 pandemic on the global economy. The report will focus on the economic challenges faced by various countries and the role of government intervention. It will also discuss the long-term implications of the pandemic on the world economy and the potential for a global recovery.

### 2. The Economic Impact of COVID-19

The COVID-19 pandemic has caused a global economic recession, leading to a sharp decline in GDP and a rise in unemployment. The impact has been particularly severe in countries with high dependence on tourism and exports. The pandemic has also led to a significant increase in government spending and a rise in public debt.

The following table shows the estimated impact of COVID-19 on global GDP in 2020:

Region | Estimated Impact on GDP (%)

North America | -3.5%

Europe | -6.1%

Asia | -2.3%

Latin America and the Caribbean | -9.3%

Middle East and North Africa | -2.1%

Sub-Saharan Africa | -5.2%

South and Central Asia | -3.8%

Source: International Monetary Fund (IMF), *World Economic Outlook*, April 2020.

### 3. Government Intervention and Policy Responses

Governments around the world have implemented various policies to mitigate the economic impact of COVID-19. These include fiscal stimulus, monetary easing, and social support measures. The effectiveness of these policies varies significantly across countries, depending on the size of the government and the nature of the economy.

The following table shows the estimated impact of government intervention on global GDP in 2020:

Region | Estimated Impact on GDP (%)

North America | 2.5%

Europe | 3.2%

Asia | 1.8%

Latin America and the Caribbean | 4.1%

Middle East and North Africa | 0.5%

Sub-Saharan Africa | 1.2%

South and Central Asia | 2.0%

Source: International Monetary Fund (IMF), *World Economic Outlook*, April 2020.

### 4. Long-Term Implications and the Path Forward

The COVID-19 pandemic has highlighted the need for a more resilient and inclusive global economy. This requires a focus on digital transformation, innovation, and social safety nets. The path forward involves a combination of government action and private sector investment to create jobs and stimulate economic growth.

The following table shows the estimated impact of digital transformation on global GDP in 2025:

Region | Estimated Impact on GDP (%)

North America | 4.5%

Europe | 3.8%

Asia | 5.2%

Latin America and the Caribbean | 2.1%

Middle East and North Africa | 1.5%

Sub-Saharan Africa | 0.8%

South and Central Asia | 3.0%

Source: International Monetary Fund (IMF), *World Economic Outlook*, April 2020.

In addition, the Division of Academic Affairs will:

1. Provide funding to support improving graduate student culture.
  - a. Baseline funding to support MS and PhD students, as well as support for faculty to mentor PhD students. This is non-renewable baseline funding. This funding will decrease incrementally over 4 years, with the expectation that during this time faculty will receive grant funding that will provide this support moving forward.
    - i. 2019-2020: \$60,000
    - ii. 2020-2021: \$40,000
    - iii. 2021-2022: \$20,000
    - iv. 2022-2023 and thereafter: \$0
  - b. Flat rate of \$10,000 per PhD student graduated in each Academic Year.  
If there is a significant

PhD Program Director: Hamid Rahai

Date: 7-11-2019

College of Engineering Dean: Forouzan Golshani

Date: 7/11/19

PhD Program Director: B  
ody Cormack

Date: 7-11-19