

## **ESTIMATING THE OVERALL FISCAL IMPACT OF INDONESIA AND THE PHILIPPINES COVID-19 RESPONSE PACKAGES**

1. This supplementary appendix presents estimates of the overall fiscal impact on output (real gross domestic product, [GDP]) of both the Indonesia and Philippines coronavirus disease (COVID-19) response packages using published data on spending and tax multipliers for the United States (US).<sup>1</sup> Fiscal multipliers show the overall impact of government spending and tax cuts on stimulating output after 1 or 2 years. For example, a spending multiplier of 1.5 tells us that a \$1 increase in government spending will result in a cumulative increase in output by \$1.50.

2. The estimates presented here are preliminary, and analytical work on the fiscal impact of each countries' COVID-19 response package is ongoing, and results will be included in the project completion reports for both the Indonesian and Philippines COVID-19 Active Response and Expenditure Support (CARES) programs.

3. There is a large volume of empirical studies estimating fiscal multipliers and these estimates range anywhere between small negative to over 3.0. The country context, stage in the business cycle, and methodology used by studies partly explain this wide variation in estimated multipliers. In summary, the literature shows that:<sup>2</sup>

- (i) Fiscal multipliers are generally higher than 1 during economic recessions and below 1 during economic expansions, meaning that fiscal stimulus is effective in stimulating output during economic contractions and less effective during periods of economic expansions.
- (ii) Fiscal multipliers are higher if a country's debt level is low, or the financial system is impaired or inefficient, or monetary policy is constrained (for example, interest rates already close to zero).
- (iii) Fiscal multipliers tend to be lower in open economies (import leakage).
- (iv) Spending multipliers are larger than tax multipliers.
- (v) Investment spending multipliers are larger than current spending multipliers.
- (vi) Tax multipliers are higher for tax cuts to low income earners compared to high income earners and compared to corporate tax cuts during economic expansions and contractions.
- (vii) Multipliers are higher for income transfers to individuals compared to individual tax cuts.

4. For example, studies for Canada, Spain, United Kingdom, and US show that fiscal multipliers range between 0 and 0.8 during economic expansions and 1.3 to 2.1 during economic contractions. Investment spending multipliers can be as high as 2.2, while tax multipliers can range between zero and 1.0 depending on the country and economic circumstances. Fiscal multipliers for income transfers can be as high as 2.1 during economic contractions, and 0.7 during economic expansions (footnote 2).

5. Romer and Bernstein (2009) estimated multipliers from the American Investment and Recovery Act (response to GFC) and found that the spending multiplier was 1.44 after 1 year and

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<sup>1</sup> Recent fiscal multipliers estimated for economic contractions are not readily available for Indonesia and the Philippines.

<sup>2</sup> See The Tax Policy Center's Briefing Book on the US Tax System; L. Mustea. 2015. How Large are Fiscal Multipliers in the US. *Procedia Economic and Finance*. Vol. 20, pp.423–427; and Romer. C and Beinstern. 2009. *The Job Impact of the American Recovery and Reinvestment Plan*, reported in L.Mustea (2015).

1.57 after 2 and 3 years, while the tax multiplier was 0.65 after 1 year and 0.99 after 2 and 3 years.

6. For the purpose of our analysis, we use Romer's estimates for 1 and 2 years to calculate the overall fiscal impact on GDP.

7. The Indonesia COVID-19 package accounts for 2.7% of GDP and Philippines 3.6% of GDP (Table 1). There are some notable differences. Tax cuts account for a bigger share of the Indonesian package (32%) compared to Philippines (22%). Government spending and transfers to individuals account for a bigger share of the Philippine package (59%) compared to the Indonesian package (34%). Also, in the Indonesian package, the components related to "Expanded Tax Incentives" and the National Recovery Program for Businesses have not yet being specified limiting fiscal impact assessment of these to fiscal items.

8. Columns 3 of Table 1 shows the estimated overall fiscal impacts for Indonesia and Philippines. We assume the National Recovery Program for Businesses and the Reserve Fund under the Indonesian package will be disbursed as government spending and hence we use the higher multipliers of 1.44–1.57. if these two items comprise of other forms of assistance instead of government spending, then the impacts would be lower. We also assume financial relief to businesses have a multiplier of 1.

9. Table 1 shows that incorporating the spending and tax multipliers, the Indonesian fiscal package of \$32.4 billion (2.7% of GDP) could lead to a cumulative increase in real GDP of \$38.2 billion after 1 year, and \$44.4 billion after 2 years, equivalent to 3.2% and 3.7% of GDP respectively. For the Philippines, the overall fiscal impact of the \$13.1 billion package (3.6% of GDP) could be \$15.2 billion after 1 year and \$17.2 billion after 2 years, or 4.2% and 4.8% respectively. The incremental percentage increase in GDP is larger for the Philippines because a higher share of the package is government spending and transfers to individuals.

10. The analysis has limitations. The multipliers are based on US data and therefore may not reflect a fiscal impact for the two countries. While there is strong evidence to show fiscal multipliers are above 1 for developing economies during a contraction, in the absence of recent estimates for Indonesia and the Philippines it is not clear whether these are close to 1 or 2. The analysis does not incorporate other effects that may lower the fiscal impact such potential for higher prices and higher imports of goods and services arising from increased government spending. Also, both Indonesia and the Philippines have weaker public financial management systems, and this can lower the multiplier effects. Conversely, debt levels are low and capital markets are small meaning fiscal stimulus could be higher in Indonesia and the Philippines.

**Table 1: INO and PHI Stimulus Packages - Potential Multiplier Effects**  
(\$ millions)

	Fiscal COVID-19 Packages		Overall Fiscal Impact After 1 & 2 Years	
	INO	PHI	INO	PHI
<b>Government Spending</b>	4,509 <sup>a</sup>	1,643 <sup>h</sup>	6,493 & 7,079	2,366 & 2,580
<b>Transfers to individuals</b>	6,548 <sup>b</sup>	5,246 <sup>i</sup>	9,429 & 10,280	7,554 & 8,236
<b>Transfers to LGU</b>	--	792	--	1,140 & 1,243*
<b>Tax cuts (indirect tax)</b>	4,618 <sup>c</sup>	54 <sup>j</sup>	3,002 & 4,572	35 & 54
<b>Tax cuts (individual)</b>	491	--	319 & 346	--
<b>Tax cuts (corporate)</b>	1,394 <sup>d</sup>	2,764	906 & 1,380	1,797 & 2,736
<b>Financial relief (business)</b>	349	2,550 <sup>k</sup>	349**	1,275
<b>Other expansion of tax incentives</b>	4,000 <sup>e</sup>	--	2,600 & 3,960	--
<b>National Recovery Program for businesses and MSMEs</b>	8,571 <sup>f</sup>	--	12,342 & 13,456*	--
<b>Reserve Fund</b>	1,949	--	2,807 & 3,060*	--
<b>Total</b>	32,429	13,056	38,245 & 44,482	15,200 & 17,200
<b>% of GDP</b>	2.7% (2019 nominal GDP = \$1,192 billion)	3.6% (2019 nominal GDP = \$360 billion)	3.2%–3.7% (% 2019 GDP)	4.2%–4.8% (% of 2019 GDP)

COVID-19 = coronavirus disease, GDP = gross domestic product, INO = Indonesia, LGU = local government unit, MSME = Micro, Small and Medium Enterprises, PHI = Philippines.

\* Assume government spending multipliers of 1.4 and 1.57 for first and second years.

\*\* Assume multiplier of 1.

<sup>a</sup> Public health spending, discount airfares, and tourism grant.

<sup>b</sup> Social protection and cash transfers to poor families.

<sup>c</sup> Refers to all indirect tax relief including tax compensation for hotels and restaurants charged at the local government level.

<sup>d</sup> Corporate tax cuts.

<sup>e</sup> Expansion in tax incentives to businesses to be defined soon.

<sup>f</sup> Assistance to small business to be defined soon.

<sup>g</sup> Reserve Fund set up to fund anti-COVID disease and prevention.

<sup>h</sup> Public health spending and increased allocations to the agriculture sector including additional spending to boost emergency rice stocks.

<sup>i</sup> Emergency subsidy program.

<sup>j</sup> Import duties exemption on medical equipment and supplies

<sup>k</sup> Credit guarantee, loan to small and medium-sized enterprises, SUREAid.