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# **ADB BRIEFS**

# **KEY POINTS**

- The economic recession from the COVID-19 pandemic threatens the job security and well-being of over 91 million international migrants from Asia and the Pacific.
- Total remittances to Asia are expected to drop between \$31.4 billion (baseline scenario) and \$54.3 billion (worst-case scenario) in 2020, equivalent to 11.5% and 19.8% of baseline remittances, respectively.
- With many households depending on international remittances in developing Asia—particularly in the Pacific and Central and West Asian economies—a sudden stop in remittance flow to these regions could push people into poverty.
- Source and host countries of migrant workers are encouraged to extend temporary social protection programs to assist stranded and returned migrants; extend social protection to the poor including the remittance recipient households who fall back to poverty; design comprehensive immigration, health, and labor policies that enable migrants to return to jobs; and ensure the continuity of remittance services and enabling business environment.

COVID-19 Impact on International Migration, Remittances, and Recipient Households in Developing Asia<sup>1</sup>

Aiko Kikkawa Takenaka

Economist
Economic Research and Regional
Cooperation Department
Asian Development Bank

Raymond Gaspar

Consultant
Economic Research and Regional
Cooperation Department
Asian Development Bank

James Villafuerte

Senior Economist
Economic Research and Regional
Cooperation Department
Asian Development Bank

Badri Narayanan

Consultant
Economic Research and Regional
Cooperation Department
Asian Development Bank

# INTRODUCTION: THE COVID-19 PANDEMIC AND INTERNATIONAL MIGRATION FROM ASIA AND THE PACIFIC

The coronavirus disease (COVID-19) pandemic risks devastating impact on economies around the world, including widespread unemployment and lower incomes. Toward the end of June 2020, workplace closures applied to 77% of country observations worldwide, albeit to a varying extent—9 countries still required strict closing of all but essential workplaces.<sup>2</sup> Alongside the effects of the pandemic on international and domestic travel, trade, investment flows, and other productive activities, the Asian Development Bank (ADB) estimates employment in Asia and the Pacific to be lower by as much as 167 million person months should containment measures last 6 months from when the outbreak first intensified (ADB 2020). Job cuts in the region are reducing wage income, with estimates of the decline projected to range from \$359 billion to \$550 billion. Migrant workers may be among the hardest hit groups.

Oxford COVID-19 Government Response Tracker. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker.





<sup>1</sup> This brief was drafted under the overall guidance of Cyn-Young Park and benefited from the review and comments by Yasuyuki Sawada, Guntur Sugiyarto, and Kijin Kim. The authors wish to acknowledge the contributions of Aleli Rosario and Ma. Concepcion Latoja.

# **ADB BRIEFS NO. 148**

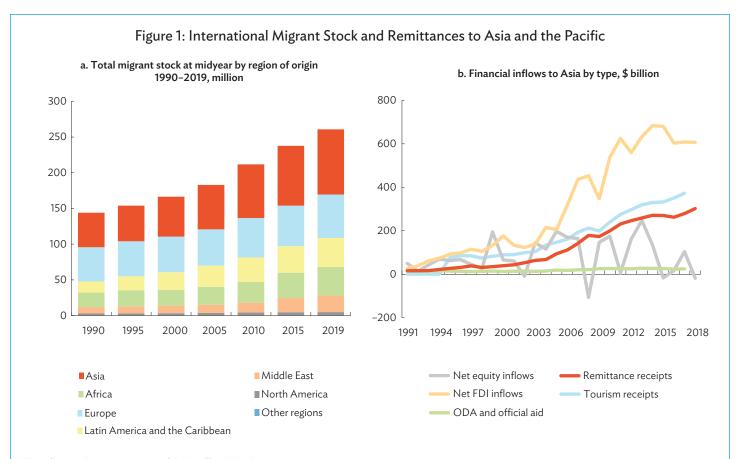
Migrants originating from Asia and the Pacific account for 33% of migrant workers worldwide in 2019 (Figure 1a), the largest share. Major destination regions for Asian migrants included Asia (35%), the Middle East (27%), Europe inclusive of the Russian Federation (19%), and North America (18%). All of these regions have been devastated by the economic impacts of the COVID-19 pandemic, with economic output in these economies projected to contract from 6.7% to 10.2% in 2020.

Remittances to Asia and the Pacific, amounting to \$315 billion in 2019, are an important and stable source of income for families back home and help strengthen external financing—alongside foreign direct investment and tourism receipts—in many developing economies (Figure 1b). They boost general consumption as well as investment and help sustain government debts by contributing to the foreign currency revenue base.

In general, remittance inflows are considered countercyclical as migrants tend to send more funds to their families back home,

who face economic shocks such as natural disasters (Halliday 2006, Yang 2008). Unlike the usual disasters and shocks with localized effect, however, the COVID-19 pandemic is simultaneously hurting migrant source and origin countries.

Furthermore, the COVID-19 crisis has suppressed global demand for oil,<sup>3</sup> causing the recent collapse in oil prices, an additional blow to petrol-heavy economies such as the Russian Federation<sup>4</sup> and in the Middle East, major hosts to Asian migrants, especially from Central Asia and South Asia. The decline in oil prices, which started in the second half of 2014 and dipped below \$40 per barrel by the end of 2015, was associated with the same year decline in remittances from oil-producing countries, particularly from the Russian Federation (Barne 2016). The value of remittances from the Russian Federation has fallen in Turkmenistan and Uzbekistan (47%), the Kyrgyz Republic (25%), Tajikistan (24%), and Kazakhstan (23%) in 2015.



FDI = foreign direct investment, ODA = official development assistance.

Source: Asian Development Bank calculations using data on (Figure 1a) international migrant stock from the United Nations database. POP/DB/MIG/Stock/Rev.2019 (accessed February 2020); and (Figure 1b) tourism receipts, net equity inflows, ODA, and net FDI values from the World Bank World Development Indicators (accessed March 2020) and remittances from the KNOMAD database (accessed February 2020).

<sup>&</sup>lt;sup>3</sup> According to the International Energy Agency (IEA 2020), the global oil demand in April is estimated 29 million barrels per day lower than the previous year's level.

The June futures contracts for Brent oil plunged more than 20% on 21 April 2020 to below \$20 a barrel, immediately translated into pressure on the ruble.

As noted, the COVID-19 pandemic is expected to hit remittances hard in Asia and the Pacific. In 2019, 6 of the 10 largest remittance recipients globally were from this region—India, the People's Republic of China (PRC), the Philippines, Pakistan, Bangladesh, and Viet Nam. That said, the countries likely to face more severe effects from the pandemic-induced decline in remittance inflows are the ones where remittance shares to gross domestic product (GDP) and per capita remittances are high (Figure 2). These include Tonga, Samoa, and other Pacific countries, with remittances relative to the size of their economies and populations very high. Central Asian countries such as Georgia, the Kyrgyz Republic, and Tajikistan, sending a large number of seasonal and long-term migrants mainly to the Russian Federation and Europe, will also be hard-hit, along with some of the major migrant origin countries such as Nepal and the Philippines.

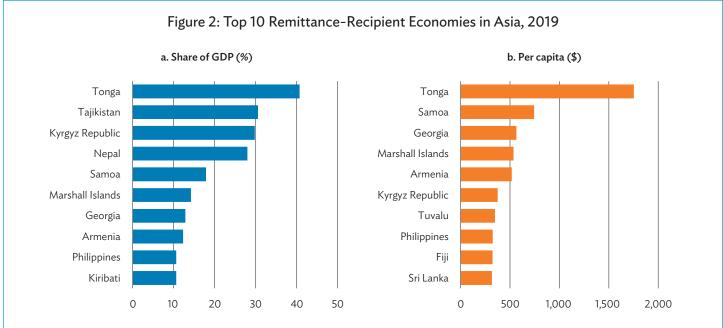
# **ASIAN MIGRANTS' JOBS AT RISK**

Globally, jobs and worker welfare are severely affected by the pandemic. But some sectors are hurt more than others. Hard-hit sectors include retail and wholesale trade, hospitality and recreation, manufacturing, and accommodation and food service sectors, which are engaged largely in nonessential service activities with frequent

face-to-face interactions (ILO 2020).<sup>5</sup> Migrant and informal workers are among those facing the most severe impacts, as they often do not have regular contracts nor strong bargaining power.

Migrant workers are more vulnerable from layoffs once prolonged lockdowns and production breaks drive companies out of business. Also, uncertainty looms about the timing of full recovery, even as lockdowns are lifted, with concerns about persistent weak demand in some economic sectors.

The wide-scale economic cost of the COVID-19 pandemic is expected to reach between \$5.8 trillion and \$8.8 trillion globally, equivalent to 6.4% to 9.7% of global GDP, reflecting the spread of the pandemic to Europe, the United States (US), and other major economies (ADB 2020). Employment in host economies of Asian migrants is contracting significantly. According to ILO (2020), the negative effects on jobs are expected to have hit during the second quarter of 2020 in the Americas and in Europe and Central Asia, with working hours likely down by 18.3% and 13.9% in the quarter, respectively, relative to the quarter prior to the outbreak. In Asia and the Pacific and Arab states, working hours are thought to have declined 13.5% and 13.2% in the quarter, respectively.



GDP = gross domestic product.

Sources: Asian Development Bank calculations using data from the Global Knowledge Partnership on Migration and Development. http://www.knomad.org/data/remittances (accessed April 2020); World Bank. World Development Indicators Database. https://databank.worldbank.org/source/world-development-indicators (accessed April 2020); and United Nations. Department of Economic and Social Affairs, Population Division. World Population Prospects 2019. https://population.un.org/wpp/Download/Standard/Population/ (accessed April 2020).

<sup>&</sup>lt;sup>5</sup> In sectors such as health, education, and utilities, working-hour reductions may be less of a threat as many economies have tried to minimize disruptions in delivery of these public services during lockdown. But workers, including migrants from these sectors, may face high health risks and long working hours.

The extent of shocks to migrants' jobs depends on the sectors in which migrants are employed as well as the overall economic conditions of host countries. Leisure and hospitality industries employ many Asian migrants, including those in the hard-hit tourism sectors. In the US, for example, the unemployment rate among Asian immigrants reached 14% in April and 14.8% in May. Among all non-US-born workers, those working in leisure and hospitality have been hit hard (unemployment rate of 38.4% in May), transportation and utilities (20.6%), and retail trade (19.9%). In Europe, migrant workers are also disproportionately affected by job losses induced by the pandemic. Based on the Eurostat, non-European-Union workers saw their unemployment rates higher during the first quarter of 2020 relative to the last quarter of 2019 in many European Union (EU) member countries, including Sweden (+6%), Austria (+3.4%), Belgium (+2.9%), the Netherlands (+1.7%), and the United Kingdom (+1.6%). Notably, unemployment rates among EU nationals in these countries increased more slowly, i.e., Sweden (+0.9%), Austria (+0.1%), and the United Kingdom (+0.2%), and stable in Belgium and even 0.1% lower in the Netherlands.

The construction sector is another major employer of migrants, especially in the Gulf countries and the Russian Federation. While construction projects in the Gulf continue apace despite lockdown restrictions, some sites have shut down where the risk of infection is deemed high among migrants living in densely populated dormitories, making social distancing measures nearly impossible. In the Middle East, including workers from other sectors, over a million migrants are expected to fly home, especially when travel restrictions are eased.

The broken supply chains induced by the pandemic amid simultaneous temporary shutdowns of operations offer grim prospects for migrants' jobs in the manufacturing sectors. Demand from major economies is relatively weak as firms with suppliers affected by lockdowns are forced to suspend production. Agricultural supply chains are also impacted, leading to the layoffs of migrants, who then return home as a precautionary measure. In Thailand, host to over 3 million migrants, mostly from its neighbors, thousands of jobless migrant workers from Cambodia, the Lao People's Democratic Republic, and Myanmar employed in agriculture, fisheries, and other sectors have returned home via land checkpoints (IOM 2020).

Travel bans restricting international mobility are taking a toll on workers in transport sectors, including airlines and travel agencies, as well as seafarers and sea-based workers in passenger cruise and cargo ships. As of 21 June 2020, the Philippines' Department of Foreign Affairs had brought home more than 29,000 sea-based

overseas Filipinos, who are known to account for more than 30% of the global maritime workforce (Richter 2016).

Meanwhile, newly recruited migrants and those who were on vacation at home face the bleak prospect of losing their jobs. A new batch of Nepali migrant workers bound for the Republic of Korea and Qatar, for example, have been asked to put off their departures until further notice (Khadka 2020). According to the Philippine Overseas Employment Agency, up to 3,000 Filipinos were immediately affected by the bans, with some Qatar-based workers forced to turn back after boarding planes to Doha. Moscow's border closure announcement on 18 March 2020 came as many Central Asians were bound to migrate for seasonal jobs at Russian construction sites, farms, and factories (Najibullah 2020).

The large diaspora (permanent migrants) or skilled workers in demand areas (e.g., health professionals and others providing essential services) may have more stable jobs, with access to social protection measures such as unemployment benefits and emergency cash transfers that are available in host countries. About 15% of Asian migrants in the US are employed in health care (Shah 2020), citing Organisation for Economic Co-operation and Development (OECD) data. Saudi Arabia has exempted returning health workers from the Philippines and India from the pandemic-related travel ban, but these workers should undergo a special medical evaluation (CNN Philippines 2020).

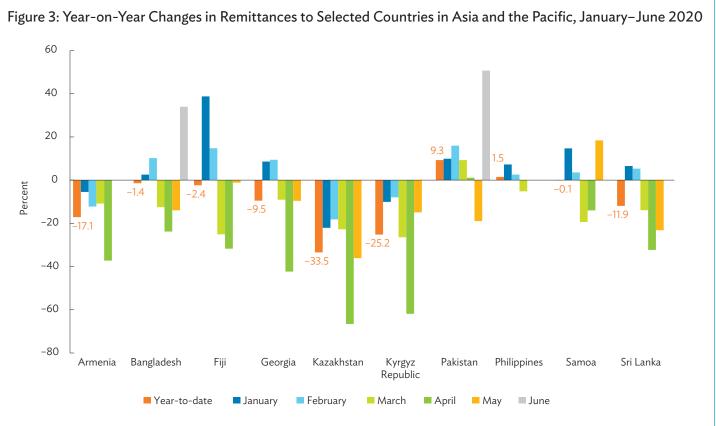
# REMITTANCE FLOWS TO DEVELOPING ASIA TO PLUNGE AMID THE PANDEMIC

Official central bank data on remittance inflows show significant declines, with some variation in the magnitude and consistency across the countries. During the first months of 2020, remittances began to contract in major migrant source countries with available data (Figure 3). While some migrant workers may feel altruistic and send more money to their families in extremely difficult situations, prevailing weak economic forecasts are pointing toward declining remittances. However, relative increase in the first remittance inflows is observed for the month of June in selected countries. This can be attributed to the lifting of lockdowns in destinations that allowed migrants to remit over the counter and the introduction of policy measures that incentivize transfer by reducing restrictions and transaction fees.

This policy brief explores the potential impact of the COVID-19 outbreak on remittance flows using the Bilateral Labor Migration (GMig2) Model and Database,<sup>7</sup> which is consistent with the

<sup>&</sup>lt;sup>6</sup> Migrant communities easily became the epicenter of the outbreak in many countries in the region. In Singapore, migrant workers housed in dormitories accounted for more than 90% of infections as of 21 June 2020.

The database used is based on the Global Trade Analysis Project (GTAP) 10A Database (Aguiar et al. 2019) and is augmented by the (i) bilateral migration database developed by the Global Knowledge Partnership on Migration and Development (KNOMAD) as documented by Global Migration Group (2017) extending as well as updating the procedures in Walmsley, Ahmed, and Parsons (2007) and Ratha (2004); and (ii) bilateral migration stock data from the UN Population Division (UN 2019). Please refer to Aguiar (2020) for detailed procedures in developing the dataset. The GMig2 Database covers 141 regions/ territories with 65 sectors and can be extended as the number of regions in the GTAP database increases. Coverage is expanded to include economies not traditionally covered in the standard GTAP model, including the Pacific island countries; Macau, China; and Myanmar based on their 2018 GDP from the World Bank and ADB-Multiregional Input-Output tables, along with all other economies or territories.



Note: Numbers refer to the year-to-date changes (base year 2019) in remittance inflows to selected Asian countries.

Sources: Asian Development Bank calculations using data from the central banks of respective countries.

General Agreement on Trade and Services Mode 4 or the temporary mobility of natural persons. The analysis assumes an endogenous change in the number of employed migrants based on changes in wage differentials between home and host countries. Remittances are kept as a fixed proportion to income earned by guest foreign workers in the host countries. In this regard, the shock from COVID-19 to remittances is transmitted three ways:

- through the decline in GDP growth of all countries (source and host) which affects the wage differential and the employment status of labor between source and host countries;
- through shutdown of economic activities which leads to widespread job losses, including foreign workers in host economies;
- through the fall in the demand for, and prices of oil, which
  affects oil sector production. These shocks affect employment
  and wages by sector, which indirectly affects the wages and
  income earned by all labor types, which include foreign
  workers. In turn, remittances fall along with the decline in
  income earned by foreign workers.

The analysis from this brief involves two scenarios. The "baseline" scenario was obtained from the long-containment scenario of the COVID-19 economic impact assessment discussed in ADB Policy Brief 133 (ADB 2020). Under this scenario—which anticipates country-specific declines in tourist arrivals, domestic consumption, investment, and production, and increase in trade costs—it takes about 6 months for economies to get their domestic outbreaks under control and to start normalizing economic activities. It is also assumed that the economic impact of COVID-19 dissipates halfway in the last 3 months of the outbreak. Moreover, we also added the effects of lower demand for prices of oil in the baseline scenario, which amplifies the hit to GDP.

The "worst-case" scenario assumes that the domestic outbreak control and resumption of economic activities take a year's time. It also assumes that the economic impact of COVID-19 persists throughout the year and dissipates halfway in the last 3 months of the outbreak.

<sup>&</sup>lt;sup>8</sup> The analysis assumes that wage rates grow at the same rate as that of per capita GDP between 2014 and 2018.

<sup>9</sup> For the COVID-19 impact on GDP, please see ADB Brief 133; for more details on the model description, assumptions, and other technical matter on remittance forecast, please refer to the online Appendix: https://aric.adb.org/remittance-appendix.

In assessing the analysis presented, it is important to keep in mind the natural omissions and simplifications that could affect the model results. First, a few important channels of COVID-19 impact on migrant workers and remittances have not been accounted for. These include (i) the impact of death and disability on migrant workers; (ii) the impact on the cost of sending remittances; (iii) changes to migration-related policies as countries try to restrict the entry of foreigners with existing work visas within their borders; and (iv) possible heterogeneity in the impact of COVID-19 on jobs among local and migrant workers within and across sectors and economies. More importantly, for some economies with only few COVID-19 cases, such as the Pacific, the calculated GDP impacts are modest, with a potential for substantial increases if COVID-19 caseloads intensify.

## Remittance Impact under Baseline Scenario

In the baseline scenario, global remittances are expected to decline by \$57.6 billion in 2020, equivalent to 9.7% of total remittances globally (Table 1). Global remittances to Asia and the Pacific will fall by \$31.4 billion, equivalent to 11.5% of the baseline remittances in 2018 (see Box). The larger hit to remittances in the region reflects the region's larger share of migrant workers globally. By subregion, South Asia recorded the largest fall in remittances, at \$18.3 billion (58.3% of Asia's total loss), followed by Southeast Asia \$6.2 billion (19.7%), and the PRC at \$3.5 billion (11.1%). Remittances in Central Asia also fell by \$2.2 billion, while remittances in the Pacific fell by \$116 million. As a proportion of the 2018 baseline remittances to the region, South Asia, Central Asia, and Southeast Asia experienced the largest falls, at about 15.8%, 15.7%, and 9.9%, respectively.

Looking closely at the expected decline in remittances to Asia, the majority of forgone remittances is explained by the fall in remittances from the Middle East, which accounts for 53.7% at \$16.8 billion (Table 2). This is followed by the fall in remittances from the US, 30% or \$8.8 billion; and the fall in remittances from the Russian Federation, about 5% or \$1.6 billion, of which \$1.5 billion is the decline in remittances going to Central Asia.

Generally, the results in the baseline scenario are quite muted, because the impact of COVID-19 exerts its full impact in the first quarter and halfway through, its impact in the second quarter dissipates. While this economic impact may be feasible for some of the source countries, such as Viet Nam and Thailand, which effectively contained their outbreaks within 3 months, most of the destination economies for migrants are still reeling from the effects of COVID-19 on their economies. It is likely that it will take more time before borders reopen to foreign workers, even if the domestic outbreaks in host economies are contained. Moreover, even if border restrictions are lifted, it is more likely that jobs will be offered first to residents and citizens of the host countries, rather than to guest workers. The baseline is therefore still feasible, but the window for this scenario is closing fast.

Table 1: Impact on Global Remittance Inflows (Baseline)

Remittance Recipients	Amount (\$ million)	Percent of Baseline
Global	-57,603	-9.7
Asia	-31,356	-11.5
Australia and New Zealand	-129	-4.7
Central Asia	-2,228	-15.7
East Asia ex-PRC and Japan	-716	-7.0
Japan	-211	-5.7
PRC	-3,493	-5.6
Southeast Asia	-6,187	-9.9
South Asia	-18,276	-15.8
Pacific	-116	-5.7
United States	-226	-3.5
European Union + United Kingdom	-8,071	-6.5

PRC = People's Republic of China.

Note: Data presented for East Asia does not include those for the PRC and Japan. Source: Asian Development Bank estimates.

# Box: Rescaling Remittance Losses to the 2020 Baseline

The estimated COVID-19 impact on remittances is expressed in 2018 baseline data and will be underestimated. One way to rescale the remittance losses to 2020 is to anchor it to the share of the impact as a percentage of gross domestic product (GDP). Based on International Monetary Fund projections, GDP globally may have grown by around 5% without COVID-19 from 2018 to 2020. Using this global GDP growth, we run a dynamic recursive Global Trade Analysis Project model to simulate and scale up all economies in the world to generate a 2020 GDP level without COVID-19. Applying the 2018 share of the remittance impact to GDP to the 2020 GDP, we obtain the COVID-19 impact of remittances on the 2020 baseline below:

Based on our analysis, the estimated COVID-19 impact on remittances in the 2020 baseline date will range from \$63.7 billion in the baseline scenario to \$120.2 billion in the worst-case scenario. For Asia, the impact on remittances will range from \$32.9 billion in the baseline to \$57 billion in the worst-case scenario.

# Rescaling Remittance Impact from 2018 to 2020 Baseline, \$ million

	Baseline Scenario		Worst-Case Scenario	
	2018	2020	2018	2020
Global	-57,603	-63,739	-108,617	-120,187
Asia	-31,356	-32,924	-54,255	-56,968

Source: Asian Development Bank estimates.

Table 2: Impact on Remittance Inflows to Asia and the Pacific (Baseline)

Remittance Source Region/ Territory	Amount (\$ million)	Percent of Baseline
Global	-31,356	-11.5
Asia	-1,624	-2.6
European Union + United Kingdom	-1,493	-7.3
United States	-8,768	-8.6
Middle East	-16,835	-26.0
Russian Federation	-1,564	-25.5
Rest of the world	-1,071	-6.0

Source: Asian Development Bank estimates.

# Remittance Impact under the Worst-Case Scenario

Assuming that economies take about a year to get their domestic outbreaks under control and bring economic activities back to normal, global remittances are expected to decline by \$108.6 billion in 2020, equivalent to 18.3% of the baseline remittances globally (Table 3). Remittance receipts in Asia will fall by \$54.3 billion, equivalent to 19.8% of the baseline remittances in 2018. By subregion, remittances in South Asia will record the largest fall, by \$28.6 billion (24.7% of 2018 baseline), followed by remittances to Central Asia (\$3.4 billion, 23.8%), Southeast Asia (\$11.7 billion, 18.6%), and East Asia excluding the PRC and Japan, (1.7 billion, 16.2%). Remittances to the Pacific will also fall (\$267 million, 13.2%).

Similarly, the majority of the decline in remittance flows to Asia is explained by a fall in remittances from the Middle East, which accounts for 41.4% of the global loss at \$22.5 billion (Table 4). This is followed by the fall in remittances from the US, (37.9%, or \$20.5 billion). The fall in remittances from the EU and the United Kingdom accounts for 6.3% or \$3.4 billion. The decline from the Russian Federation amounts to \$2.1 billion, of which \$2 billion is a decline in remittances going to Central Asia. By percentage decline from the baseline, the Middle East and the Russian Federation experienced the sharpest decline, of over a third, primarily reflecting the effects of low demand and prices for oil, on remittances.

# Subregional Impact under the Worst-Case Scenario

By subregion, the decline in the value of remittances is largest for South Asia, at \$28.6 billion; followed by Southeast Asia, at \$11.7 billion; the PRC, at \$7.9 billion; Central Asia; at \$3.4 billion; East Asia excluding the PRC, at \$1.7 billion; and the Pacific, at \$267 million (Figure 4).

Looking at the source of the decline by recipient subregions, various remittance source economies (migrant hosts) have different impacts on the Asian subregions. For South Asia, the majority of the decline in remittances (65.8%) is explained by the decline in remittances from the Middle East, followed by the US, at 21.8%. For Southeast Asia, the US leads, with a share of 52.9%, followed by the Middle East, at 31.3%, and the EU and the UK, at 5.6%. For the PRC, the US also accounts for 69.9% of the decline in remittances, followed by

Table 3: Impact on Global Remittance Inflows (Worst-Case)

Remittance Recipients	Amount (\$ million)	Percent of Baseline
Global	-108,617	-18.3
Asia	-54,255	-19.8
Australia and New Zealand	-299	-10.8
Central Asia	-3,366	-23.8
East Asia ex-PRC and Japan	-1,660	-16.2
Japan	-497	-13.3
PRC	-7,886	-12.6
Southeast Asia	-11,660	-18.6
South Asia	-28,621	-24.7
Pacific	-267	-13.2
United States	-482	-7.4
European Union + United Kingdom	-17,889	-14.4

PRC = People's Republic of China.

Note: Data presented for East Asia does not include those for the PRC and Japan. Source: Asian Development Bank estimates.

Table 4: Impact on Remittance Inflows to Asia and the Pacific (Worst-Case)

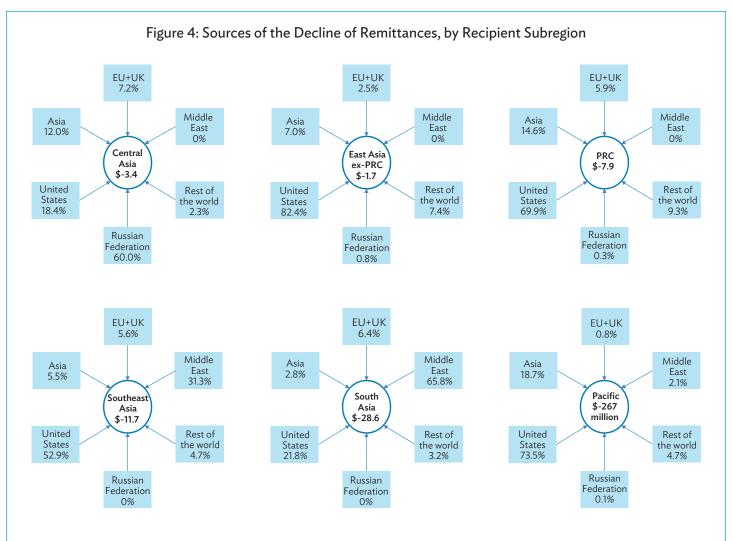
Remittance Source Region/ Territory	Amount (\$ million)	Percent of Baseline
Global	-54,255	-19.8
Asia	-3,290	-5.2
European Union + United Kingdom	-3,397	-16.6
United States	-20,547	-20.1
Middle East	-22,481	-34.7
Russian Federation	-2,067	-33.7
Rest of the world	-2,472	-13.9

Source: Asian Development Bank estimates.

Asia, at 14.6%. For Central Asia, the Russian Federation accounts for 60%, followed by the US, at 18.4%, and Asia, at 12%. The US explains about three-quarters of the decline in remittances to the Pacific, followed by Asia at 18.7%, and the rest of the world, at 4.7%.

### **Economy-wide Impact under the Worst-Case Scenario**

The results show that the COVID-19 impact on remittances ranges from a 5.2% decline from baseline remittances in 2018 for the least-affected economy to almost a 30% decline for the most-affected (Figure 5). Among developing Asian economies: the five worst-affected are Nepal, where remittances could fall by 28.7%; Tajikistan (27.9%), Bangladesh (27.8%), Pakistan (26.8%), and the Kyrgyz Republic (25.2%). Most Central Asian economies are also heavily



EU + UK = European Union plus the United Kingdom, PRC = People's Republic of China.

Note: The amount (\$ billion) in the circle refers to the total remittance loss of respective Asian subregion. Host regions and territories are those in the boxes with their corresponding share to the total remittance loss by subregion. Data presented for East Asia does not include those for the PRC and Japan.

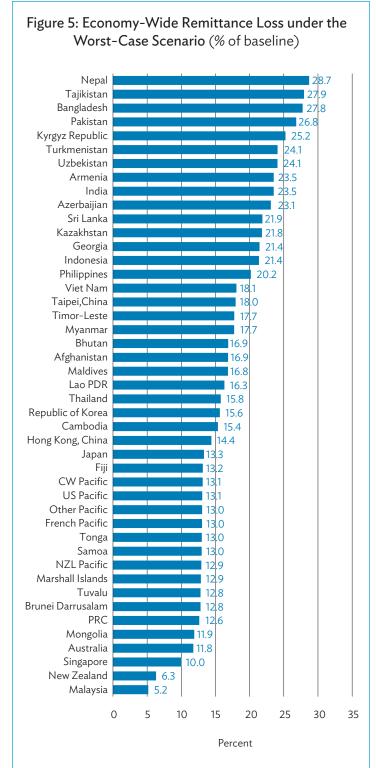
affected, with remittances falling by over 21%. For Southeast Asia, the Philippines is the most affected, with remittances falling over 20%; and others by over 15%. Remittances for most of the Pacific island economies are expected to fall by around 13%. In general, the magnitude of the impact on remittances by economy reflect the distribution of the decline in GDP observed in the host economies.

Source: Asian Development Bank estimates.

The two-digit decline in remittances expected this year, if realized, will record unprecedented decline in remittances to the region. During the global financial crisis in 2007–2008, remittances to the Asia and Pacific region declined 2.7% to \$173 billion in 2009. In this period, remittances to Central Asia fell most (20%) and followed by East Asia (13%), attributed largely to lower remittances received by the PRC.

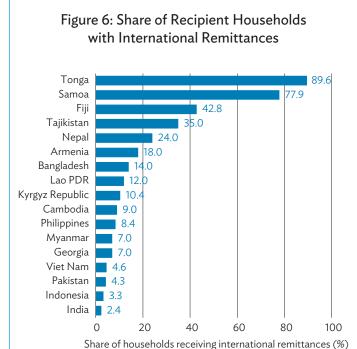
# REMITTANCE-DEPENDENT HOUSEHOLDS AT RISK OF FALLING INTO POVERTY

International remittance inflows are critical in Asia's efforts to uplift the lives and welfare of poor people in the region. In a cross-country study involving the 10 migrant-sending countries in Asia, Yoshino, Taghizadeh-Hesary, and Otsuka (2017) estimate that a 1 percentage increase in the share to GDP of remittances inflow from overseas is associated with a reduction in the poverty gap ratio by 22.6% and poverty severity ratio by 16%. A study based on microdata from selected economies in South Asia and Southeast Asia suggests that a 10% increase in remittance inflows leads to a 3%–4% rise in real GDP per capita (Sugiyarto and Pernia 2012).



CW Pacific = Kiribati, Nauru, Papua New Guinea, and Vanuatu; Lao PDR = Lao People's Democratic Republic; NZL Pacific = Cook Islands, Niue, and Tokelau; Other Pacific = Federated States of Micronesia, Palau, and Solomon Islands; PRC = People's Republic of China; US Pacific = American Samoa, Guam, Northern Mariana.

Source: Asian Development Bank estimates.



Lao PDR = Lao People's Democratic Republic.

Sources: ADB compilation using data from Mahabub Hossain Panel Data 2014 - rural household sample only for Bangladesh; Making Access Possible (MAP) - FinScope nationwide financial inclusion surveys in Cambodia (2015), Lao PDR (2014) and Myanmar (2013) as reported in Aneja, Gravesteijn, and Hwang (2017); Integrated Household Survey for Georgia as reported by European Training Foundation and Business Consulting Group Research (2013); National Sample Survey 2007–2008 for India as reported by Chellaraj and Mohapatra (2014); Indonesia Family Life Survey in 2007 as reported by Adams and Cuecuecha (2010); Life in Kirgizstan Study (LiK) 2016 for the Kyrgyz Republic; National Migration Survey 2018 for the Philippines; JICA Research Institute (2020) survey conducted in 2018 to study the migration situation in Tajikistan; Household Expenditure Survey 2013 for Samoa; Nepal Living Standard Survey in 2011 for Nepal; 2007–2008 Household Integrated Economic Survey as reported in Mughal and Anwar (2012) for Pakistan; Roberts and Banaian (2005) for data on Armenia; Brown et al. (2006) for data on Fiji and Tonga based on the 2005 Survey of Migrant Households and Remittances; and Vietnam Household Living Standard Surveys in 2012 as used in Nguyen and Vu (2017).

Among migrant-sending households, remittances help acquire essential items such as food, clothing, shelter, health, and education. Hundreds of thousands of households in the countries of origin depend on remittance incomes. Nearly 90% of households in Tonga, 80% in Samoa, and more than 40% in Fiji are reported to be receiving some amount of remittances from overseas (Figure 6).

Unexpected loss of income due to the reduction or suspension of remittances can leave recipient households particularly vulnerable. For example, in the Kyrgyz Republic, remittances constitute 75% of recipient households' income on average (Gao, Kikkawa, and Kang 2020). Greater concerns arise among households of older

persons or households with no income earner. In the Philippines, the highest prevalence of citizens receiving remittances is among senior citizens, at over 21% (Philippine Statistics Authority 2020). Murakami, Shimizutani, and Yamada (2020) project remittance inflows to the Philippines to fall by 23%–32% in 2020 relative to levels absent the pandemic, primarily attributed to adverse macroeconomic shocks in host economies. Consequently, household spending per capita will be reduced by 2.2%–3.3%.

During the global financial crisis, which resulted in a 2.7% decline in overall remittance inflows to Asia and the Pacific, a multicountry survey supported by ADB found that remittances received by households declined on average by 19.3% (Bangladesh) to 29.8% (Indonesia) in 2009, with significant variation in how households managed such shocks (Sugiyarto 2012). While some well-off families used savings to compensate for the loss, more vulnerable households were compelled to work longer and cut spending on necessities such as food and education.

Without continuous remittance flows, remittance-dependent households can fall into poverty or have difficulty meeting basic essential needs, as well as access education and health services. Loan repayment is another challenge for remittance recipient households. The increasing incidence of overseas migration among poorer households highlights the relative ease of access to finance in paying for migration-related costs during the past decade (Kikkawa and Otsuka 2020).

Many of the existing emergency social protection measures introduced by the governments are linked to employment (e.g., unemployment benefits, minimum wage guarantee program) and these by design will not reach hard-hit remittance recipient households. It is important that households experiencing general income loss, including from remittance sources, are also covered in assistance through measures such as cash transfers. Households receiving domestic remittances from family members in lockdown cities confront similar challenges and deserve equivalent supports.

# PANDEMIC AND MIGRATION: DYNAMICS AND GOVERNANCE

The impacts of COVID-19 on cross-border labor mobility are likely to go beyond the temporary contraction of migrant jobs and remittances and reshape migration dynamics and governance. While the demand for migrant workers may rise as contagion subsides in many host countries, there will be greater restriction of movement amid additional public health measures and limited travel options. The costs of migration, which are incurred by employers and/or migrants, are also expected to rise, with limited travel options and additional health procedures and immigration paperwork. A greater supply of workers may end up looking for work overseas as the

pandemic continues to hurt economies. In the meantime, reduced clarity on migration procedures caused by frequent changes in recruitment and visa procedures could give rise to irregular forms of migration, such as human trafficking. Governments at both ends of migration need to set clear policies and guidance to respond to the "new normal" in cross-border movement of workers.

# **RECOMMENDED POLICY ACTIONS**

International migration and the cross-border mobility of workforces and the flows of workers' remittances are essential features of today's globalized economy. The COVID-19 pandemic has exposed the vulnerable social and employment status of migrant workers and their families, and host and source countries are encouraged to provide them effective support (Table 5).

# **Ensuring the Safety and Welfare of Migrant Workers**

Governments of host countries of migrants need to ensure that migrant workers have access to social protection, including employment-related support and social assistance, as well as health services. Those workers with regular employment contracts may well have access to compensatory benefits or other emergency relief programs targeted at COVID-19-affected workers but extending services to all affected migrants under the current exceptional circumstances is encouraged. Furthermore, access to health services among migrants must be guaranteed, regardless of migratory status at this critical juncture of fighting the pandemic. Describe measures to fill service gaps facing migrants can be taken, as exemplified by some of the governments, including major host countries in Asia.

For example, Singapore extends help among migrant workers, who continue to exhibit high COVID-19 infection rates (PMO Singapore 2020). Assistance includes setting up medical facilities and triage clinics in dormitories, providing food and other necessities, including Wi-Fi. In Thailand, registered migrant workers are protected under the Labour Protection Act. In Malaysia, the migrant worker levy has been reduced by 25% for employers of workers whose permits expire between April and December.

Support to employers to help retention and hiring of laid-off workers should also cover migrant workers; such effort contributes to the smooth recovery of the economy by ensuring workforce availability and the reduction of contagion risks. Efforts to add flexibility in the processes renewing migrants' working visas, as exemplified in the Russian Federation and the United Arab Emirates, is critical. In selected sectors, Australia and New Zealand have made similar efforts for seasonal agricultural workers, and the United Kingdom among health care workers. Taipei, China's Ministry of Labor allowed employers of migrant workers whose contracts are set to expire between 17 June and 17 September to apply for a 3-month extension to reduce cross-border travel during the pandemic. The Thai

In 51 countries surveyed for the assessment of Migration Governance Indicators conducted between 2018 and pre-COVID-19 pandemic months of 2020, half of the countries reveal that, depending on their immigration status, migrants have equal access to health care as that of their citizens. Only a third provide migrants equal access to government-funded health services regardless of their status, while 12% provide limited access, including emergency health care (Milan and Cunnoosamy 2020).

# Table 5: Recommended Actions to Uplift the Welfare of Migrant Workers and Ensure Flow of Remittances

### **Recommended Policy Actions**

#### Improve safety and welfare of migrant workers and their families.

Provide access among migrant workers to compensatory benefits or other emergency relief programs targeted at COVID-19-affected workers in host countries.

Assist stranded, laid-off, or other distressed migrant workers and provide necessary humanitarian, health, legal, and administrative support.

Use diplomatic missions to ensure welfare, wages, and benefits for migrant workers staying in host countries.

## Facilitate employment retention and placement.

Facilitate convenient and safe processes in renewal of working permits.

Incentivize employers to retain migrant workforce.

Facilitate employment placement of laid-off migrant workers.

### Facilitate reintegration of returned migrants.

Provide an emergency cash transfer.

Ensure employment opportunity and foster entrepreneurship among repatriated migrant workers.

Initiate online job matching of unemployed overseas workers and conduct training programs to enhance their employability.

### Ensure flow of remittances.

Recognize remittance service providers as one of essential services exempted for restrictions.

Create supportive business environment through relaxing regulations (e.g., tax breaks, compliance) and reducing remittance fees.

Facilitate use of digital platforms in sending and receiving remittances.

Address knowledge and data gap.

Note: This list is not exhaustive and is based solely on gathered information.

Source: Asian Development Bank compilation.

government allowed migrant workers with expiring work permits to stay in the country without the need to apply for extensions.

Governments in migrant source countries should continue and extend support for the return and offer special relief to distressed migrants for meeting their daily needs. The Philippine government offers one-time cash assistance worth \$200 to affected Filipino migrants by tapping its overseas workers welfare funds.

Another important intervention is a program to reskill and upskill migrant workers to help them transition to viable and desirable jobs at home or destinations. To support this program, a skills mapping among returning migrants may be useful to identify the range of skills that are available. Creating online credential and labor market exchange could also help migrants advertise their skills and look for jobs in the economies of their domicile.

In migrant source countries, vulnerable households that experience discontinuation of remittances need to be reached out to by counter-poverty and other social protection measures, such as cash transfers. Moratoriums on debt repayment will be important for remittance recipient households that borrowed funds to pay for migration costs.

Furthermore, governments of migrant host and origin countries must address a range of policy issues to respond to the new norms emerging in cross-border labor mobility. This includes revisiting existing policies and administration of labor migration to adapt to new public health requirements and work safety measures and taking action to prevent irregular forms of migration that may arise during disruption. The pandemic has also triggered waves of discrimination based on race and nationality, which has marginalized migrants. Measures to discourage and penalize such acts and to foster an enabling environment are much called upon. Overall, the pandemic experience calls for an agreed, regionwide, and minimum standard for labor protection on migrant workers, as called upon by the ASEAN Consensus on the Protection and Promotion of the Rights of Migrant Workers signed during the 2017 ASEAN Summit (ASEAN Secretariat 2017).

### **Ensuring the Flow of Remittances**

In this difficult time, remittance money is a lifeline for many poor and vulnerable families left behind; facilitating smooth flow of funds from migrant workers is crucial. Host and source countries should continue to recognize remittance service providers as one of the "essential businesses" to allow migrants and families to transact without disruption. Additional measures that allow banks

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and money transfer operators to better serve customers, such as temporary relaxation of disclosure requirements for remittances directed to countries facing economic and public health crises, or providing tax incentives for money transfer organizations that reduce remittance fees, could be put in place.<sup>11</sup>

In Sri Lanka, while measures are primarily aimed at keeping the overall health of the country's external position, exemptions for inward remittances from the exchange control regulations and taxes, as well as giving protection under banking secrecy provisions would necessarily benefit remittance recipient households. A similar measure was introduced in Pakistan, which has contributed to a surge in remittance inflow for the first half of the year.

# Harnessing Digital Technology and Fintech for Remittances

On a more positive note, technology is playing a crucial role in helping transnational families amid the COVID-19 pandemic, not only by keeping communication open, but also by supporting the sending of remittances through online and digital channels. Although remittance services are considered essential and are exempt from mandatory closure in many countries, physical lockdown orders and business closure makes it difficult for migrants to send money over the counter.

The COVID-19 outbreak could become a major turning point, influencing remittance behavior of migrants by showcasing and popularizing the digital platforms of online money transfer and banking services. *Remitly's* mobile technology allowing people to send and receive money across borders, saw customer growth triple in May, with transaction volume surging 40% from February to March. Hong Kong, China's TNG Wallet, which got its start among domestic workers, also announced record performance, with March pushing its first-quarter volumes to over 3.5 million transactions valued at HK\$3.2 billion (\$410 million). *WorldRemit*, the online money transfer company, observed a 40% uptick in the number of new customers sending money to the Philippines

from February to March. Remittance inflows to Bangladesh through online or wallet-based money transfer, e.g., bKash, is higher by 150% on a daily average in April compared with the first 3 months.

Online channels for sending remittances highlight their strengths during movement restrictions, but barriers remain, particularly on the side of the recipients, and adds to costs. Access to financial services such as basic bank accounts remains low in many of the remittance-dependent countries in Asia. International remittances flowing to the Philippines are transferred predominantly via money transfer operators (i.e., 72.4%, 2018 National Migration Survey). With much of the recipient households unbanked, the share of transfers through banks is only 26.4%. In Tajikistan, online money transfer is the least popular remittance channel, used only by 0.2% of senders (JICA Research Institute 2020).

The government can encourage and support digital remittance service providers who offer safe and affordable remittance platforms by offering incentives such as tax breaks in the short run. In medium to long run, there is a need to address lastmile issues in making mobile and other forms of digital transfer accessible to the recipient households. This requires action to promote financial and digital literacy in recipient communities and improve internet connectivity. New technology, such as digital personal identification, can be instrumental in addressing documentation requirements.

# Addressing Knowledge and Data Gaps

There remains an information gap in understanding how remittances flow during crises, especially at the micro level (migrants and recipient households). Given the significant impacts that remittances have on developing economies and the recipient households, it will be important to pilot and establish a real-time monitoring system consisting of multiple information points that can inform policy makers and facilitate swift and appropriate responses when remittances experience volatility.

See Credit Union National Association. 2020. Remittance Changes Would Help Mitigate Coronavirus Effects. 12 March. https://news.cuna.org/articles/117408-remittance-changes-would-help-mitigate-coronavirus-effects.

# **REFERENCES**

- Adams (Jr.), R. H. and A. Cuecuecha. 2010. The Economic Impact of International Remittances on Poverty and Household Consumption and Investment in Indonesia. Policy Research Working Paper No. 5433. Washington, DC: The World Bank East Asia and Pacific Region, Development Prospects Group.
- Aguiar, A. 2020. Updating GMig2 to GTAP 10. West Lafayette: Global Trade Analysis Project. https://www.gtap.agecon.purdue.edu/resources/res\_display.asp?RecordID=6006.
- Aguiar, A., M. Chepeliev, E. L. Corong, R. McDougall, and D. van der Mensbrugghe. 2019. The GTAP Data Base: Version 10. *Journal of Global Economic Analysis*. 4 (1). pp. 1–27.
- Aneja, A., R. Gravesteijn, and B-H. Hwang. 2017. Remittances as a Driver of Women's Financial Inclusion. New York: United Nations Capital Development Fund.
- ASEAN Secretariat. 2017. ASEAN Leaders Commit to Safeguard the Rights of Migrant Workers. 14 November. https://asean.org/asean-leaders-commit-safeguard-rights-migrant-workers/.
- Asian Development Bank (ADB). 2020. An Updated Assessment of the Economic Impact of COVID-191. ADB Briefs. No. 133. Manila. https://www.adb.org/sites/default/files/publication/604206/adb-brief-133-updated-economic-impact-covid-19.pdf.
- Barne, D. 2016. Oil Price Impact Is Felt Beyond Borders. *World Bank Blogs*. 9 May. https://blogs.worldbank.org/voices/oil-price-impact-felt-beyond-borders.
- Brown, R. P. C., J. Connell, E. Jimenez, and G. Leeves. 2006. Cents and Sensibility: The Economic Benefits of Remittances. In At Home and Away: Expanding Job Opportunities for Pacific Islanders through Labour Mobility. Washington, DC: World Bank.
- Chellaraj, G. and S. Mohapatra. 2014. Internal and International Remittances in India: Implications for Household Expenditure and Poverty. Presented at the KNOMAD International Conference on Internal Migration and Urbanization in Dhaka on 30 April–1 May 2014. https://www.knomad.org/sites/default/files/2017-05/8%20Dr.%20Sanket%20Mahapatra%20India%20Remittances%20HH%20Expenditure%20-%20Chellaraj%20Sanket-KNOMAD%20Dhaka\_0.pdf.
- CNN Philippines. 2020. Saudi Arabia's COVID-19 Travel Ban Now Covers the Philippines. 12 March. https://www. cnnphilippines.com/world/2020/3/12/Saudi-Arabia-COVID-19-travel-ban-Philippines.html.
- Credit Union National Association. 2020. Remittance Changes Would Help Mitigate Coronavirus Effects. 12 March. https://news.cuna.org/articles/117408-remittance-changes-wouldhelp-mitigate-coronavirus-effects.
- European Training Foundation and Business Consulting Group Research (Georgia). 2013. Migration and Skills in Georgia: Results of the 2011/12 Migration Survey on the Relationship between Skills, Migration, and Development. Turin: European Training Foundation.
- Gao, X., A. Kikkawa, and J. W. Kang. 2020. Evaluating the Impact of Remittances on Human Capital Investment in the Kyrgyz Republic. Draft.

- Global Migration Group. 2017. Handbook for Improving the Production and Use of Migration Data for Development. Washington, DC: Global Knowledge Partnership for Migration and Development (KNOMAD) and World Bank.
- Halliday, T. 2006. Migration, Risk, and Liquidity Constraints in El Salvador. *Economic Development and Cultural Change*. 54 (4). pp. 893–925.
- International Energy Agency (IEA). 2020. Oil Market Report April 2020. Paris: IEA. https://www.iea.org/reports/oil-market-report-april-2020.
- International Organization for Migration (IOM). 2020. Migrant Workers Stream Home as Thailand's Economy Goes into COVID-19 Lockdown. Press release. 27 March. https://www.iom.int/news/migrant-workers-stream-home-thailands-economy-goes-covid-19-lockdown.
- International Labour Organization (ILO). 2020. *ILO Monitor: COVID-19 and the World of Work* (Second edition). Geneva. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms\_740877.pdf.
- JICA Research Institute. 2020. Migration, Living Conditions and Skills: Panel Study Tajikistan, 2018. Tokyo. https://www.jica.go.jp/jica-ri/publication/booksandreports/175nbg000019cedi-att/report\_20200330.pdf.
- Khadka, U. 2020. Crossborder Virus and Nepali Migrant Workers. Nepali Times. 10 March. https://www.nepalitimes.com/ opinion/labour-mobility/crossborder-virus-and-nepalimigrant-workers/.
- Kikkawa, A. and K. Otsuka. 2020. The Changing Landscape of International Migration: Evidence from Rural Households in Bangladesh, 2000–2014. Oxford Development Studies. DOI: 10.1080/13600818.2020.1790509.
- Mughal, M. and A. I. Anwar. 2012. Remittances, Inequality, and Poverty in Pakistan: Macro and Microeconomic Evidence.

  Centre d'Analyse Théorique et de Traitement des Données Economiques Working Paper No. 2. CATT UPPA Université de Pau et des Pays de l'Adour.
- Murakami, E., S. Shimizutani, and E. Yamada. 2020. The Potential Impact of the COVID-19 Pandemic on the Welfare of Remittance-Dependent Households in the Philippines. *COVID-19 Economics: Vetted and Real-Time Papers*. 24 (1 June 2020). pp. 183–204.
- Milan, A. and R. Cunnoosamy. 2020. COVID-19 and Migration Governance: A Holistic Perspective. *Migration Policy Practice*. X (2). pp. 27–31.
- Najibullah, F. 2020. Tajik Workers Face Dire Future As Russia Closes Borders Over Coronavirus. *Radio Free Europe/Radio Liberty.* 18 March. https://www.rferl.org/a/tajik-workers-face-dire-future-as-russia-closes-borders-over-coronavirus/30495815.html.
- Nguyen, C. and L. Vu. 2017. The Impact of Migration and Remittance on Household Welfare: Evidence from Vietnam. MPRA Paper No. 80084. https://mpra.ub.uni-muenchen.de/80084/.

- Philippine Statistics Authority. 2020. Domestic Remittances are Just as Important as International Remittances (Results from the 2018 National Migration Survey). Press release. https://psa.gov.ph/content/domestic-remittances-are-just-important-international-remittances-results-2018-national.
- Prime Minister's Office (PMO) Singapore. 2020. PM Lee Hsien Loong on the COVID-19 Situation in Singapore. 21 April. https://www.pmo.gov.sg/Newsroom/PM-Lee-Hsien-Loong-address-COVID-19-21-Apr.
- Ratha, D. 2004. Understanding the Importance of Remittances. Migration Policy Institute. https://www.migrationpolicy.org/article/understanding-importance-remittances.
- Richter, L. 2016. The Impact of the Maritime Industry on the Philippine Economy. Manila: German-Philippine Chamber of Commerce and Industry.
- Roberts, B. W. and K. Banaian. 2005. Remittances in Armenia: Size, Impacts, And Measures to Enhance Their Contribution to Development. Armenia International Policy Research Group Working Paper No. 05/01. Yerevan. https://core.ac.uk/download/pdf/11871687.pdf.
- Shah, S. 2020. Emerging Asia Economics Update: Will A Drop in Remittances Cause Further Pain? *Capital Economics*. 16 April. Sugiyarto, G. 2012. Impact on Migrants and Their Families: Survey Results. Chapter 5 in *Global Crisis, Remittances, and Poverty in Asia*. Manila: ADB. https://www.adb.org/publications/global-

crisis-remittances-and-poverty-asia.

- Sugiyarto, G. and E. Pernia. 2012. Effects of Global Crisis on Remittance and Poverty in Asia. Chapter 2 in *Global Crisis, Remittances, and Poverty in Asia*. Manila: ADB. https://www.adb.org/publications/global-crisis-remittances-and-poverty-asia.
- United Nations, Department of Economic and Social Affairs, Population Division. 2019. International Migrant Stock 2019. https://www.un.org/en/development/desa/population/migration/data/estimates2/estimates19.asp.
- Walmsley, T., S. A. Ahmed, and C. Parsons. 2007. A Global Bilateral Migration Data Base: Skilled Labor, Wages and Remittances (GTAP Research Memorandum No. 06). Global Trade Analysis Project (GTAP): Purdue University, West Lafayette.
- Yang, D. 2008. Coping with Disaster: The Impact of Hurricanes on International Financial Flows, 1970–2002. *The B.E. Journal of Economic Analysis & Policy*. 8 (1). pp. 1–45.
- Yoshino, N., F. Taghizadeh-Hesary, and M. Otsuka. 2017.
  International Remittances and Poverty Reduction: Evidence from Asian Developing Countries. *ADBI Working Paper*.
  No. 759. Tokyo: Asian Development Bank Institute. https://www.adb.org/publications/international-remittances-and-poverty-reduction.

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Asian Development Bank 6 ADB Avenue, Mandaluyong City 1550 Metro Manila, Philippines Tel +63 2 8632 4444 Fax +63 2 8636 2444

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