Macroeconomic Impacts of the Corona Virus: A Preliminary Assessment for Ethiopia

Macro Research
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We make an effort to assess the likely impacts of the corona virus for Ethiopia's economic sub-sectors and for the near-term macro outlook. We find that even under a 'limited virus spread scenario' (where the dominant agricultural and construction sectors remain largely unaffected), there will still be severe shocks faced by the hospitality industry, exporters, certain manufacturers, and banks. Policy interventions can minimize these impacts but will entail considerable fiscal and monetary resources.

- **Ethiopia's exposure:** Ethiopia's exposure to the corona virus seems to be very limited—so far—based on officially reported statistics. Among the 14 countries in the world with populations over 100mn, Ethiopia has the lowest reported virus incidence (26 cases at end-March) and is the only one with zero reported deaths.

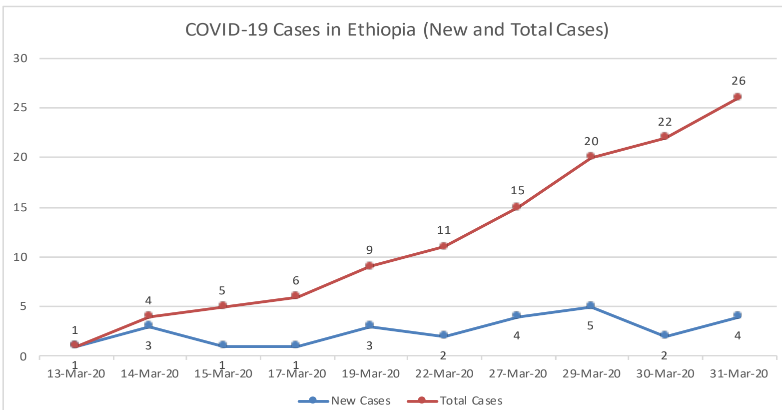
- **Macro impacts**: Given the relatively limited spread of the virus to date, the early economic impacts are concentrated in a few segments of the economy—namely the hospitality industry, exporters (flowers/textiles), certain manufacturers, and banks. The more dominant rural, agricultural, and construction sub-sectors of the economy are so far not much affected, which could continue to be the case if containment efforts are successful in maintaining a 'limited virus spread scenario'. However, even with just the current sub-set of affected sectors, the economic impacts will be considerable: by our estimates, growth will be 2.5 percentage points lower next year (falling to 5 percent) and net balance payments impacts close to $1.5 billion. If a wider and more adverse domestic virus spread scenario is assumed, and should the global recovery be prolonged, macro impacts would be several orders of magnitude larger than is presented here.

- **Policy responses:** While the government has acted quite quickly and decisively with a range of public health measures, interventions on the economic policy front are still in their early stages—especially if seen against the aggressive actions being taken in other developed and developing countries. A range of fiscal, monetary, and sector-specific policies has been put into effect this past week, but an even broader and deeper set of interventions in these areas could potentially do more to reduce adverse impacts for businesses and employees. On the basis of a 'limited virus spread scenario,' and if the stimulus measures seen in other countries were to serve as a guide, we estimate that fiscal resources needed for public relief packages could reach Birr 90bn (2.3% of GDP) and that central bank liquidity interventions of around Birr 47bn (1.2% of GDP) may be required.

Ethiopia's exposure

Ethiopia has been fortunate to have a comparatively small number of reported corona virus cases so far. As of end-March, the number of affected persons stood at just 26 persons, was almost exclusively in the capital city, and showed no obvious signs of shifting to an exponential growth trajectory (Table 1). Among the 14 countries in the world with populations of more than 100mn people, Ethiopia shows the lowest reported virus incidence and is the only one with zero reported deaths (Table 2). Even if there may be doubts on Ethiopia's reported figures (given very limited testing), there is little to suggest that a large number of deaths are occurring or that mass numbers of corona-affected people are filling up hospitals/health centres; this implies that prevalence/sickness is so far generally low within the population

Table 1: COVID-19 Cases in Ethiopia, Cumulative Total and New Cases



Source: Ethiopian Public Health Institute Press Release

Table 2: Top 20 Most Populous Countries and COVID-19 Case Counts as of March 31, 2020

World's Most Populous Countries: Above 100mn population

	Population, In millions	No of COVID-19 Cases	No of COVID-19 Deaths	Cases per million	Deaths per million
1 China	1,439.3	81,470	3304	56.6	2.30
2 India	138.0	1,071	29	7.8	0.21
3 United States	331.0	151,944	2805	459.0	8.47
4 Indonesia	273.5	1,414	122	5.2	0.45
5 Pakistan	220.9	1,690	21	7.7	0.10
6 Brazil	212.6	4,371	141	20.6	0.66
7 Nigeria	206.1	111	2	0.5	0.01
8 Bangladesh	164.7	49	1	0.3	0.01
9 Russia	145.9	1,836	9	12.6	0.06
10 Mexico	128.9	993	20	7.7	0.16
11 Japan	126.5	1,866	54	14.8	0.43
12 Phillippines	109.6	1,546	78	14.1	0.71
13 Egypt	102.3	609	40	6.0	0.39
14 Ethiopia	**100.8**	**26**	**0**	**0.3**	-
Other countries					
15 Vietnam	97.3	203	0	2.1	-
16 DR Congo	89.6	81	8	0.9	0.09
17 Turkey	84.3	10,827	168	128.4	1.99
18 Iran	84.0	41,495	2757	494.0	32.82
19 Germany	83.8	63,929	560	763.0	6.68
20 Thailand	69.8	1,524	9	21.8	0.13
Median, excluding Ethiopia:		**1,546**	**40**	**12.58**	**0.39**
Ethiopia if cases and deaths were at Top 20 median:		**1,268**	**39**	**12.58**	**0.39**

Source:Johns Hopkins University data for COVID-19 cases as of March 31, 2020 and as compiled by worldometers.info
Population data from worldometers.info, except for Ethiopia which is based on CSA data

Looking ahead, a key question for any macroeconomic assessment is whether current containment policies can continue to maintain this 'limited virus spread scenario'. If current containment policies are successful and the 'limited virus spread scenario' remains in place, then both the number of affected economic sub-sectors and the scope of geographic/nation-wide impacts will be relatively confined. On the contrary, it is possible that the number of infected persons rises exponentially in the coming weeks, reaches a critical number of say 1,000 or more cases, and then crosses a 'tipping point' where more drastic lockdown measures are imposed to limit overall economic and social activity. The human and social toll would be sharply different in such an adverse alternate scenario, as will be the attendant economic consequences.[1]

For our analysis, given the scale and scope of the government's public health measures as well as the early introduction of many preventive actions, we assume a 'limited virus spread scenario' where economic impacts are largely confined to four already affected sub-sectors. Moreover, we assume that the corona impacts will be most severe for the immediate quarter ahead (April-June 2020) while being followed by a slow but gradual recovery of affected economic activity—both in Ethiopia and globally—in the following six months (July-December 2020). Should this overarching assumption be incorrect, and if global 'lockdown' conditions turn out to be much longer and deeper than presumed, our assessment below would warrant a full reconsideration.

Sector-specific impacts:

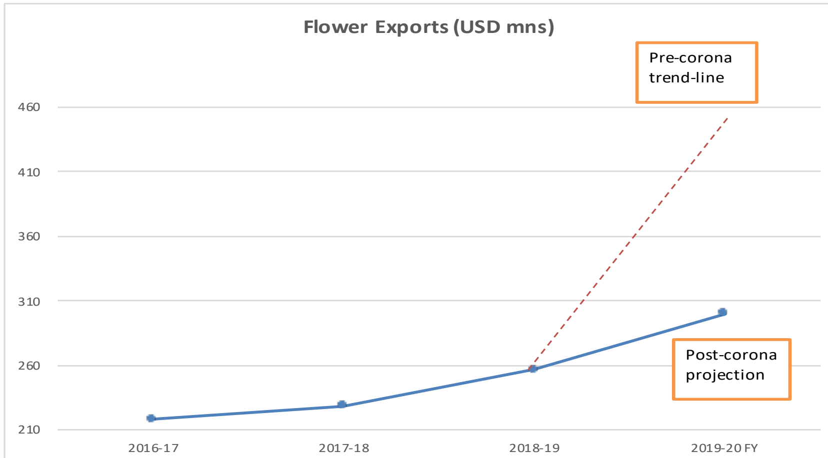
Even under a 'limited virus spread scenario', at least four economic sub-sectors should clearly be expected to face severe and disruptive shocks:

- **Hospitality industry:** This sector is facing an almost complete loss of customers, with lots of evidence throughout Addis Ababa of near-empty hotels, restaurants, bars, barbers/salons; of taxis barely finding riders; and of tourist sites experiencing major cancellations for the next 3-6 months. Occupancy rates are reportedly at just a few percent of capacity (consistent with Bole Airport entry figures of as low as 50-100 per day). Many hotels have started giving workers mandatory leave (some paid, some unpaid) on the expectation that this will be temporary, but if conditions persist for many months a large share of those staff may be laid off (potentially affecting tens of thousands of workers).

- **Flower exporters** are threatened by several quarters of near-zero revenue if conditions in Europe—the primary market—take a long time to recover. First half of year exports were $225mn and the fiscal year outlook was for around $450mn in exports (possibly second-largest after coffee); if the last four months of flower exports are near zero, then year total exports will be $150mn lower than expected (Table 3). The recent removal of the NBE minimum price set for flowers (USD 3.8 per kilogram) is not that meaningful since the underlying problem is the collapse in European demand. Around 150,000 workers are reportedly employed in the sector (including horticulture), so numbers of newly unemployed in a few concentrated areas could potentially be quite significant.

[1] Though the evidence seems far from certain in this area, experts and commentators have noted that the corona virus shows *comparatively* lower spread in countries with larger youth populations and in warmer climates, both of which would (if valid) appear to be positive for Ethiopia. At the same time, other characteristics of countries with the socio-economic conditions of Ethiopia work in the opposite direction: high density living areas (at least in cities), congested public transport systems, limited clean water supplies, and weak public health systems. The net impact of these factors is of course highly uncertain.

Table 3: Flower Exports: Pre-corona trendlines and latest estimated outturn



Source: NBE for historical data and Cepheus Research for projections

- **Textile exporters** have faced a suspension of orders from big US, European, and Chinese companies and face considerable uncertainty on how long this will last; some have reportedly been told they will be informed within the next few months. Textile exports were $100mn in the first half of year and a prolonged suspension may thus cost up to $50mn in foregone exports per quarter (Table 4).

Table 4: Textile Product Exports: Pre-corona trendlines and latest estimated outturn

Source: NBE for historical data and Cepheus Research for projections

- **Manufacturers**, especially those dependent on foreign inputs from China (which supplies 26% of Ethiopia's total imports), are reporting delays in getting critical inputs, machinery, raw materials or accessories. Manufacturers are also having problems with travel interruptions affecting incoming/existing expatriate staff. Such supply chain interruptions are particularly severe for import-dependent manufacturers (a significant share in Ethiopia), and this could reduce or completely stop their operations for several quarters if the Chinese recovery is slow to pick up.

- **Banks:** Already facing very tight liquidity conditions even before the corona crisis (most private banks have effective loan-to-deposit ratios near/above 100%), banks are now threatened by a potential jump in NPLs as businesses become unable to service loan repayments. While Birr 15bn of liquidity support has recently been announced for the sector, bankers have been underwhelmed by this offer and found it largely inadequate. As relayed by those in the sector, the Birr 15bn has been offered against the stock of NBE Bill repayments that Banks were to receive from NBE in the coming year up to June 2021; effectively, the NBE is buying back these Bills and providing banks upfront liquidity in exchange (similar to central bank bond-buying programs in countries with open market operations). However, we understand that deductions are applied to amounts the banks may have still owed to NBE when the policy was discontinued back in November 2019, and so the overall liquidity injection for banks is less than the headline figure may suggest. Moreover, as banks already had outstanding short-term loans due to NBE from recent borrowings (which added up to Birr 14.5bn from emergency loans given out in January and February 2020), most of the fresh funds made available as part of the corona response may effectively be absorbed by those repayments, leaving banks and hence their customers with much fewer *net* resources.

Multi-sectoral impacts: number of firms and employees

- **Firms affected:** Seen from the perspective of the numbers of businesses affected—across all sectors—a rough estimation suggests a figure on the order of 15,000 to 20,000. The number of hotels in Addis Ababa is estimated at 500-800 establishments (depending on definitions/coverage) and a similar count might be assumed for the rest of the country. Others in the hospitality and service industry (e.g., restaurants, bars) would number in the range of 6,000 to 8,000 firms in Addis Abeba alone, using historical data and applying recent economy-wide growth rates (Table 5). Broadening the net, the inclusion of other affected service providers such as personal care providers (barbers, salons, gyms), tour operators, taxi drivers, SMEs supplying foodstuffs and other inputs to hotels, could conceivably also an equal 6,000 to 8,000 firms. Flower exports, per association data, are no more than 100 growers though the top 10 firms—most based in the Ziway area—actually account for the bulk of total sales and total employment. Horticulture exporters would be a broader group of perhaps several hundred growers. Textile companies number in the range of 300-400 firms per CSA statistics and recent Industrial Park figures, while other heavily affected manufacturers (facing supply chain disruptions linked to their imported inputs) may be in the range of 1,000 to 2,000 firms. All considered, a plausible estimate seems to be in the range of 15,000 to 20,000 businesses—mostly SMEs—in the hospitality, export, and manufacturing sectors that could face material declines in revenue over the coming year.

Table 5: Private Service Providers in Addis Ababa

Ranked by no of service providers

	Service area	No of Businesses	Percent of Service Firms
1	Transport providers	20,438	47%
2	Other services	4,740	11%
3	Hotels, Restaurants, Bars, Cafes	4,380	10%
4	Contractors	3,436	8%
5	Rental Activities	2,443	6%
6	Personal Care businesses	1,792	4%
7	Printing, Photo, Secretarial services	1,454	3%
8	Education & Training Centers	1,280	3%
9	Repairing, Installation, Maintenance	666	2%
10	Promotion & Production	609	1%
11	Consultancy	532	1%
12	Clinic Health Services	403	1%
13	Recreation, music, entertainment	395	1%
14	Communication services	382	1%
15	Cleaning & Sanitation services	342	1%
16	Engineering services	209	0%
	TOTAL:	**43,501**	100%

Source: Addis Aaba Trade & Industry Bureau.
Data is from FY 2010-11 and figures may thus now be double amounts shown;
however, breakdown is indicative of approximate numbers and distribution

- **Employment impacts**: Focusing on the potential size of affected employees, the numbers involved could exceed one million based on some plausible assumptions. Starting from the largest employer groups, flower and horticulture farms are reported to employ 150,000 workers in several concentrated locations. The other significantly affected export group, namely textile exporters, employs in the range of 50,000 to 70,000 people. For established hotels, an assumed 1,200 establishments nation-wide and 40 staff per median hotel would imply around 50,000 staff. Given the estimated count of affected SMEs noted earlier, and assuming an average of 10 employees per SME would suggest 150,000 to 200,000 affected workers. Adding up these estimates would suggest a figure of 400,000 to 500,000 people on a conservative basis. Taking another approach, CSA data on urban employment levels can provide another approximation as these figures show the sector-by-sector breakdown of the 7.5mn employed urban persons in Ethiopia as of 2018 (Table 6). Applying a low-end/high-end range of 10 to 20 percent of this figure as potentially affected workers would suggest 750,000 to 1.5mn workers could be affected, or a midpoint of 1.1mn workers. Of course, not all of these employees are necessarily at risk of job losses, but an illustrative matrix showing different combinations of affected workers and the percent of those affected workers that could face job loss risks reveals magnitudes (taking a mid-range) on the order of 330,000 to 560,000 people (Table 7).

Table 6: Urban Employed Persons in Ethiopia By Sector

		Total number	% of Total
Total Urban Population in Ethiopia		**18,773,035**	**...**
Total Urban Working-Age Population (>10 years)		**15,015,000**	**...**
Total Employed Persons in Urban Areas		**7,518,858**	**100.0%**
1	**MANAGERS**	**247,049**	**3.3%**
	CEOs, Senior Officials, Legislators	29,578	0.4%
	Administrative/Commercial Managers	79,068	1.1%
	Production Managers	58,742	0.8%
	Hospitality and Service Managers	79,661	1.1%
2	**PROFESSIONALS**	**757,700**	**10.1%**
	Health professionals	95,654	1.3%
	Science/engineering professionals	95,574	1.3%
	Teaching Professionals	290,778	3.9%
	Business /administration professionals	186,239	2.5%
	Information and communication techn	12,070	0.2%
	Legal/social and cultural professionals	77,385	1.0%
3	**TECHNICIANS AND ASSOC PROFESSIONALS**	**618,679**	**8.2%**
	Science and engineering associate	70,865	0.9%
	Heath associate	106,832	1.4%
	Business & administration associate	195,493	2.6%
	Legal/social,cultural and related associa	66581	0.9%
	Information and communication	21641	0.3%
	Teaching associate	142,225	1.9%
	Special education teaching associate	15,042	0.2%
4	**CLERICAL SUPPORT WORKERS**	**281,468**	**3.7%**
	General and Keyboard Clerks	92,849	1.2%
	Customer Service Clerks	105,255	1.4%
	Numerical and Material recording clerks	41,605	0.6%
	Other Clerical Support workers	41,759	0.6%
5	**SERVICE AND SALES WORKERS**	**2,439,816**	**32.4%**
	Personal Service workers	692,009	9.2%
	Sales workers	1,505,742	20.0%
	Personal care workers	29,027	0.4%
	Protective series workers	213,038	2.8%
6	**SKILLED AGRICULTURAL WORKERS**	**468,224**	**6.2%**
	Market oriented skilled agricultural wor	163,869	2.2%
	Market oriented skilled forestry, fishery	14,368	0.2%
	Subsistence farmers, fisheries, hunters a	289,987	3.9%
7	**CRAFT AND RELATED TRADES WORKERS**	**1,065,639**	**14.2%**
	Building and related trades workers, exc	327,584	4.4%
	Metal, machinery and related traders wo	110,809	1.5%
	Handicraft and printing workers	139,860	1.9%
	Electrical and electronic trades workers	39,610	0.5%
	Food processing, wood working, garmen	447,776	6.0%
8	**PLANT & MACHINE OPERATORS/WORKERS**	**572,061**	**7.6%**
	Stationary plant and machinery operato	106,771	1.4%
	Assemblers	40,975	0.5%
	Drivers and mobile plant operators	424,315	5.6%
9	**ELEMENTARY OCCUPATIONS**	**1,068,222**	**14.2%**
	Cleaners and Helpers	265,644	3.5%
	Agricultural laborers	68,196	0.9%
	Mining, Construction laborers	269,002	3.6%
	Food preparation assistants	50,989	0.7%
	Street& Related Sales Service Workers	81,676	1.1%
	Refuse workers and other basic works	323,132	4.3%
	Others	9,583	0.1%

Source: CSA Urban Employment Report (2018) avialable on the CSA website.
Shaded occupations that will tend to experience stronger shocks due to hospitality sector shocks

Table 7: Potential Job Loss Risks under different shares of urban employees being affected

For Affected Persons, Assumed Job Loss Risk	Assumed Share of Urban Employees Affected		
	10 percent	**15 percent**	**20 percent**
	750,000	**1,125,000**	**1,500,000**
20%	150,000	225,000	300,000
30%	225,000	337,500	450,000
50%	375,000	562,500	750,000
60%	450,000	675,000	900,000

Source: CSA data for urban employees (2018), and Cepheus Resesarch scenarios

Macroeconomic impacts: Quantifying Growth and Balance of Payments Impacts

In attempting to quantify key macroeconomic impacts under a 'limited virus spread scenario', we review the comparative size of affected sectors and the implications of their decline or inactivity for balance of payments developments:

- **GDP impacts: sector-specific shocks**: The sectors currently most affected by the corona virus pandemic—hospitality, flower/textile exports, manufacturers, banks—are generally not major components of GDP (Table 8). Hotels and restaurants make up 2.6 percent of GDP, while tourism is still a small share of the economy, at perhaps 4 or 5 percent—much less significant than, say, in a country like Kenya that will be severely hit. Total exports are just 2.8% of GDP, and flower/textile exports—despite impressive growth—even smaller at a combined 0.4% of GDP. Manufacturing is just 4 percent of GDP, while banking activity makes up 3 percent of GDP. Shutdowns of public schools/education (3.4% of GDP) and of public administration services (4.1% of GDP) might be seen as reducing aggregate economic activity, but as long as the vast number of public school teachers and public servants are being paid, their purchasing power is maintained and economic impacts limited. Perhaps most important, the two biggest sub-components of Ethiopia's economy (agriculture at 36% of GDP and construction at 20% of GDP) should not be substantially affected under a 'limited virus spread scenario', i.e., if the virus does not expand nation-wide (particularly to food-growing areas) and if construction activity is not stopped via mandatory lock-downs.

Table 8: Ethiopia's GDP by Sector, FY 2018-19

Sector	Percent share	Cumulative share
1 Agriculture	35.8%	35.8%
2 Construction	19.5%	55.3%
3 Whole Sale and Retail Trade	14.2%	69.5%
4 Real Estate and Renting activities	4.2%	73.7%
5 Large and Medium Scale Manufacturing	4.1%	77.8%
6 Public Administration and Defense	4.1%	81.9%
7 Transport and Communications	3.9%	85.8%
8 Education	3.4%	89.2%
9 Financial Intermediation	3.3%	92.5%
10 Hotels and Restaurants	2.6%	95.1%
11 Small-scale and Cottage Industries	1.6%	96.8%
12 Private Households with Employed Persons	1.2%	98.0%
13 Health and Social Work	1.1%	99.1%
14 Community , Social & Personal Services	1.1%	100.2%
15 Electricity and Water	0.8%	100.9%
16 Mining and Quarrying	0.1%	101.1%
17 Fishing	0.1%	101.2%
Less FISIM adjustments	*-1.2%*	100.0%
TOTAL	**100.0%**	**100.0%**

Source: MoFEC

- **GDP impacts: overall growth impacts**: Given all the above considerations, we estimate that the corona virus' impact would be at most 1 percentage point of GDP for 2019-20, as two-thirds of the fiscal year (up to February 2020) is essentially unaffected and only a subset of comparatively small sectors (cumulatively adding up to around 10-12 percent of GDP) are significantly affected for the remaining one-third of the year. This reduces growth from our previous expectation of 8 percent for 2019-20 to just 7 percent. For the upcoming fiscal year, given full-year effects, we think the impact will be more substantive at 2.5 percentage points of GDP, and we would thus reduce our growth projections from the 7.5 growth forecast at the beginning of 2020 to just 5.0 percent.[2] Seen from the demand side of GDP, estimates of affected wage-related income/expenditure suggest that impacts from this source alone are likely to be on the order of 0.8 to 1.6 percent of GDP, based on a calculation that uses median salary levels for affected industries (Birr 3,000 per month) and potential numbers of affected persons ranging from 750,000 to 1.5mn being affected for a full year (Table 9).

[2] More precisely, for the current fiscal year, we assume affected sectors make up 15 percent of GDP experience a 20 percent drop in output in the last quarter of the fiscal year. For 2020-21, we assume that affected sectors still experience a 15 percent drop in output for the first six months, followed by a gradual recovery towards normal conditions (zero growth) for the second half of the fiscal year (January-June 2021).

Table 9: Range of income losses under different mix of affected persons & average salaries, Birr mn and % GDP

		Affected Persons		
		10% of Urban Employees	15% of Urban Employees	20% of Urban Employees
		750,000	**1,125,000**	**1,500,000**
Assumed income loss: PER MONTH, Birr mns	**2,000**	1,500	2,250	3,000
	3,000	2,250	3,375	4,500
	6,000	4,500	6,750	9,000
Assumed income loss: PER YEAR, Birr mns	**24,000**	18,000	27,000	36,000
	36,000	27,000	40,500	54,000
	72,000	54,000	81,000	108,000
Assumed income loss: PER YEAR, % GDP	**24,000**	0.5%	0.8%	1.1%
	36,000	0.8%	1.2%	1.6%
	72,000	1.6%	2.4%	3.2%

Source: CSA Urban Employment Report and Cepheus Research for assumptions and scenarios.

- **Balance of Payments impacts, FY 2019-20**: Foreign exchange inflows will surely show sharp declines in a number of categories, but the magnitudes are likely to be less severe than appear at first glance after accounting for various offsetting factors (i.e. on a net basis):

    - **Declines in fx inflows—FY 2019-20**: With global demand collapsing for many commodities and transport links also severely disrupted, immediate declines are certainly to be expected for several of Ethiopia's exports—likely in the range of $300-$400mn during April-June 2020 (from expected levels) considering impacts in the flower and textile sectors. Moreover, service exports will be hit sharply, including for Ethiopian Airlines revenue (about $1.5bn on an annualized basis if a 30 percent decline is applied to last year's $4.1bn revenues) and for tourism (perhaps $500-$700mn if we assume a near-total stop of tourist inflows for the remainder of the fiscal year). Remittances will also likely fall as Ethiopians abroad face difficult employment/financial conditions abroad and thus send less funds to families here—though this decline may be moderated by those who choose to maintain their past support or provide even greater support to affected families. Some portion of FDI inflows should also be expected to be put on hold as foreign investors—already cautious due to upcoming elections—find another reason to take a wait-and-see approach. And finally, as the prospect of recording privatization inflows this fiscal year is now extremely remote (we had previously projected $1bn in flows for FY 2019-20), FDI inflows linked directly to these anticipated inflows will fall by the corresponding amount.

    - **Offsetting factors**: Going against these anticipated fx declines, however, are several offsetting factors. Imports will tend to fall in line with lower FDI as well as with reduced consumer demand and lower manufacturing activity. If the collapse in oil prices is sustained for the coming year, this should—by itself—translate into around $1bn or more in reduced imports (given last year's $2.6bn fuel import bill and global oil prices that are less than half of last year's levels, i.e. now $26 per barrel for Brent crude vs an average of $50-60 last year). Potentially increased grants will likely provide extra support (beyond already expected levels) from the World Bank and other multilaterals. Potential debt service rescheduling from G-20 bilateral lenders (as recently proposed and advocated by the IMF/WB) may provide yet another layer of external support beyond already assumed debt relief in Ethiopia's case. The size of incremental grant and loan inflows may be limited for the few remaining months of the current fiscal year, but could become significant in 2020-21.

- **Overall BOP impacts and magnitudes**: An estimation of the above effects is provided in Table 10, and shows our best efforts at quantifying the broad magnitudes involved. For exports, we now expect slightly negative growth this year (vs 8 percent growth anticipated pre-corona), and we also that expect a drop in remittance inflows will bring the year-total figure to just $5.1bn rather than a previously expected $6bn. These two factors contribute to a worsening of the current account this year to 4.6% of GDP vs 4.2% of GDP before. In the capital account, we expect a sharp drop in FDI to around $2.4bn for the year, though this mostly reflects the delay in privatization, and we assume that most other items in the capital account (namely government and public sector net foreign borrowing) remain at their previously expected levels. Reflecting the above factors, we project a year-end reserves figure of $2.6bn (down somewhat from $3bn in December 2019 and well below the $4bn we previously forecast for June 2020, largely due to the delayed privatization). Excluding privatization effects, the balance of payments is deteriorating only by around $500mn this fiscal year vs our expectations at the start of 2020 (reflecting the fact that the negative BOP impacts are only affecting the remaining few months of the fiscal year, namely March to June 2020).

Table 10: Balance of Payments: Previous Projections and Latest Revisions

Balance of Payments	Actual	Previous Projections Macroeconomic Handbook 2020		Latest Revisions WITH CORONA IMPACTS	
	2018/19	2019/20	FY 2020/21	2019/20	FY 2020/21
Exports of goods	2,667	2,880	3,168	2,587	2,638
Imports of goods	(15,112)	(15,036)	(16,239)	(14,815)	(14,670)
Non-oil imports	*(12,511)*	*(12,448)*	*(13,444)*	*(12,607)*	*(13,124)*
Oil imports	*(2,601)*	*(2,588)*	*(2,795)*	*(2,209)*	*(1,546)*
Services exports	4,949	5,196	5,612	4,677	3,929
Services imports	(4,910)	(5,401)	(5,941)	(4,517)	(4,517)
Income account, net	(590)	(690)	(815)	(600)	(725)
Private transfers	6,376	6,695	7,209	5,841	5,467
Of which: Remittances	*5,693*	*5,978*	*6,456*	*5,124*	*4,714*
Of which: Other Private Transfers	*683*	*717*	*753*	*717*	*753*
Official transfers	2,087	1,800	1,600	1,900	2,000
Current account total, including grants	**(4,534)**	**(4,556)**	**(5,407)**	**(4,928)**	**(5,878)**
Foreign Direct Investment	3,015	3,500	5,050	2,400	4,400
Of which: Regular FDI inflows	*3,015*	*2,500*	*3,050*	*2,400*	*2,400*
Of which: Privatizations	-	*1,000*	*2,000*	-	*2,000*
Government, net external borrowing	1,158	1,300	1,500	1,300	1,800
Of which: gross external borrowing	*1,537*	*1,513*	*1,801*	*1,513*	*2,101*
Of which: principal repayments	*(379)*	*(213)*	*(301)*	*(213)*	*(301)*
Public Sector (Non-Govt), net external borrowing	1,326	200	300	200	300
Of which: gross external borrowing	…	1,444	1,812	1,444	1,812
Of which: principal repayments	…	(1,244)	(1,512)	(1,244)	(1,512)
Private sector, net external borrowing	264	200	300	200	150
Short-term capital and other items net	72	0	0	0	0
Capital account total	**5,835**	**5,200**	**7,150**	**4,100**	**6,650**
Errors and omissions	(1,244)	-	-	-	-
Overall balance of payments	**58**	**644**	**1,743**	**(828)**	**772**
Overall BOP excl delayed privatization	…	…	…	172	772
Foreign exchange reserves	**3,415**	**4,059**	**5,802**	**2,587**	**3,359**

Source: Cepheus Research for projections and NBE and IMF for 2018/19 data.

- **Exchange rate**: Regarding the outlook for the Birr, as the exchange rate is not market determined, Ethiopia will not experience the sharp depreciations seen recently—given the global crisis—in countries such as Kenya, Nigeria, and South Africa (Table 11A). Still, we expect the central bank will see the need to pursue a somewhat sharper pace of rate adjustment (versus its pre-corona trajectory) to help cope with the net negative balance of payments effects. Indeed, consistent with this view, the depreciation in March 2020 has picked up pace to a rate of 54 cents per month, more than double the 22 cents monthly depreciation seen in both January and February. Compared to year-ago levels, the rate is now 15 percent lower (32.81 on March 31 vs 28.49 a year ago), and this magnitude of annual depreciation is likely—in our view—to remain within the central bank's comfort range. On the basis of rate adjustments of near 50 cents per month up to the end of the fiscal year (justified also by recently higher-than-expected inflation outturns), we thus now expect a buying rate of 34.31 Birr/USD at end-June 2020 vs our previous slightly-less-depreciated forecast of 33.16 Birr/USD (Table 11B).

Table 11A: Exchange rate depreciations in Q1 2020 in Selected Countries

	Dec 31, 2019 exch rate	March 31, 2019 exch rate	Percent change
Kenya	101.2	104.5	3.2%
Ghana	5.7	5.8	1.3%
Nigeria	359.0	366.8	2.2%
South Africa	14.0	17.9	27.3%
Vietnam	23,140.3	23,634.9	2.1%
Indonesia	13,882.5	16,393.0	18.1%
Malaysia	4.1	4.3	5.9%
Thailand	29.7	32.7	9.9%
Turkey	6.0	6.6	10.4%
Brazil	4.0	5.1	27.4%
Argentia	59.8	64.4	7.7%
Mexico	18.9	23.8	25.9%
		Average of above cases:	**11.8%**
Ethiopia	**31.8**	**32.8**	**3.2%**

Source: CBE website for Ethiopia, and fxtop.com for other countries

Table 11B: Exchange Rate: Forecasts to the end of the Fiscal Year

Actuals: End Month	Exchange rate (Buying rate)	Monthly change	Depreciation from year ago
July 2019	29.03	0.12	6.1%
August 2019	29.15	0.12	6.1%
September 2019	29.28	0.12	6.1%
October 2019	29.43	0.16	6.1%
November 2019	30.62	1.19	9.8%
December 2019	31.80	1.19	13.4%
January 2020	32.06	0.26	13.7%
February 2020	32.27	0.21	13.9%
March 2020	32.81	0.54	15.2%
Projections: End Month			
April 2020	33.31	0.50	*16.4%*
May 2020	33.81	0.50	*17.5%*
June 2020	34.31	0.50	*18.7%*

Source: CBE website for historical data and Cepheus Research for projections

- **Balance of Payments—Next Fiscal Year**: For the upcoming fiscal year that starts in July 2020, we expect overall BOP impacts will be close to $1bn given the full year effects of lower remittances and lower service exports (including Ethiopian Airlines receipts). Needless to say, the impacts next fiscal year will depend critically on the speed and scale of the global recovery, especially—from Ethiopia's perspective—in areas such as global air travel, remittances, and textile/flower exports. As the basis for our projections, we use what we think is a plausible scenario that includes: (1) a very slow and modest pick-up in export growth (just a 2 percent increase reflecting a slight recovery in early 2021); (2) an extended oil price drop that helps limit imports and the current account deficit; (3) the eventual conclusion of privatization sales in late 2020/early 2021 (thus boosting FDI to $4.4bn); and (4) a moderate increase in grants and low-interest loans from previously assumed levels (up from previous forecasts by $300-$400 mn for each). Under these assumptions, gross fx reserves at end-June 2021 should reach $3.4bn and our exchange rate assumptions—based on a near 15 percent annual average depreciation—would take the rate to 39.4 Birr/USD by end-June 2021 (Appendix Table). Considering both the last quarter of 2019-20 and all of 2020-21, the net corona-related balance of payments impact over this combined period will be near $1.5bn (Appendix).

Policy interventions

Targeted government initiatives are partly reflected in our macroeconomic projections above, as we are already starting to see policy interventions aimed at reducing income losses to businesses and job losses to workers. Indeed, we have assumed active public health measures will work at virus containment, that extra allocations will be made for public health facilities, and that at least some limited support to certain affected groups will be forthcoming. In this context, the mix of economic policy measures taken so far reveals the following:

- **Fiscal interventions—**extra funding for health facilities, trade tax cuts for corona-related medical imports, and faster VAT refunds to business;
- **Monetary interventions**—Birr 15bn in liquidity support to banks, priority fx allocations to corona-related medical imports, higher limits on mobile money transfers;
- **Sector-specific interventions**—removing a minimum price for flower exports ($3.8 per kg, intended to limit transfer pricing), and clamping down on 'price gouging' retailers to protect consumers.

While clearly a positive start, an even broader and deeper set of interventions in these areas could potentially do more to reduce income and job losses—thus moderating the anticipated impacts above. Indeed, other country policy responses show aggressive actions being taken in both developed and developing countries. This is partly because—compared to Ethiopia—they are facing a larger incidence of the virus and because larger shares of their economy are currently impacted. Still, to help keep to a minimum the expected domestic shocks and attendant income/job losses, two key questions from a macro perspective are: (1) *what more could Ethiopia do*? and (2) *how much more could it afford to do*?

In terms of possible policy initiatives, we tabulate the wide range of recent corona-related economic policy interventions with potential relevance for Ethiopia and highlight their *size*, *forms*, *beneficiaries*, and *duration* (Table 12):

Table 12: Macroeconomic Policy Interventions to combat the corona virus: A Sampling of Country Initiatives

	Fiscal Measures	Monetary Measures	Sector-Specific Measures
ETHIOPIA	● Birr 5bn preliminary fiscal package announced ● Import taxes removed for COVID items ● Faster VAT refunds for businesses	● Birr 15bn liquidity support to banks ● Priority fx allocations to COVID imports ● Mobile money transfer limits raised	● Minimum export flower price removed ● Stronger enforcement against price gouging
CHINA	●RMB 1.3 trn fiscal package: higher spending on prevention, production of medical equipment, unemployment insurance, and tax relief	● RMB 3 turn liquidity injection RMB 800bn to support manufactures of medical suppliers ● Reserve requirement cuts by 50-100bpts for banks ● Credit to SMEs (RMB 35bn) ● Cross-border financing raised by 25% for banks, non-banks and enterprises	
INDIA	● 150bn rupees for health infrastructure ● 200bn rupees in Kerala in transfers for poor ● Tax compliance burden eased	● Open market operation, to ease liquidity pressures ● regulatory measures to promote credit flows ● foreign exchange swap($2 billion, 6 month)	
BANGLADESH	● Taka 2.5bn for the health service ● Expansion of transfer to benefit vulnerable ● Open market sale program for staple foods ● Support package for export industries	● Ensuring adequate liquidity in the financial system by buying Treasury Bonds and Bills from banks ● Reduction in reserve requirement (5 to 4.5 percent) ● Relaxation of loan classification rules: Banks/MFIs to suspend downgrading loans until June 30, 2020	● Taka 50bn ($595mn) package for export industry to help ensure 1.5 months minimum ● Utility payments deferred for 3 months, coverng gas, electricity and water
VIETNAM	● $51mn fiscal package, including VND 30trn tax and land rental payment deferrals ● Tax exemption for medical equipment ●$800mn to increase health spending by 50% ●Exemption of agricultural land use tax, corporate income tax relief for SMEs	●Rates cut by 50-100bps, short term deposit rates cap by 25-30bps, short term lending rates cap by 50bps ● Raised rates paid on required reserves by 20bps ●VDN 250 trn credit package ● Reduction of interest rates on existing debts, reducing fees, rescheduling repayments etc. ● Central bank to intervene in the currency market to smooth excessive exchange rate volatility	
SRI LANKA	● Issuance of food cards for low-income	● Six-month loan moratorium for all business loans ● Three-month loan moratorium for personal loans	● Six-month loan moratorium for tourism, apparel, SMEs, plantation, IT and logistics firms ● Deadline extensions for utility payments targeted at low-income households ● Six-month grace period for three-wheelers, trucks, and self-employed vehicle lease payments
PAKISTAN	● PKR 200bn ($1.2bn) labor package to 'contain the rise in unemployment' ● PKR 310bn ($1.9bn) for wheat procurement to control food inflation	● Six-month loan moratorium for all business loans ● Three-month loan moratorium for personal loans	● PKR 100bn ($600mn) for textile sector exporters to offset cancelled orders ● Grants of PKR3,000 per month ($18) for four months for poor families ● Deferment of utility bills for low-income consumers
NIGERIA	●$2.7mn allocated for disease control, and an additional $18mn also planned ● Non-essential capital spending to be cut/delayed by N1.5trillion	● Reduction in interest rates from 9% to 5%, and one year moratorium on CBN ● Central bank extended the principal due on intervention facilities owed to it by an extra year ●Liquidity injection of N3.6 trn into the banking system ● Official exchange rate adjusted by 15% (mainly due to oil price collapse)	● Central bank provided access to its intervention facilities to affected sectors (health care, pharmas, manufacturing) ● Naira 50bn ($139mn) facility for SMEs, hotels, airlines, and health care mechanges
SOUTH AFRICA	● ZAR 12bn ($750mn) fiscal package ● Unemployment Insurance Fund and Special programs to address those affected ●Low income workers to receive monthly payment ● Funds to be provided to assist SMEs, mainly tourism and hospitality sectors ●Tax reimbursements/credits to be provided	● Rates reduced by 100 basis points to 5.25% ●I Number of repo auctions increased to two ●Increased the size of the weekly refinancing operations ●Debt relief to be provided by banks to borrowers ● Depreciation of 19.5 percent allowed	
KENYA	● Extra funds earmarked from existing budget for health expenses ● Deficit target for FY 2019-20 being re-assessed	● Central bank's policy rate reduced by 1 ppt ● Reserve requrement reduced by 1 ppt ● Banks offered flexibility in loan classification, provisioning, and reschedulings ● ●	● Traders asked not to increase prices of basic goods (but no legal measures to prevent increases)
EGYPT	● EGP 100 bn ($6.4bn, 2%GDP) stimulus package announced, includes pension increases, reductions in energy costs, tax relief for industrial/tourism sectors, subsidies to exporters ● Stamp duty on transactions and tax on dividends reduced ● Capital gains tax postponed until further notice ● ●	● Central bank's policy rate reduced by 3 ppts ● Preferential rate for SME loans reduced from 10 to 8 percent ● Daily limits for mobile phone payments raised ● Debt relief to personal loan borrowers ●	● Of the GP 100 bn ($6.4bn, 2%GDP) stimulus package announced, EGP 50bn for tourism sector

Table 12: Cont'd

	Fiscal Measures	Monetary Measures	Sector-Specific Measures
UNITED STATES	● Fiscal stimulus worth S2trn involving funds to affected industries, unemployment benefits, state govt support, food stamps, schools assistance ● Student loan obligation suspended for 60 days ● Tax filing deadlines have been delayed	●Federal funds rate lower red by 150bp to a range of between 0 to 0.25% ● Introduced new facilities to provide liquidity to commercial paper market, money markets, etc	● $500bn in loans to affected industries as part of $2trn fiscal stimuls ● $100bn to hospitals (part of $2trn stimulus) ● $58bn to airlines (part of $2trn stimulus)
UNITED KINGDOM	●£5bn funding for NHS and other public services ●£27bn to support businesses (tax holiday, grants, sick pay leave) ● £7bn for strengthening social safety net ● Support to SMEs by deferring tax payments ● 80% of the salary of furloughed employees to be paid (max £2,500 per employee per month) ● £150mn to support international response	● Reduced bank rate by 65 basis points to 0.1 points ● Expansion in central bank holdings by £200bn ●incentives for lending to the real economy, esp. SMEs ●£350bn loans and guarantees available to businesses ●£350bn loans and guarantees available to businesses	
Germany	●€156 bn for health care equipment and expanding access to short term work ●€ 50bn grants to small business and self employed ● €822bn for expanding the volume and access to public loan guarantees for firms	●€120 bn for additional asset purchase (ECB) ●€ 750bn asset purchase for private and public sector securities (ECB) ●€100bn to refinance expanded short term liquidity provision to companies (ECB) ●€100bn to acquire equity of larger affected companies	
Spain	●€ 8.9bn budgetary support (including €1bn for health, €2.8bn for regional health services, €110mn for drugs and vaccines) ●€300mn for supporting dependents, €25mn funding meals for children, ●€14mn:Tax payment deferrals for SMEs& self employed for six months ● 50% exemption from social security contributions	●€120 bn for additional asset purchase (ECB) ●€ 750bn asset purchase for private and public sector securities (ECB) ●€100bn to refinance expanded short term liquidity provision to companies (ECB) ● €2 bn public guarantees for exporters ● One-month mortgage payments for vulnerable	
Italy	● €25bn emergency package: €3.2bn for strengthening health care system, €10.3 to preserve jobs, €6.4 bn to support business, €5.1bn to support credit supply	●€120 bn for additional asset purchase (ECB) ●€ 750bn asset purchase for private and public sector securities (ECB) ●€100bn to refinance expanded short term liquidity provision to companies (ECB) ● Loan repayment for SMEs, tax deferral , state guarantee of €0.5 bn to state devt Bank	

Source: IMF COVID-19 Policy Tracker' at www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19
Additional inputs from Tellimer Research (Bangladesh, Kenya, Sri Lanka, Pakistan), Renaissance Capital (Egypt), and IDB Compilation of COVID-19 policy measures by regiona
There is an overlap between 'Fiscal Measures' and 'Sector-Specific Measures' but presented separately to highlight business/household specific support

- **Size of policy interventions—relative to GDP:** Based on the above compilation and press reports, the size of policy interventions has ranged from a 1-4 percent of country GDP in most countries but has also been as high 10 percent of GDP iin countries such as the US. These interventions are generally financed by budgetary re-allocations or by running larger fiscal deficits, especially in those countries with the room to do so and where interest rates are at very low levels. In Ethiopia's case, coming out of a period of high debt servicing constraints limits the ability to resort to substantial new borrowing, but some combination of foreign grants/loans, domestic borrowing, and local fund-raising efforts are the available options.

- **Instruments—fiscal, monetary, and sector-specific**: *Fiscal support* has typically involved extra spending to assist those directly affected as well as changes in tax rates and rules (temporary waivers, faster refunds, tax exemptions); *monetary support* has generally involved providing banks with short-term liquidity, interest rate changes, and regulatory forbearance (NPL provisioning rules); and *sector support* has taken the form of grants, loans, loan guarantees, debt service relief, debt write-off, and job creation/transition schemes for affected economic sub-sectors. Some notable and distinctive interventions seen from the cross-country experience include: cash grants to poor households, utility bill deferments for three months, temporary stamp duty and dividend tax reductions, postponements of capital gains taxes, dedicated credits to SMEs, temporary moratoriums on loans of affected businesses, and flexibility for banks in loan classification and provisioning requirements (Table 12).

- **Beneficiaries**: Those assisted by public interventions have included a wide range of target beneficiaries—given varying approaches taken to give direct grants to households, wage support to keep workers employed, or support to affected businesses (such as airlines, tourism).

- **Duration**: Country experiences in this area show a mix of one-time support, open-ended support that stays in place until conditions change, or a pre-defined duration announced upfront (e.g. 3 months).

In the Ethiopian context, the sectors most eligible for support are—beyond direct assistance to public health facilities—hospitality and service businesses, exporters, certain manufacturers, and banks. Considering the range of policy interventions seen elsewhere, and in light of the early steps already taken, the potential directions/considerations for further policy support are as follows:

- **Support of health sector and public health initiatives:** Early steps taken have focused on directly helping the health sector with extra Personal Protective Equipment (PPE) and related resources—as appears to have been the case for the initial Birr 5bn allocation. To the extent that the virus case count increases, and health facilities begin to handle much larger numbers, the need to expand PPE and other equipment resources could rise rapidly. Annual budgetary health sector spending is Birr 12.8 per year (5 percent of the federal government spending and 0.5% of GDP), and if we assume an incremental boost equal to 25 to 50 percent on the annual health budget this would translate to Birr 3bn to 5bn in extra funds.

- **Support to workers:** As far as we are aware, direct support to affected/laid off workers is not yet in place. In principle, and if funding were available, the existing urban safety net or similar schemes could be utilized to assist laid off workers with basic incomes for a transitional period. Taking a range of 750,000 to 1.5mn in affected workers (based on 10 to 25 percent of the employed urban population), and were a package of basic income support provided at near sector-specific minimum wages (around Birr 1,500 per month), then this would imply Birr 13bn to 27bn of support on an annual basis (around 0.3 to 0.7 percent of GDP).

- **Support to businesses:** Direct support to private businesses has—in the Ethiopian context—largely been in the form of tax holidays and duty-free privileges rather than outright financial support. Current approaches taken in the flower sector appear to be a continuation of such non-financial forms of support, including industry-government understandings to limit layoffs (per press reports), removal of regulations such as minimum export prices, and encouragement to banks to voluntarily postpone/reschedule the sector's debt service payments. Over time, heavily affected sub-sectors (including hotel and selected service industries) may seek both regulatory relief as well as dedicated financial support, especially for those with significant roles in employment and foreign exchange generation. Were such active business support schemes to be put in place, and prioritizing the most heavily affected sectors (around 5 percent of GDP), potential amounts involved would be in the range of Birr 17bn to 34bn (0.5 to 1 percent of GDP) assuming aid packages equal to 10 to 20 percent of their GDP contribution. Unlike the case for workers, the forms of support provided to businesses would typically take the form of delayed tax payments, temporary credits, as well as loan guarantees, so the actual cash outlays and net costs to government could be considerably lower over time.

- **Support to banks:** Short-term (repayable) liquidity support has become the most common form of central bank support to banks across the globe. In the Ethiopian context, effective loan-to-deposit ratios have been near or above 100 percent at most private banks (after accounting for reserve requirements and NBE Bill holdings), so they have effectively lent out all mobilized deposits, leaving little room for coping with sizeable cash withdrawals or other shocks. The amount of liquidity support offered so far is only 3.5 percent of total private bank deposits (which stood at Birr 401bn at end-2019) and is also below what banks have placed at NBE in the form of reserve requirements (around Birr 20bn, given a 5 percent reserve requirement, which could potentially be released for liquidity purposes subject to inflationary considerations). A 5 to 10 percent liquidity buffer should generally be adequate for the operations of most banks (as they can also cut back on new lending to boost liquidity even if there is a slowdown in loan collections), and on that basis *net* liquidity support on the order of Birr 20 to 40bn may be seen as a more meaningful level of (repayable) support to private banks.

- **Support from/to the private sector:** Potential forms of financial relief within the private sector can also make a significant difference, especially if encouraged by the public sector. Rental expenses, for example, are typically the highest share of an SME or service company's monthly costs and some period of relief from (private and public) landlords could make a material impact in allowing businesses to continue as going concerns. To the extent that the government is the landlord for some portion of private business facilities, the scope for such forbearance is within the scope of public policies and could set an exemplary trend.

In terms of the scale of the financing needed to permit the above policy interventions, a rough estimation of the magnitudes involved suggests an amount of near Birr 90bn would be required ($2.6bn or 2.3 percent of GDP) for a 'comprehensive support package'. This estimate is a mid-point of a low-end and high-end case and includes assumed revenue shortfalls that government will encounter given weakened economic activity (Table 13). This illustrative 'comprehensive support package' covers areas where the government has conventionally provided past support (such as support to health facilities), but also unconventional government interventions (such as direct support to individual workers and businesses) that might now be considered given the exceptional nature of the economic disruption. The latter interventions are now increasingly common in a wide range of recent country cases following the corona pandemic, and may merit consideration in Ethiopia as well if the needed financing is potentially available. By our estimates, about 55 percent of the resources needed for a 'comprehensive support package' can be secured via conventional financing sources (re-allocations of existing funds, domestic fund-raising efforts, somewhat higher grants, and somewhat higher foreign loans), but the remaining 45 percent would need exceptional resources (i.e. substantially higher grants/loans and/or exceptional debt service relief). Should such exceptional resources *not* be available, and if only conventional financing sources are on hand, available funding would largely be sufficient for extra public health spending and support to affected workers, but would have to exclude exceptional government assistance to affected SMEs/businesses. The basis for the above conclusions is elaborated below and in greater detail in Table 13:

Table 13: Fiscal and Monetary Impacts of the Corona Virus--A Rough Estimate of Magnitudes Involved and Financing Considerations

Fiscal Policy: Impacts, Interventions and Funding Considerations

	Low-end Birr bns	High-end Birr bns	Mid-point Birr bns	Mid-point USD mns	Mid-point In %GDP	Assumptions utilized
1 Revenue change, net of grants	**-31.0**	**-51.6**	**-41.3**	**$ (1,203)**	**-1.0%**	
Gross revenue change	-41.3	-68.8	-55.0	$ (1,518)	-1.4%	Range of 15 -25% drop considered in Federal Govt revenue
Extra grants (for corona impacts)	10.3	17.2	13.7	$ 400	0.3%	Roughly 3 to 4 percent of $14bn WB corona virus allocation
2 Extra government expenditure	**33.7**	**67.4**	**50.6**	**$ 1,395**	**1.3%**	
Support to health sector	3.2	6.4	4.8	$ 132	0.1%	Extra 25-50% of national health budget, which is Birr 12.8bn
Support to workers	13.5	27.0	20.3	$ 559	0.5%	Range of 0.4-1.1mn affected workers, Birr 1,500/mth support
Support to SMEs/businesses	17.0	34.0	25.5	$ 704	0.6%	10-20 percent of heavily affected sectors (~5% GDP)
3 NET FISCAL IMPACT	**64.7**	**119.0**	**91.8**	**$ 2,598**	**2.3%**	
Fiscal Impact excl support to businesses	*47.7*	*85.0*	*66.3*	*$ 1,894*	*1.7%*	
POSSIBLE FINANCING AVAILABLE	***46.3***	***55.2***	***50.7***	***$ 1,421***	***1.3%***	
Re-allocations within budget	14.0	14.0	14.0	$ 386	0.3%	Same as budget contingency; 6% of Federal Govt spending
Extra foreign borrowing	10.3	17.2	13.7	$ 400	0.3%	Roughly $300-$500mn extra low-interest foreign loans
Extra domestic borrowing	20.0	20.0	20.0	$ 552	0.5%	Birr 20bn in Govt borr from NBE (in line with macro program)
Private sector contributions	2.0	4.0	3.0	$ 83	0.1%	6-month private fund-raising estimate
REMAINING FINANCING NEEDED:	**18.4**	**63.8**	**41.1**	**$ 1,177**	**1.0%**	Implied Remaining Financing need
Fin needed excl support to businesses	*1.4*	*29.8*	*15.6*	*$ 473*	*0.4%*	Implied Remaining Financing need, excl business support

Monetary Policy: Interventions and Funding Considerations

	Low-end Est Birr	High-end Est Birr	Mid-point Est Birr	Mid-point USD mns	Mid-point In %GDP	
1 NBE liquidity support to private banks	20.1	40.1	30.1	$ 876.5	0.7%	Liquidity need tof 5 to 10 percent of private banks' deposits
2 NBE liquidity support to state banks	11.2	22.4	16.8	$ 489.6	0.4%	Need of 2 to 4% of deposits used given larger absolute size
TOTAL potential liquidity support:	**31.3**	**62.5**	**46.9**	**$ 1,366**	**1.2%**	Total potential liquidity support

Source: Cepheus Research compilaton to provide approximate orders of magnitude for possible macro policy interventions and associated funding sources/constraints.
Period covered is from April 2020 to June 2021, so includes last quarter of this fiscal year and all of the next fiscal year.
Nominal GDP of Birr 4,002bn and average exchange rate of 34.31 is used for expressing figures in percent of GDP and in USD respectively.

- **Re-allocations of existing expenditure**: Re-allocation of existing budget items is one immediate and available funding source (of course at the expense of some other government program). Ethiopia's initial allocations of 5bn appears to have resorted to this funding source. Looking at this year's Federal Budget, Birr 14bn had been set aside as contingency funds, though given where we are in the fiscal year, it may have be already been used to date. Assuming an amount equal to the annual budget contingency can still be re-allocated away from lower priority spending items, then Birr 14bn could conceivably be mobilized for the various corona-fighting efforts.

- **Additional external funds—grants and loans**: Running a higher fiscal deficit by taking on more foreign loans is one source of additional funding. The scope here is somewhat limited for Ethiopia, however, as baseline borrowing plans (pre-corona) were already around $1.8bn for this fiscal year. Still, extra borrowing of in the range of $300-$500mn may be available and realistic, which would imply Birr 10bn-18bn in extra resources. If supplementary grants of $300mn-$500mn also become available (the World Bank is allocating $14bn globally, which would imply 3-4 percent of those amounts for Ethiopia), then another Birr 10bn-15bn might be mobilized. Seeking external *market* funding is certainly not an option at this moment, not only because government has committed (including in the IMF program) to avoid such high-interest rate loans but also since the associated costs have jumped in recent weeks—the yield on Ethiopia's sovereign bond is now up to 7.8% as of end-March 2020 from a low of 4.4 % just a few months ago.

- **Additional domestic borrowing**: Funding options from domestic sources are generally quite limited at the moment: commercial banks have essentially lent out all their mobilized deposits and non-bank sources of financing (mainly pension funds) are fully invested in government T-Bills (Birr 115 bn as of late 2019) with limited new incremental funds generated. This leaves the central bank—and its ability for money creation—as the main source of domestic financing for the government, though the Government-IMF macro program recently sought to cap this at no more than Birr 20bn to limit inflationary risks. Assuming this amount can now be used given the exceptional circumstances, and noting that net government borrowing from the NBE was close to zero during the first half of the fiscal year (gross credit was up by 10bn but government deposits at NBE also up by a similar amount), then roughly Birr 20bn can be seen as available domestic financing—via NBE net lending to government—to fund the corona impacts. The deficit implications of this domestic borrowing (0.5 percent of GDP), plus the foreign borrowing noted above (0.3 percent of GDP), would be a total of almost 1 percent of GDP.

- **NBE financial support**: Separate from the *fiscal* considerations above, in the special case of NBE liquidity support, this can be secured from reserve requirement reductions and/or expanding NBE's balance sheet. Both would need to be subject to potential inflationary considerations, but that may be less of an issue now given various deflationary effects being brought about by the economic crisis (high food inflation may still temporarily persist, however, given this is the 'lean' season for most food products and partial shutdowns may lead to more widespread upfront buying). As noted earlier, a 5 to 10 percent liquidity buffer is generally seen as adequate for bank asset-liability management purposes, and on that basis *net* liquidity support on the order of Birr 20 to 40bn would be a reasonable level for the private banking system to withstand expected shocks. For the large state bank, given its much larger absolute size, liquidity support of a smaller proportion may be sufficient given its deposit levels. Beyond liquidity support, a relaxation of certain regulatory requirements would be in line with many country practices at present: for example, temporarily tolerating breaches of the informal 5 percent NPL ceiling (as many banks may see this ratio rising to near double-digits) would deliver substantial relief both to the banks and their SME/corporate customers.

Conclusion

Working with the assumption of a 'limited virus spread scenario' (severe disruptions to four economic sub-sectors for the next three months followed by six months of a slow domestic/global recovery), this note has attempted to identify the corona virus' key macro impacts for Ethiopia and our sense of the magnitudes involved. A key conclusion is that even under a 'limited virus spread scenario', the economic impacts and costs are considerable: (1) growth would fall to 5 percent; (2) close to $1.5bn in net fx inflows will be lost; (3) between 750,000 and 1.5mn jobs are potentially affected; (4) around Birr 27bn to 57bn in wage income could be threatened; (5) fiscal resources of up to Birr 90b (2.3% GDP) would be needed for comprehesive public assistance packages); and (6) central bank liquidity interventions on the order of Birr 47 bn (1.3% GDP) may be required.

Given the highly unpredictable pattern of the virus' spread, an even more adverse scenario cannot be ruled out, and the economic costs in that case would be several orders of magnitude higher. If case numbers in the coming days/weeks begin to rise exponentially and pass a critical 'tipping point' of say 500 or 1,000 cases, then we may see effects that cover a much wider geographic area (if the virus moves beyond Addis Ababa to regional capitals and food-growing rural areas) and that also threaten broader segments of the economy (such as construction and industry should these become subject to government lockdowns). Such a scenario would bring markedly different social and economic consequences (which we don't venture to estimate at this point). However, on current trends, and given the scale and scope of public health measures actively being put in place, this adverse scenario seems to us to be a low probability event and has *not* formed the basis for our assessment.

In concluding, we would make it a point to emphasize that, despite the near-term shocks which are inevitable under either scenario, the generally positive and encouraging trends seen in Ethiopia's macroeconomy at the start of 2020 should not be forgotten—and may perhaps need repeated reminding. As highlighted in our 2020 Macroeconomic Handbook, Ethiopia at the start of the year was coming out of a period of strong growth (9 percent of GDP last fiscal year) and exhibited still high public and private investment levels that boded well for continued long-term growth. A new Government-IMF macro program was launched (and of course still in place) to help bring more conventional and disciplined macro policies, while also delivering substantially increased external funding via grants, low-interest loans, and rescheduling of upcoming debt service dues. Stricter controls that began to apply on government and state enterprise borrowing were (and are) setting the stage for improved credit and foreign exchange supplies to the private sector. Despite delays in some areas, structural reforms in the areas of privatization, ease of doing business, and the financial sector were also moving in a positive direction—for example, putting an end to mandatory Bill purchase requirements on banks, raising private sector credit to record levels, relaxing restrictive regulations in banking, and introducing for the first time market-based auctions for government debt. The main weak spots in the macroeconomy (pre-corona) continued to be high inflation and fx shortages, but both of these were priority areas under the new macro program with measures initiated for their eventual resolution. In short, in facing the global pandemic, Ethiopia is doing so from a position of relative strength—with strengthened state institutions (indispensable in this environment) now much more capable of mobilizing domestic and external resources, with a better macroeconomic framework and set of tools to navigate needed policy adjustments, and with a much closer engagement with its many multilateral and bilateral partners.

A revised set of macroeconomic forecasts for the current fiscal year and for 2020-21 is included in the Summary Table at the end of this note.

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ETHIOPIA--Macroeconomic Indicators For the Current and Upcoming Fiscal Year: Recent Projections and Latest Revisions

		Previous Projections		Rev Projs--CORONA IMPACTS*		CHANGE in Cepheus Projections	
	2018/19	2019/20	FY 2020/21	2019/20	FY 2020/21	2019/20	FY 2020/21
	Actual	*Initial Proj*	*Initial Proj*	*Revised Proj*	*Revised Proj*	*Change in Proj*	*Change in Proj*
Real Sector: GDP, Prices, and Investment							
Real GDP growth	9.0%	8.0%	7.5%	7.0%	5.0%	-1.1%	-2.5%
Agriculture growth	*3.8%*	*4.5%*	*4.0%*	*4.3%*	*3.7%*	*-0.2%*	*-0.3%*
Industry growth	*12.6%*	*12.0%*	*12.0%*	*11.0%*	*9.0%*	*-1.0%*	*-3.0%*
Services growth	*11.0%*	*8.3%*	*7.5%*	*6.5%*	*3.5%*	*-1.8%*	*-4.0%*
Inflation: CPI (end-of-period)	15.3%	13.3%	10.0%	15.0%	12.0%	1.7%	2.0%
Inflation: CPI (period average)	12.6%	17.5%	10.0%	18.0%	12.0%	0.5%	2.0%
Nominal GDP growth	22.5%	26.9%	18.3%	26.2%	17.6%	-0.7%	-0.7%
Nominal GDP level (Birr billions)	2,696.2	3,422.1	4,047.0	3,403.8	4,002.1	(18.3)	(44.8)
Nominal GDP level (USD billions)	$ 95.9	$ 108.7	$ 114.5	$ 108.1	$ 107.7	$ (0.6)	$ (6.8)
GDP per capita (USD)	$ 971.8	$ 1,077.8	$ 1,112.1	$ 1,072.0	$ 1,045.9	$ (5.8)	$ (66.1)
Exchange rate (Birr/USD, end-of-period)	28.91	33.16	37.50	34.31	39.41	1.15	1.91
Exchange rate (Birr/USD, year-average)	28.12	31.49	35.33	31.49	37.15	-	1.82
Exchange rate annual depreciation (year-average)	7.2%	12.0%	13.1%	12.0%	18.0%	0.0%	4.9%
Investment-to-GDP ratio	35.2%	34.0%	36.5%	33.5%	33.0%	-0.5%	-3.5%
By investor category:							
Public sector investment-to-GDP ratio	11.0%	11.0%	10.5%	11.0%	10.5%	0.0%	0.0%
Private sector investment-to-GDP ratio	24.2%	23.0%	26.0%	22.5%	22.5%	-0.5%	-3.5%
By source of financing:							
Domestic Savings-to-GDP ratio	24.0%	23.5%	24.5%	22.5%	20.0%	-1.0%	-4.5%
External Savings-to-GDP ratio	11.2%	10.5%	12.0%	11.0%	13.0%	0.5%	1.0%
Banking Sector	2018/19	2019/20	FY 2020/21	2019/20	FY 2020/21	2019/20	FY 2020/21
Deposits at all commercial banks (Br bn)	899	1,088	1,305	1,061	1,241	(27)	(64)
Loans by all commercial banks (Br bn)	456	593	759	575	707	(18)	(52)
NBE Bills held by all comm banks (Br bn)	89	85	68	70	53	(15)	(15)
Bonds held by all commercial banks (Br bn)	339	400	459	400	459	-	-
Total bank financing: Loans/Bills/Bonds (Br bn)	883	1,078	1,286	1,044	1,219	(33)	(67)
Deposit-to-GDP ratio (%)	33.3%	31.8%	32.3%	31.2%	31.0%	-0.6%	-1.2%
Total bank financing-to-Deposit ratio (%)	98.3%	99.0%	98.5%	98.4%	98.2%	-0.6%	-0.3%
Total commercial bank financing-to-GDP ratio (%)	32.8%	31.5%	31.8%	30.7%	30.5%	-0.8%	-1.3%
Annual growth in bank deposits (%)	23.3%	21.0%	20.0%	18.0%	17.0%	-3.0%	-3.0%
Annual growth in total bank financing (%)	23.2%	22.0%	19.4%	18.2%	16.8%	-3.8%	-2.6%
Fiscal Sector	2018/19	2019/20	FY 2020/21	2019/20	FY 2020/21	2019/20	FY 2020/21
Revenue and grants (Birr bns)	344.9	425.3	566.2	417.8	532.9	(7.5)	(33.3)
Revenue (Birr bns)	*311.3*	*395.1*	*532.1*	*384.5*	*487.7*	*(10.6)*	*(44.4)*
Grants (Birr bns)	*33.6*	*30.2*	*34.1*	*33.3*	*45.2*	*3.1*	*11.1*
Expenditure (Birr bns)	413.1	509.8	655.8	524.8	687.8	15.0	32.0
Fiscal balance after grants (Birr bns)	-68.2	-84.5	-89.6	-107.0	-154.9	(22.5)	(65.3)
Revenue and grants (% GDP)	12.8%	12.4%	14.0%	12.3%	13.3%	-0.2%	-0.7%
Expenditure (% GDP)	15.3%	14.9%	16.2%	15.4%	17.2%	0.5%	1.0%
Fiscal balance after grants (% GDP)	-2.5%	-2.5%	-2.2%	-3.1%	-3.9%	-0.7%	-1.7%
Public Sector Debt (% GDP)	56.0%	52.0%	52.1%	52.3%	56.0%	0.3%	4.0%
External Debt (% GDP)	28.2%	26.3%	26.5%	26.4%	28.4%	0.1%	2.0%
Domestic Debt (% GDP)	27.8%	25.8%	25.6%	25.9%	27.6%	0.2%	2.0%
External Sector: Balance of Payments	2018/19	2019/20	FY 2020/21	2019/20	FY 2020/21	2019/20	FY 2020/21
Exports of goods (USD mn)	2,667	2,880	3,168	2,587	2,638	(293)	(530)
Exports of services (USD mns)	4,949	5,196	5,612	4,677	3,929	(520)	(1,684)
Imports of goods (USD mn)	(15,112)	(15,036)	(16,239)	(14,815)	(14,670)	221	1,570
Oil imports (USD mn)	*(2,661)*	*(2,475)*	*(2,598)*	*(2,209)*	*(1,546)*	*266*	*1,052*
Non-Oil imports (USD mn)	*(12,451)*	*(12,562)*	*(13,641)*	*(12,607)*	*(13,124)*	*(45)*	*517*
Imports of services (USD mns)	(4,910)	(5,401)	(5,941)	(4,517)	(4,517)	884	1,424
Remittances (USD mn)	5,693	5,978	6,456	5,124	4,714	(854)	(1,742)
Private transfers (USD mn)	683	717	753	717	753	-	-
Foreign official grants (USD mn)	2,087	1,800	1,600	1,900	2,000	100	400
Current account balance (USD mn)	(4,534)	(4,556)	(5,407)	(4,928)	(5,878)	(372)	(472)
Current account balance (% GDP)	-4.7%	-4.2%	-4.7%	-4.6%	-5.5%	-0.4%	-0.7%
Foreign direct investment (USD mn)	3,015	3,500	5,050	2,400	4,400	(1,100)	(650)
Net foreign borrowing: Govt (USDmn)	1,158	1,300	1,500	1,300	1,800	-	300
Net foreign borrowing: Public Sector (USDmn)	1,326	200	300	200	300	-	-
Overall External Balance (USD mn)	58	644	1,743	(828)	772	(1,472)	(972)
Overall External Balance, excl privatization delay	*58*	*644*	*1,743*	*172*	*772*	*(472)*	*(971)*
Stock of Foreign Reserves, (USD mn)	3,415	4,059	5,802	2,587	3,359	(1,472)	(2,444)
Stock of Foreign Reserves, months imports	2.7	3.2	4.3	2.1	2.7	(1.1)	(1.5)
External Debt Stock (Public Sector, USD bn)	27.0	28.5	30.3	28.5	30.6	-	0.3
External Debt Stock (Public Sector, % GDP)	28.2%	26.3%	26.5%	26.4%	28.4%	0.1%	2.0%
Growth of Goods Exports	-6.1%	8.0%	10.0%	-3.0%	2.0%	-11.0%	-8.0%
Growth of Goods Imports	-0.9%	-0.5%	8.0%	-2.0%	-1.0%	-1.5%	-9.0%

Data Sources: NBE, MOFEC, CSA, and IMF for FY 2018-19; Cepheus Capital Research for projection years (with IMF fiscal data for baseline projection years).
**Projections for 2019-20 and 2020-21 reflect our judgements under a 'limited virus spread scenario' as described in the text.*