Agricultural input import bills

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Higher international prices of most agricultural inputs could lift global expenditures on imported inputs to USD 424 billion in 2022, leaving a heavy burden on lower income countries

The world agricultural input import bill (IIB) is forecast to reach a total of USD 424 billion in 2022[1], representing a leap of 48 percent or USD 138 billion over the total reached in 2021 (Table 1). Relative to 2020, the 2022 IIB is projected to rise by as much as 112 percent, albeit from a depressed level of USD 200 billion, owing to lower overall imports during the near ubiquitous trade contractions caused by the COVID-19 pandemic. Higher bills for imported inputs now add to rising food import bills for many low-income countries and, together with a rising US dollar exchange rate, further aggravate existing balance of payments problems.

Higher costs for imported energy and fertilizer are the main drivers behind the soaring global IIB in 2022. These two inputs accounted for well over 75 percent of the overall world bill in the past and are likely to reach a new record of 86 percent in 2022. Fertilizer and energy are particularly important items in the import bills of low-income countries (LICs) and lower middle-income countries (LMIC), accounting for 92 and 91 percent of total imported inputs, respectively.[2] Saddled with higher costs of fertilizer and energy imports, these countries may be forced to cut down on the use of imported inputs, and, where domestic substitutes are not available, will eventually reduce input applications overall. Reduced use of inputs would almost inevitably result in lower agricultural productivity, potentially resulting in lower domestic food availability.

Higher import bills do not translate into higher product inflows

The decomposition of changes in the IIB between 2022 and 2021 shows that price effects dominate volume effects at the global level, meaning that countries around the world are encumbered with higher costs for imported inputs without necessarily receiving higher quantities – they pay more for imported inputs in 2022 while receiving lower volumes than in 2021 (Table 2). While this is a near ubiquitous development, the price effect is less pronounced for LICs, where higher prices account for "only" 67 percent of the respective overall increase in their IIB. This could signal the beginning of a more general slowdown in the demand for imported agricultural inputs.

Pesticides are an exception, especially in sub-Saharan Africa (SSA), where volume effects invariably outweigh price effects, indicating that countries are getting more of the input at the same price. For sub-Saharan Africa, a plausible explanation for the buck in trend is the upsurge of desert locusts, resulting in international purchases of subsidized pesticides. No discernible global trend emerges for seeds, which constitute a minor cost in the import schedule of many countries.

Energy and fertilizer prices are up in tandem – and likely in 2023

Energy, in the form of natural gas, is a key feedstock in the production of nitrogenous (N) fertilizer, where soaring gas costs have driven up N fertilizer prices in the first semester of 2022 by more than 300 percent relative to the levels that prevailed in 2020. With high and inelastic demand for natural gas and little prospects for abating supply shortages, high world fertilizer prices are likely to extend into 2023, with negative repercussions for global agricultural output and food security.

[1] The latest decline in energy prices in general, and those for natural gas in particular, may not fully captured in the input import bills of 2022.

[2] For high and upper-middle-income countries, almost 55 percent of the increased IIB stems from higher fertilizer imports. This compares to 26 and 10 percent for lower-middle and low-income countries, where the increased IIB is dominated by energy imports.

Table 1. Import bills of total inputs and input type by region (current USD billion)

Input category	World				LDCs				NFIDCs				SSA			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
EnergyAg	109.4	77.4	125.2	197.5	5.4	4.0	6.1	10.8	14.8	10.2	16.8	27.1	11.6	6.6	11.6	15.5
Fertilizer	76.7	70.6	107.5	168.0	3.4	3.6	4.3	6.2	6.8	6.5	8.6	11.7	3.8	3.7	5.4	7.9
Pesticides	37.9	44.2	45.7	50.4	1.2	1.2	1.5	1.5	3.1	3.4	3.5	3.6	2.3	2.6	2.8	3.2
Seeds	7.7	7.5	8.5	8.3	0.1	0.1	0.2	0.2	1.2	1.3	2.0	1.6	0.2	0.4	0.2	0.2
Total	**231.6**	**199.7**	**286.9**	**424.3**	**10.1**	**8.9**	**12.1**	**18.8**	**25.8**	**21.4**	**30.9**	**43.9**	**17.9**	**13.3**	**20.0**	**26.9**
	HICs				UMICs				LMICs				LICs			
	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*	2019	2020	2021	2022*
EnergyAg	18.7	11.8	19.9	34.3	39.9	28.9	44.0	63.1	47.3	34.6	58.1	93.8	3.6	2.0	3.2	6.3
Fertilizer	31.1	27.9	43.2	63.3	26.5	23.8	38.6	66.3	18.0	17.7	24.3	36.7	1.1	1.2	1.4	1.8
Pesticides	19.1	23.2	22.6	23.7	11.8	12.6	13.6	16.6	6.4	7.8	8.8	9.5	0.5	0.6	0.7	0.7
Seeds	4.0	4.1	4.2	4.3	1.5	1.6	2.0	2.2	2.2	1.7	2.2	1.8	0.0	0.0	0.1	0.1
Total	**72.8**	**67.0**	**89.9**	**125.5**	**79.8**	**66.9**	**98.2**	**148.2**	**73.9**	**61.9**	**93.3**	**141.6**	**5.2**	**3.9**	**5.4**	**8.9**

Source: FAO and Trade Data Monitor (TDM), authors' calculations
* Forecasts are based on data from January 2022 to July 2022

Table 2. Decomposition of changes in agricultural import bills for total inputs and input type by region (current USD billion), 2022* over 2021.

	World				LDCs				NFIDCs				SSA			
Input category	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change
	<---------- USD billion---------->															
EnergyAg	66.4	3.8	2.2	72.4	3.4	0.8	0.5	**4.7**	8.5	1.1	0.7	**10.3**	3.3	1.7	-1.1	**3.9**
Fertilizer	78.1	-9.8	-7.8	60.5	2.4	-0.3	-0.3	**1.9**	5.4	-1.2	-1.2	**3.0**	3.4	-0.5	-0.5	**2.5**
Pesticides	-0.5	5.3	-0.1	4.7	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.1**	0.0	0.4	0.0	**0.4**
Seeds	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	**0.0**	0.2	-0.4	-0.2	**-0.4**	0.0	0.1	0.0	**0.0**
Total	**144.0**	**-0.7**	**-5.9**	**137.5**	**5.8**	**0.6**	**0.2**	**6.6**	**14.1**	**-0.4**	**-0.7**	**13.0**	**6.8**	**1.7**	**-1.6**	**6.9**
	HICs				UMICs				LMICs				LICs			
Input category	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change	Price effect	Volume effect	Mixed effect	Observed change
	<---------- USD billion---------->															
EnergyAg	11.3	1.9	1.2	**14.4**	22.4	-2.1	-1.1	**19.2**	30.8	3.1	1.7	**35.7**	1.7	0.9	0.5	**3.1**
Fertilizer	33.2	-7.3	-5.9	**20.1**	29.7	-1.0	-1.0	**27.7**	14.6	-1.4	-0.8	**12.4**	0.6	-0.1	-0.1	**0.4**
Pesticides	-0.2	1.3	0.0	**1.1**	-0.3	3.3	-0.1	**3.0**	0.0	0.7	0.0	**0.6**	0.0	0.0	0.0	**0.0**
Seeds	-0.1	0.1	0.0	**0.1**	-0.1	0.2	0.0	**0.2**	0.1	-0.4	-0.2	**-0.4**	0.0	0.0	0.0	**0.0**
Total	**44.3**	**-3.9**	**-4.7**	**35.7**	**51.7**	**0.5**	**-2.2**	**50.0**	**45.7**	**1.9**	**0.7**	**48.3**	**2.4**	**0.8**	**0.4**	**3.5**

Source: FAO and Trade Data Monitor (TDM), authors' calculations
* Forecasts are based on data from January 2022 to July 2022