UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

APRIL 2020

UNCTAD Research Paper No. 44
UNCTAD/SER.RP/2020/3

Impact of the COVID-19 pandemic on commodities exports to China

Marco Fugazza
Economic Affairs Officer
Division on International Trade, and Commodities, UNCTAD
marco.fugazza@unctad.org

Abstract

This paper presents a preliminary assessment of the impact of the coronavirus (COVID-19) pandemic on commodities exports to China with a focus on exports from Commodity Dependent Developing Countries (CDDCs).

Results indicate that in comparison to short term tendencies observed in the past three years, total commodities exports to China are currently moving downward. As compared to a situation without the COVID-19 crisis, total commodities exports to China may fall by 15.5 to 33.1 billion US Dollars during 2020, resulting in reduction of the projected annual growth of up to 46 percent (i.e. 8 percentage points). Although CDDCs commodities exports to China are also expected to decrease, the estimated impact is weaker. On aggregate they may fall by 2.9 to 7.8 billion US Dollars during 2020, resulting in a loss in terms of annual growth rate of up to 9 percent (i.e. 1.7 percentage points).

Total effects are driven by strong negative import demand shocks in China faced by energy products (e.g. crude petroleum oils), ores (e.g. iron ores) and grains (e.g. wheat). While CDDCs exports of those products are also expected to fall, estimated annual growth rates of exports of fruits and nuts, soya beans, rice and copper outpace those that would prevail in a situation without the COVID-19 crisis. Differences in import demand shocks at the product level lead to differences in effects at the country level. Even though most countries are expected to be negatively affected, some may see a surge in their exports to China.

While this set of results provides some indication about the effects the current sanitary crisis could have on commodities trade, information about the reaction of trade flows in other major economies is still missing making any definitive conclusion, at this stage, hazardous.

Key words: Exports, Commodities, China, COVID-19

The findings, interpretations, and conclusions expressed herein are those of the author(s) and do not necessarily reflect the views of the United Nations or its officials Member States. The designations employed and the presentation of material on any map in this work do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitation of its frontiers and boundaries.

This paper represents the personal views of the author(s) only, not the views of the UNCTAD secretariat or member States. The author(s) accept sole responsibility for any errors. Any citation should refer to the author(s) and not the publisher. This paper has not been formally edited.

UNITED NATIONS

© 2020 United Nations

Contents

Acknowledgements

Comments and editorial suggestions by Rodrigo Carcamo, Janvier Nkurunziza, Tansug Ok, Carlos Razo and, Yanchun Zhang are gratefully acknowledged. Assistance with country and product classification was provided by Alexandra Laurent. Desktop publishing was done by Danièle Arbinet-Boglio.

Introduction

The impact of the coronavirus pandemic on commodities trade is expected to be severe. This is clearly indicated by the latest release of industrial production indices in major economies. Except for beverages and food, all sectors saw declining output in March 2020. The Eurozone registered a ten-year low in output indices, except for pharmaceuticals and biotechnology. [1] Recent WTO estimates based on General Equilibrium simulations point to a contraction of international trade volumes between 13 and 32 per cent in 2020.[2] WTO (2020) results further indicate that most regions are expected to suffer double-digit declines in trade volumes in 2020, with exports from North America and Asia hit hardest. Drops in trade volumes are larger in sectors with complex value chains, particularly electronics and automotive products. Real exports of computer electronics and optic products are expected to decrease between 10.5 per cent and 22.6 per cent. The drop in real exports of agricultural products could vary between 6.5 per cent and 12.7 per cent, while that of fossil fuels between 5.5 and 13.4 per cent.

In China, the first country to be hit by the coronavirus pandemic, initial economic effects were already felt between late January and early February 2020. The release of January and February trade data made it possible to identify changes in monthly trends in comparison to previous years.3 Since China is the largest importer of a significant number of primary products, we believe that this first set of estimates is representative of a more global effect. As shown in column 1 of Table 1, commodities represent close to one fourth of China's imports. Column two indicates that Commodity Dependent Developing Countries (CDDCs)4 account for 65 per cent of these commodities exports. One fifth of world commodities exports are shipped to China as shown in column 3. The last column reports that one fourth of exports of commodities from CDDCs go to China. As a matter of comparison, Table 1 contains the same information for both the United States of America and the European Union. While the European Union absorbs about one fifth of World exports of the commodities considered here, the corresponding share of the United States of America is less than 9 percent. The incidence of imports from CDDCs is slightly larger for the European Union than for China. However, the corresponding figure for the United States of America is about 41 per cent. Column 3 of Table 1 further indicates that imports of the European Union capture about 18 percent of total exports and those of the United States of America 9 percent. We also have that 23 per cent of CDDCs exports are directed towards the European Union and about 7 per cent towards the United States. Table 2 reports a series of figures illustrating further the increasing relative importance of the Chinese market for CDDCs exports. In 2018, 80 CDDCs exported at least one of the commodities listed in table 3. About one third of them directed one third or more of their exports towards the Chinese market. The

[1] See IHS MARKIT Global Sector PMI April release https://www.markiteconomics.com/Public/Home/PressRelease/f69c639a88b54bc586be362511083192

[2] See https://www.wto.org/english/news_e/pres20_e/pr855_e.htm and references therein.

[3] Data for the month of March have been published on April 25, 2020. Preliminary calculations indicate that tendencies observed in the previous two months are confirmed. A clearer picture will be obtained with the release of the April data expected to be released on May 25, 2020 (see http://english.customs.gov.cn).

[4] UNCTAD defines a country as dependent on commodities when these account for more than 60% of its total merchandise exports in value terms. The list of CDDCs used in the analysis follows UNCTAD (2019). It includes both developing and transition economies as defined in https://unctadstat.unctad.org/EN/Classifications/DimCountries_DevelopmentStatus_Hierarchy.pdf.

corresponding figures for the European Union and the United States of America were 18 percent and about 7 percent respectively.

All these figures attest to the representative role that China plays in commodities trade. Therefore, identifying variations observed in January-February with respect to past tendencies in Chinese imports is likely to provide an important indication about the overall impact of the coronavirus pandemic. A more complete, and nuanced, picture could be obtained as soon as data for the months of March and April about imports in other major destination markets, such as the European Union and the United States of America, are released. At the time of writing, EU and US data for February and March 2020 were not yet available.

This paper uses import data for January-February 2020 as reported by Chinese Customs to simulate trends for 2020 in imports from CDDCs. As mentioned above, China is a strong representative sample, and it is the first country to provide trade data for the first two months of 2020. It is important to keep in mind that the simulations face several constraints. First, variations in import flows are at sectoral level and do not cover the whole product space. Second, as the latter variations are not available on a bilateral basis for most CDDCs, the sectoral figures are used to simulate country level flows. Third, scenarios about the possible evolution of imports until December 2020 do not account for any evolution outside China. Adding input-output information, without necessarily relying on a full-fledged General Equilibrium framework, would allow the inclusion of forward and backward production chains effects across sectors and across countries. However, such exercise would be meaningful only if information about production would be available for a set of sectors comparable to those reported in trade statistics. This is not the case yet.

Next section briefly presents the approach adopted in the simulation exercise based on three sets of projections of imports flows in China. Annexes 1 and 2 contain more detailed information on the data and describe the methodological approach adopted in the simulation exercise. Results are first reported for CDDCs as group in section 3. Results obtained at the country level are also shown in section 4 for those CDDCs whose exports to China represent more than 10 percent of their total exports in commodities.

Table 1. Commodities import and export shares

	Year	Commodities in total imports	Share of CDDCs in commodities imports	Share of imports in world commodities exports	Share of commodities exports from CDDCs
China	2016	19.6	59.5	19.2	22.7
	2017	24.2	59.7	20.1	23.5
	2018	26.1	65.6	20.8	25.2
European Union	2016	15.0	66.0	17.4	23.1
	2017	17.4	66.8	17.7	23.1
	2018	19.2	67.7	18.1	22.5
United States of America	2016	7.3	43.6	10.2	8.8
	2017	8.4	42.7	9.8	8.2
	2018	8.7	41.1	9.1	6.9

Source: Author's calculations based on UN-COMTRADE in Wits (extracted on April 10, 2020).

Note: The list of commodities included in the calculations is reproduced in Table 3.

Table 2. Number of exporting CDDCs by destination

	Year	Share of commodities exports to destination larger than 10%	Share of commodities exports to destination larger than 33%	Number of CDDs exporting to destination
China	2016	38	21	80
	2017	41	20	80
	2018	45	23	82
European Union	2016	47	20	86
	2017	47	17	87
	2018	49	16	88
United States of America	2016	21	7	78
	2017	23	7	78
	2018	19	5	78

Source: Author's calculations based on UN-COMTRADE in Wits (extracted on April 10, 2020).

Note: The list of commodities included in the calculations is reproduced in Table 3.

1. Projections and simulation exercises: the computational approach

This paper provides an analysis of projected imports flows based on up to date and disaggregated officially released information. Several projections are produced according to different assumptions about the possible impact of the coronavirus pandemic. The focus is on Chinese imports data of a selection of commodities as reported by Chinese customs. China was the first country that released trade figures for January and February 2020. Data for previous years are from the ITC Trade Map.

A benchmark scenario (scenario 0) is first defined. It assumes that bi-monthly imports in 2020 vary in line with average import growth observed for the same period during the previous three years. Then, two scenarios reflecting the possible impact of the COVID-19 sanitary crisis with respect to the benchmark set of projections are identified. Scenario 1 (COVID-19 July) is informed by realized January-February 2020 China import data to project its deviation level from scenario 0 and extends this until the end of June 2020. Scenario 2 (COVID-19 levels) follows scenario 1 until the end of June 2020, but then imposes catch-up growth rates to enforce convergence with the benchmark scenario and a return to normal from the temporary COVID-19 deviation by the end of the year.

Our COVID-19 related scenarios are relevant to the first wave of contamination impacting essentially East Asia. However, the time-spell considered may also capture part of the non-direct effects of the second wave of contamination hitting both Europe and the United States. More detailed information on the scenarios are available in the section 1 and 2 in the appendix.

The projections and simulation exercises are based on five major aggregated groups of commodities. As reported in Table 3 these groups correspond to energy products such as crude oil, ores such as copper ores and concentrates, raw agricultural products such as cotton, grain products such as wheat, and food products such as meat. Product coverage under these five major groups is limited to the set of products whose changes in trade flows have been published by Chinese customs. They are reproduced in the last column of Table 3. Corresponding Harmonized System product codes are also included and used to download data for past periods.

Table 3: Commodity groups and product coverage

Category	Description of Commodity	Coverage of HS Codes	shocks
Energy	Coal and lignite	2701,2702	+25.10
Energy	Crude petroleum oils	2709	+14.70
Energy	Natural gases	271111,271121	-20.10
Ores	Iron ores and concentrates	2601	+17.00
Ores	Copper ores and concentrates	2603	-0.20
Ores	Aluminum and concentrates	2606	-10.60
Raw	Wood in the rough	4403	-27.00
Raw	Wool	5101	-27.80
Raw	Cotton	5201	-29.30
Raw	Natural and synthetic rubber (including Latex)	40011,40012,4002	+9.30
Grain	Wheat	1001	-14.90
Grain	Maize	1005	+61.70
Grain	Rice	1006	-35.90
Grain	Soya beans	1201	+4.20
Grain	Barley	1003	-57.10
Food	Meat (including meat offal)	02,0504	+120.70
Food	Fresh or dried fruit and nuts	0801-0810,0813	+4.80
Food	Sugars	1701	+122.20
Food	Salt	2501	-29.10
Food	Aquatic products	03	-5.40

Note: Products HS coverage is based on information provided by Chinese customs. The last column reports changes in imports in percentage terms with respect to the same period in 2019 (January and February aggregated) as published by the Chinese customs in March 2020.

2. Projections and simulation exercises: country group level findings

Results obtained for total commodities imports are first discussed. Results are then presented for each commodities category included in the analysis, namely energy products, ores and concentrates, raw-agricultural products, grains and food products. CDDCs are here treated as a single country group. This may lead to strong compositional effects. As shown in last column of Table 3 changes with respect to the same period in 2019 may be of opposite sign within each commodity group. For instance, while imports of iron ores increased by 17 percent with respect to 2019, those of aluminum decreased by almost 11 percent. Results may then be driven by those commodities predominantly exported by CDDCs to China within each commodities group. The relative importance of products within each commodity group may also vary as projections refer to two-month periods which, for some products, may be characterized by relatively high variability.

In order to avoid any spurious interpretation of simulations results an additional qualification is needed. As already mentioned, variations reported in Table 3 correspond to the change in imports values between January-February 2019 and January-February 2020. In order to capture a possible change of direction in terms of periodic evolution of import flows, it is necessary to compare with some reference. In this paper the

reference is the evolution observed for the same period in the previous three years. This implies that a change of direction could only be identified if a difference with previously observed variations emerges. This also means that even if a negative variation is in recorded in 2020 its relative amplitude may be smaller than that observed in previous year and would then suggest a relative improvement. In other words, negative figures in Table 3 are not necessarily associated with a negative shock due to the coronavirus pandemic. Table A.1 in annex 3 illustrates the latter qualification by showing the evolution of each product within each category with respect to benchmark. It can be observed that signs of observed variations in January-February 2020 and differences with projected benchmark variations based on past variations do not necessarily coincide. For instance, imports iron and concentrates increased by 17 per cent in 2020 as compared to the same period the year before. This increase appears to be significantly below the projected rise in imports based on previous years evolution indicating that the shock due to the coronavirus pandemic is clearly negative. The opposite is obtained for wood in the rough products. Despite a negative observed variation in 2020 with respect to levels observed in 2019, the projected shock appears to be strongly positive. The latter suggests that the negative evolution observed in 2020 is less marked than it was on average the three years before. The COVID-19 shock is then positive.

Tables 4 to 7 contain a series of statistics allowing for a detailed analysis of all scenarios. CDDC values are marked in red when they remain below the no-COVID19 shock benchmark, and green when they are above. Table A.1 can then be referred to in order to analyze the set of results reported in these tables.

Aggregate Results

Last columns of Tables 4 to 7 refer to results obtained for total imports of commodities. They suggest that total Chinese commodities imports are expected to fall by between 15.5 and 33.1 billion US Dollars in comparison to our benchmark scenario. In the latter, the annual growth rate was projected to be about 15 per cent. In COVID-19 scenarios, annual growth rate varies from 9.1 to 12.2 per cent. As to CDDCs, projected effects of the COVID-19 crisis are also negative but much more contained than those observed for total commodities imports because of a more favorable products composition. As mentioned earlier this reflects the fact that CDDCs export relatively more of products facing a relatively less negatively or even positively affected import demand as shown in Table A.1. Total commodities imports from CDDCs are expected to fall by between 883 million and 5.7 billion with respect to benchmark figures (Table 4). In growth terms, total commodities imports were projected to grow by 17 per cent in the benchmark scenario. Because of the current sanitary crisis, the growth rate of total commodities imports would lie between 15.5 and 16.8 per cent.

Figure 1 shows results obtained for CDDCs in each of the three scenarios for the five commodity groups represented in the simulations (see section A.2 of the appendix for more information on the scenarios). Import figures are normalized, the reference period being January-February 2018 (i.e. the corresponding normalized import value equals 1).

Vertical lines delimitate the shock period considered in the scenarios and running from January-February 2020 to May-June 2020. Values until November-December 2019 are the observed ones. Values for January-February are also the observed ones in the COVID-19 scenarios but are simulated in the benchmark scenario. All values after the January-February period are simulated following the modalities of each scenario as described in the previous section.

Table 4: Annual growth rates (%)

		ENERGY	ORES	RAW_AGRI	GRAIN_FOOD	FOOD	ALL
No shock	Total	12.1	14.3	-5	16.9	45.3	15.0
	CDDC	17.8	11.1	-18	15	43.4	17.0
COVID-19	Total	13.1	-2.1	-9.3	3.4	30.6	9.1
July	CDDC	13.7	7.4	-18.8	35	48.9	15.5
COVID-19	Total	12.8	6.4	-7.2	9.7	38.2	12.2
Levels	CDDC	16.1	9.9	-18.5	25.8	49.3	16.8

Source: Author's computations based on simulation results

Table 5: Import values and differentials (Million US Dollars)

		ENERGY	ORES	RAW_AGRI	GRAIN_FOOD	FOOD	ALL
No shock	Total	340635	158879	24174	47003	68775	639467
	CDDC	291021	64731	5300	32352	24226	417631
COVID-19	Total	3083	-22711	-1104	-5421	-6981	-33133
July	CDDC	-10028	-2184	-55	5639	928	-5700
COVID-19	Total	2116	-10852	-569	-2897	-3363	-15565
Levels	CDDC	-4173	-714	-36	3045	996	-883

Source: Author's computations based on simulation results

Table 6: Import composition: sectoral shares (%)

		ENERGY	ORES	RAW_AGRI	GRAIN_FOOD	FOOD
No shock	Total	53.3	24.8	3.8	7.4	10.8
	CDDC	69.7	15.5	1.3	7.7	5.8
COVID-19	Total	56.7	22.5	3.8	6.9	10.2
July	CDDC	68.2	15.2	1.3	9.2	6.1
COVID-19	Total	54.9	23.7	3.8	7.1	10.5
Levels	CDDC	68.8	15.4	1.3	8.5	6.1

Source: Author's computations based on simulation results

Table 7: Import composition: CDDC share as per sector (%)

		ENERGY	ORES	RAW_AGRI	GRAIN_FOOD	FOOD	ALL
No shock	Total				100		
	CDDC	85.4	40.7	21.9	68.8	35.2	65.3
COVID-19	Total				100		
July	CDDC	81.8	45.9	22.7	91.4	40.7	67.9
COVID-19	Total				100		
Levels	CDDC	83.7	43.2	22.3	80.3	38.6	66.8

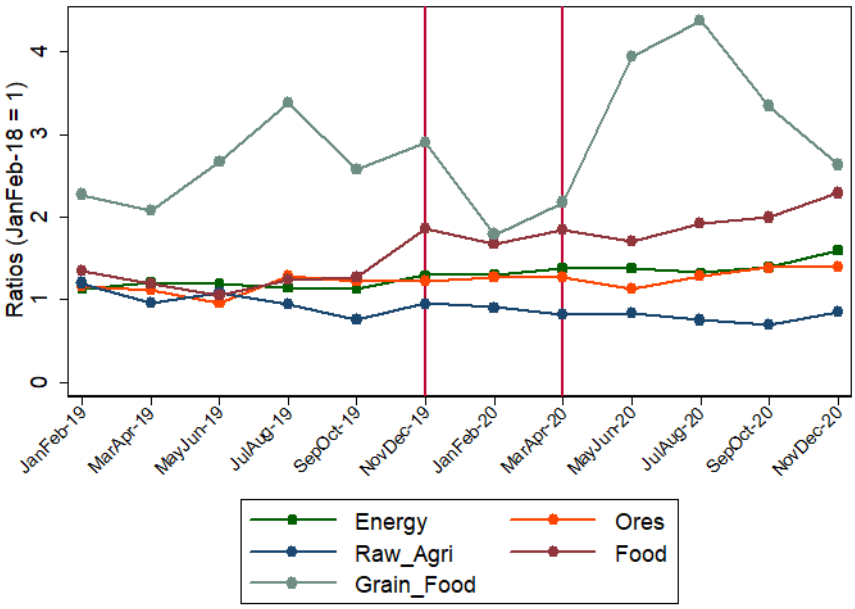
Source: Author's computations based on simulation results

At first glance while imports from CDDCs of ores and concentrates, and to some extent energy products, are facing the highest risk of collapse, import demand of grains and food products from CDDCs is expected to be stronger than in the benchmark scenario possibly as a result of some precautionary behavior anticipating some disruption in domestic but also foreign supply in the near future. As shown in table A.1 both maize and soya beans are facing an increase in the Chines imports demand. Raw agricultural products appear to be the least affected.

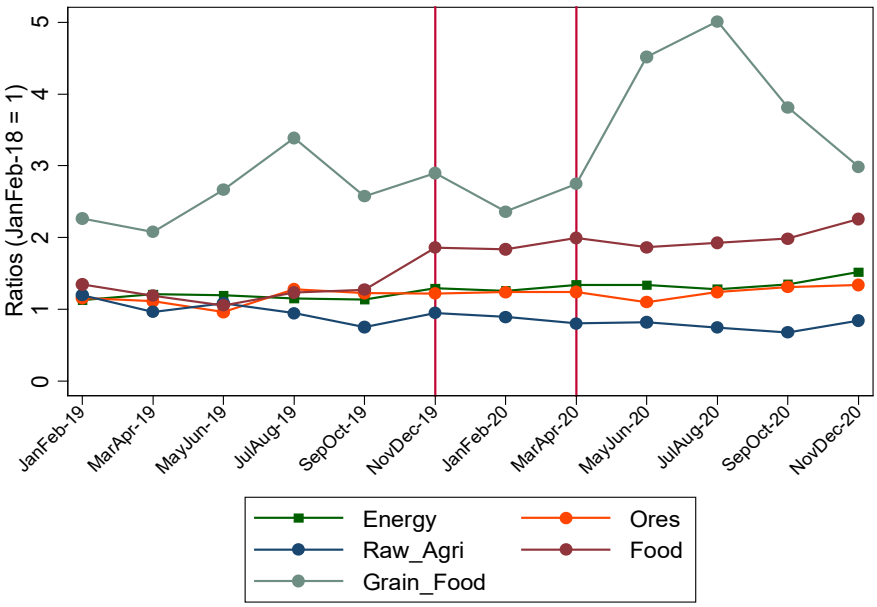
Figure A.2 reported in section A.4 of the appendix shows that from a qualitative point of view simulated evolutions in total sectoral imports are comparable to those observed for CDDCs for ores and raw-agricultural products. Both categories face a negative imports demand shock. The shock appears being of larger amplitude on aggregate (Table 5). Import demand for energy products increases on aggregate while it decreases for CDDCs. This is the consequence to a large extent of the strong negative import demand shock faces by natural gazes which are predominant in CDDCs energy products exports to China. However, obtained results for energy products need to be interpreted cautiously as they may not fully reflect the current turmoil observed in international markets of energy products such as crude oil. In the case of grains and food products, import demand is stronger in COVID-19 scenarios for CDDCs but weaker overall. As mentioned previously this is the consequence of a more favorable products composition (i.e. products less impacted by the fall in Chinese imports demand) of import baskets from CDDCs. Soya beans appears to play an import role in defining the category projected evolution of imports demand directed towards CDDCs. Aggregate figures are driven to some extent by the collapse in import demand for wheat. This explains the dramatic increase in the share of CDDCs in Chinese imports of gran food products (Table 7). As to the food products category, a relative stronger demand for fruits whether fresh or dried explains the relative better performance of CDDCs as compare to other countries exporting those products to the Chinese market. This suggests that the share of products imported from CDDCs in China may increase at the expense of non-CDDCs.

Figure 1. All commodity groups: benchmark versus COVID-19 scenario (imports from CDDCs)

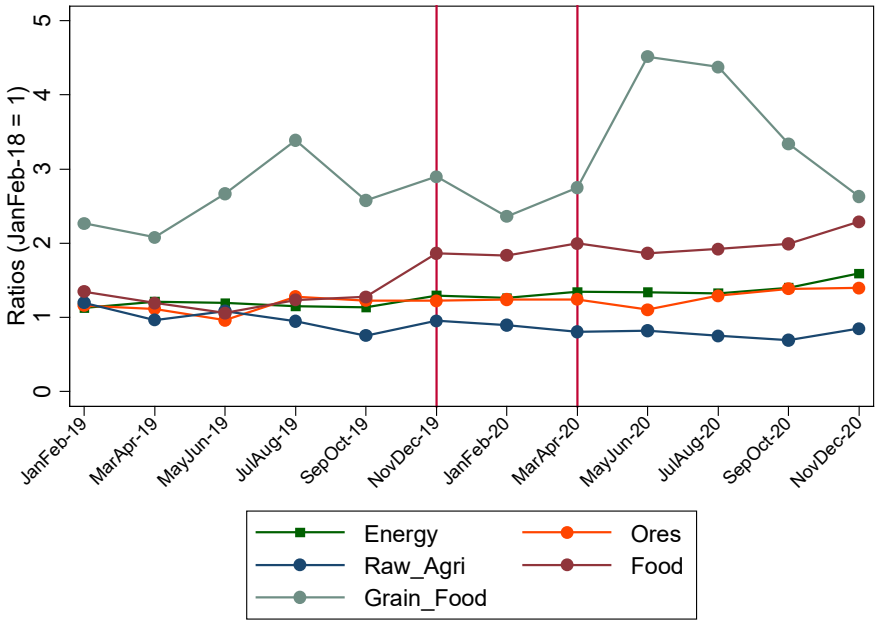
(a) Benchmark (scenario 0)



(b) COVID-19_July (scenario 1)



(c) Levels convergence in July-August 2020 (scenario 2)



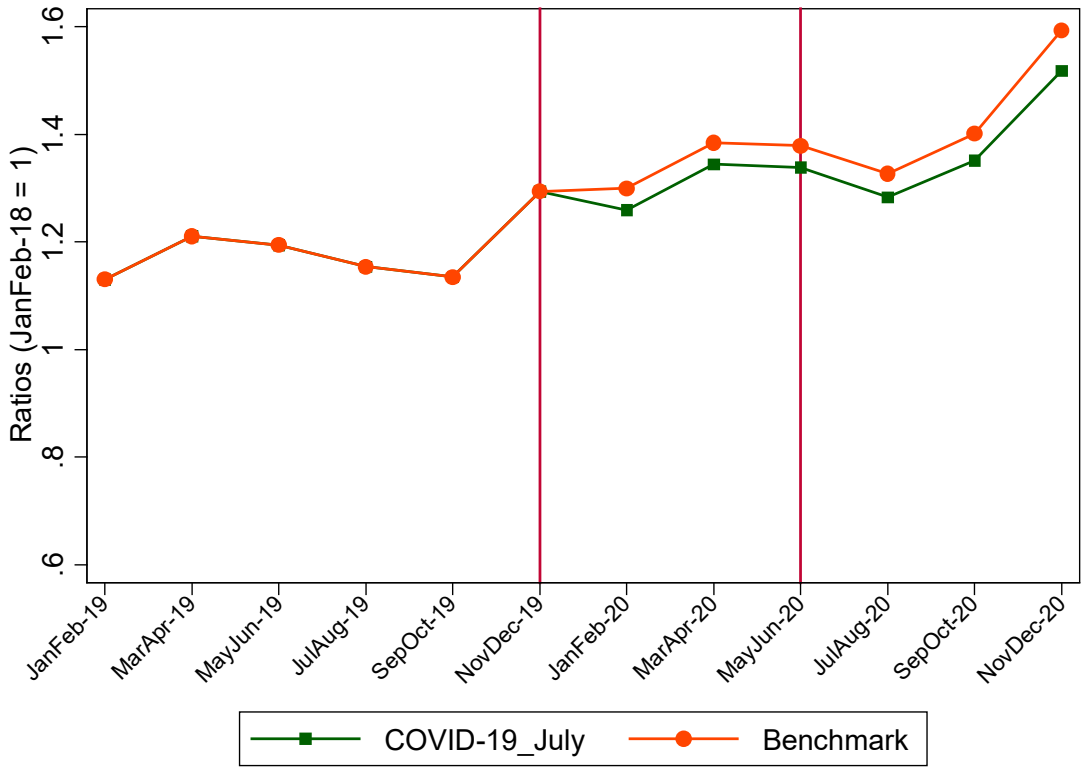
Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Figures 2 to 6 report results obtained in the benchmark scenario and scenario 1 for each group of commodities separately. Only scenario 1 has been graphed in order to preserve graphical clarity. Moreover, scenario 1 imposes ex ante the strongest divergence path with respect to the benchmark.

Energy products

In the benchmark scenario, imports of energy products are set to rise in 2020 as shown in Figure 2. Table 4 suggests that the benchmark increase on an annual basis of total imports would be about 12 per cent. Imports from CDDCs only are projected to rise by 17.8 per cent. This may not fully reflect the ongoing developments on international markets. Again, the objective of these simulations is to assess changes in relative terms. Our results would not necessarily be affected in qualitative terms if we had opted for another evolution path. While COVID-19 scenarios are associated with higher growth rates on aggregate, the reverse is true for CDDCs. The loss for CDDCs in terms of export value as shown in Table 5 could vary from 10 billion in scenario 1 to 4.2 billion in scenario 2. The relative importance of the sector in total exports to China would slightly increase on aggregate as shown in the first column of Table 6. The column also shows that the share of energy products in total commodities imports from CDDCS is expected to fall by almost 2 percentage points. Moreover, the share of imports of energy products coming from CDDCs would fall by up to 3.6 percentage points in case of scenario 1 as reported in Table 7.

Figure 2. Energy (benchmark versus scenario 1)

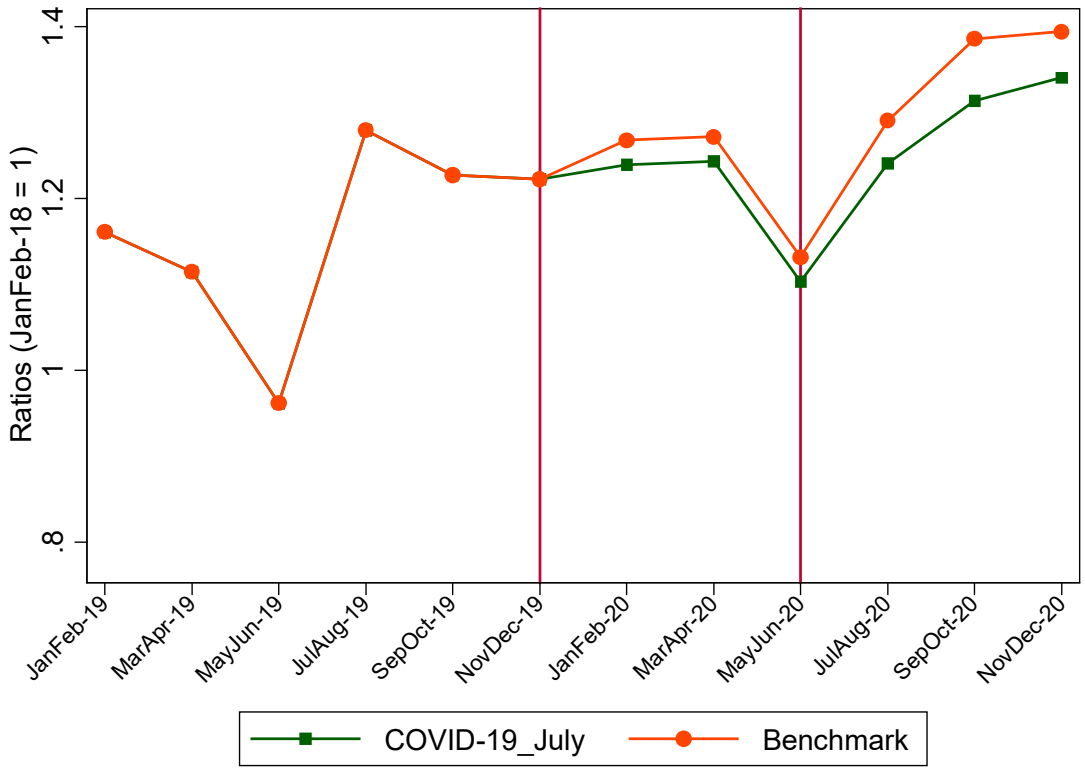


Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Ores and concentrates products

Differences obtained for CDDCs between the benchmark and the COVID-19 scenario 1 are shown in Figure 3. Table 3 indicates that the annual growth rate of total imports, while positive in the benchmark scenario, could turn negative in scenario 1. As to CDDCs, the growth rate is projected to remain positive in all COVID scenarios but could be reduced by about 50 per cent in scenario 1. Table 5 shows that losses in total imports could vary from 11 billion in scenario 2 to 22.7 billion in scenario 1. The corresponding figures for imports form CDDCs are 714 million and 2.2 billion respectively. Table 6 reveals that the sector share would drop by about 2 percentage points on average for total imports but would remain somewhat constant for CDDCs imports. Nevertheless, results reported in Table 7 suggest that the importance of imports from CDDCs is expected to increase as most of the losses would fall on non-CDDCs, again showing a more favorable product composition for the former than for the latter group of countries. For instance, the share of aluminum ores in Chinese imports from CDDCs is larger than the share of aluminum in total ores imports. As the product is expected face a relatively strong positive shock, a consequence is an increase in its relative importance imports wise.

Figure 3: Ores (benchmark versus scenario 1)

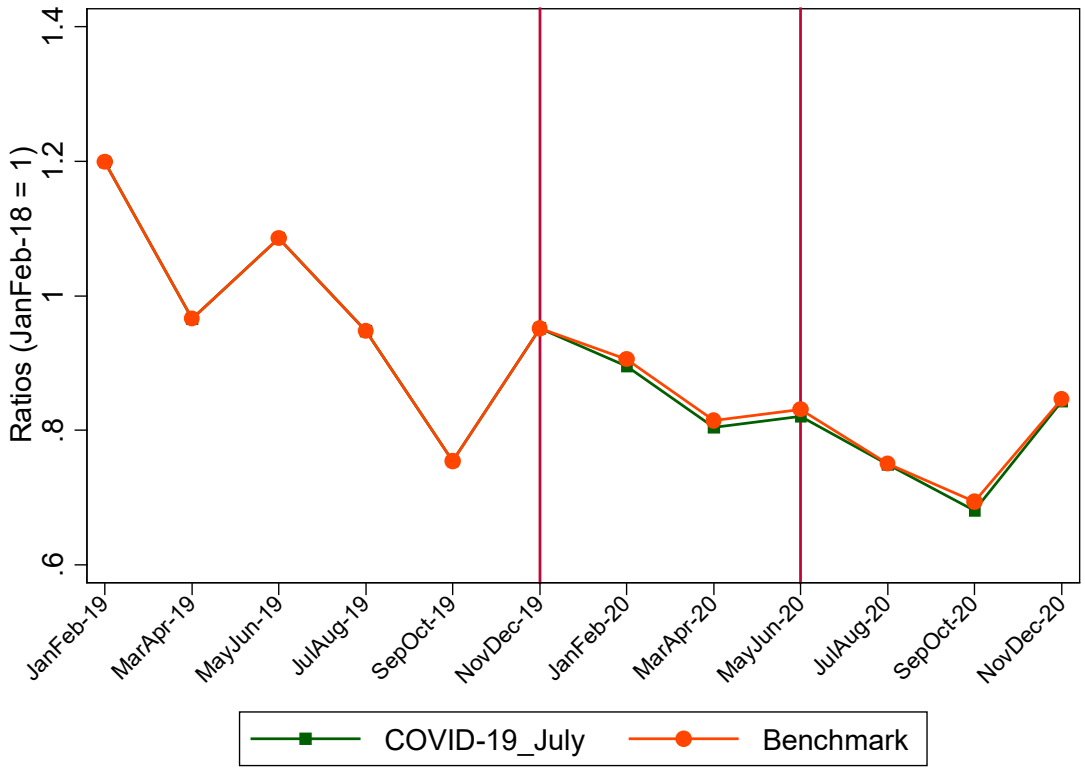


Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Raw Agricultural Products

Figure 4 clearly illustrates that the considered commodities group is the one potentially less hit by the pandemic crisis. The particularity and part of the reason why COVID-19 scenarios do not divergence much from the benchmark, stays in the pattern of the projected benchmark evolution path. It remains the only one with a such clear-cut downward pattern over most of the year 2020. Not surprisingly and as depicted in figure A.1 the benchmark scenario anticipates a fall of imports both in total imports and in imports from CDDS in the first period of 2020. Overall this fall is projected to be strongly accentuated due to the pandemic. The annual growth rate projected to be – 5 per cent in the benchmark scenario could move down to – 9.3 per cent in scenario 1 (Table 4). Imports from CDDCs only are also projected to fall in all shock scenarios but less dramatically. The benchmark annual growth rate is projected to be – 18 per cent. It would become -18.8 in scenario 1, the worst expected evolution. In value terms the previous growth rates would translate into an additional imports-wise loss of up to 1.1 billion on aggregate and up to 55 million for CDDCs. While the share of the sector in total imports from CDDCs remains unchanged (Table 6), the relative importance of CDDCs slightly increases (Table 7), moving from 21.9 per cent in benchmark to 22.7 per cent in scenario 1.

Figure 4: Raw agricultural goods (benchmark versus scenario 1)

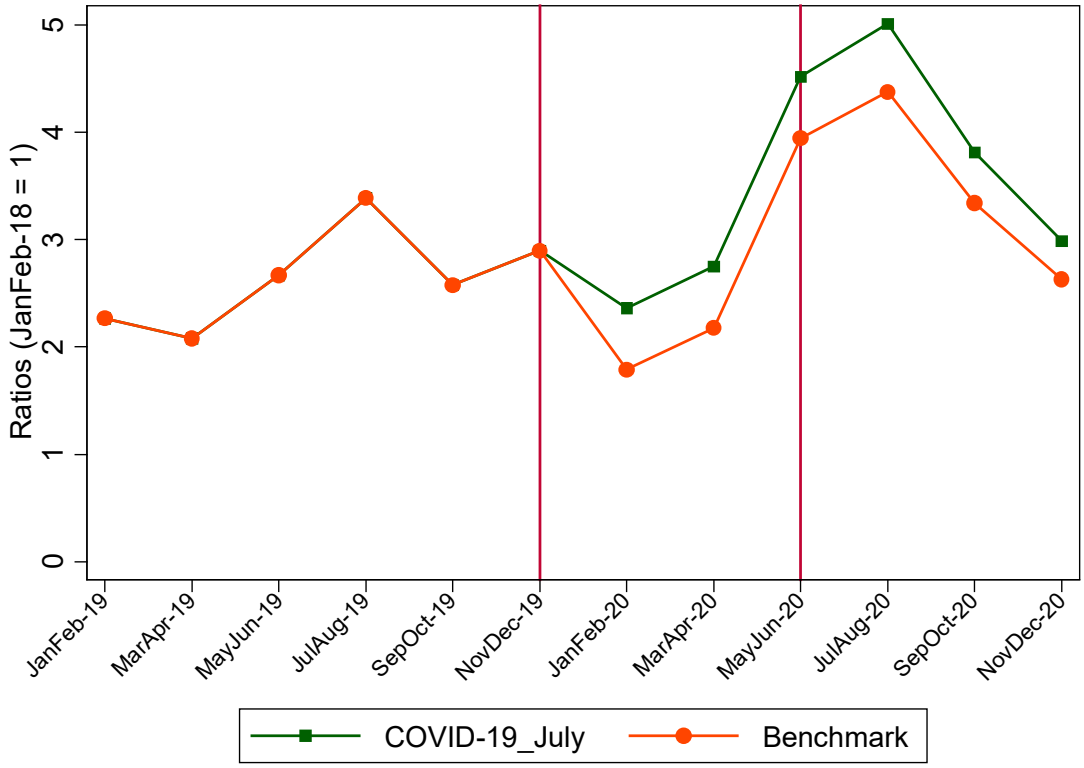


Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Grain-food products

Benchmark projections for the year 2020 indicate are upward both overall and for CDDCs despite a clear downward tendency in period 1 as shown in Figure 5 and Figure A.4. Overall imports of grain-food products are projected to grow at an annual rate of 16.9 per cent (Table 4). Annual imports from CDDCs are expected to grow by 15 percent. While the COVID-19 crisis is expected to erase almost completely overall growth prospects, it may boost significantly imports form CDDCs by possibly setting the annual growth rate up 35 per cent. This striking difference in patterns is due to the collapse of import demand for wheat on one hand and the significant increase in import demand for soya beans and to a lesser extent for maize. Both products represent a relatively larger share of export product baskets of CDDCs as compare to other countries. In absolute terms, while overall imports of grain food products are projected to fall by 5.4 billion in the worst-case scenario (i.e. scenario 1) the equivalent variation for CDDCs would amount to 5.6 billion. The relative importance of the sector in total commodities imports from CDDCs would increase by about 20 per cent to represent 9.2 per cent in scenario 1. As to the importance of CDDCs imports in the sector, the latter could represent up to 91.4 per cent of the product category total imports from a reference share of 68.8 per cent.

Figure 5: Grain food (benchmark versus scenario 1)



Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

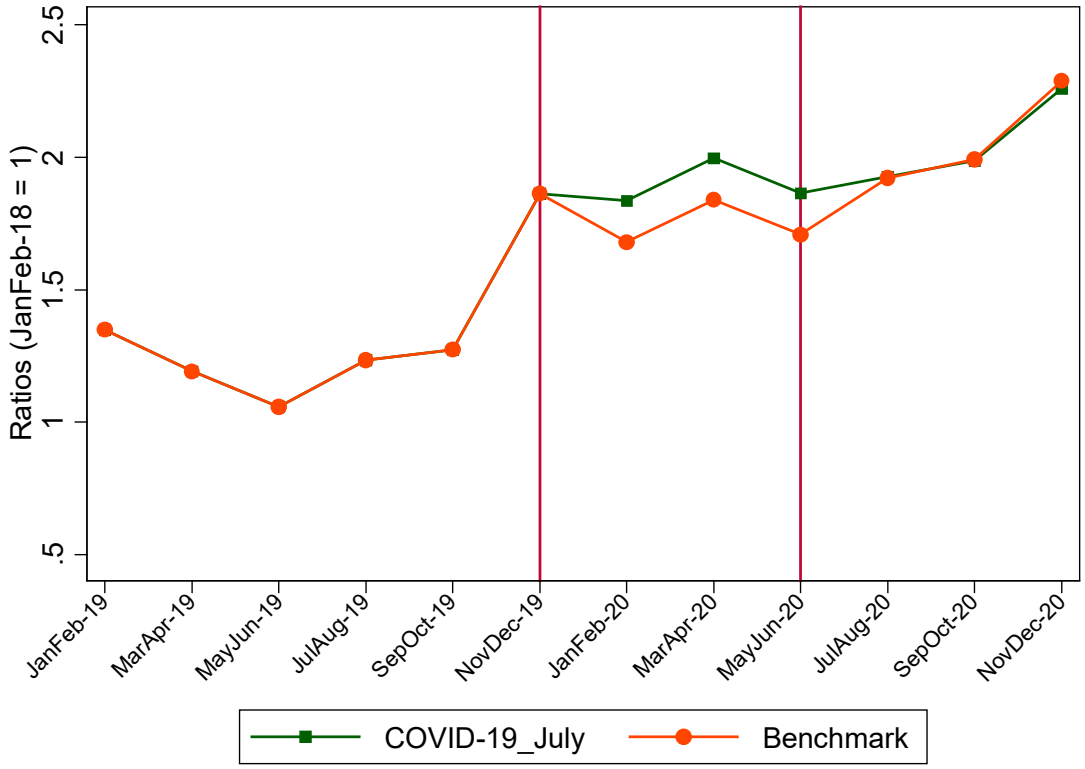
Food products

As found for the grain food products category, there is a clear contrast between total and CDDCs sectoral imports results. Impact effects and benchmark projections for the first period are all negative (Figure 6 and Figure A.4). However as revealed by Tables 4 and 5, while CDDCs imports perform better in COVID-19 scenarios than in the benchmark, the opposite is observed for total sectoral imports. In the benchmark scenario, total imports are expected to increase by 45.3 per cent in 2020, CDDCs imports by 41.2 per cent. This is remarkable but simply reflects tendencies observed in the past three years. COVID-19 scenarios could lead to a cut in benchmarked annual growth of total imports by up to one third. Inversely, CDDCs imports growth could increase by up to 6 percentage points. While total imports may decrease by up to 7 billion in scenario 1, CDDC may increase by 928 billion in that same scenario. Despite significant changes in relative terms, the overall sector represents about 11 per cent of total Chinese commodities imports and less than 6 percent of CDDCs exports to China, as shown in Table 6. Table 7 indicates that CDDCs may increase their sectoral share by about 5 percentage points, moving from 35.2 per cent to about 41 percent in scenario 1.

Figure 6 points to a possible convergence of bi-monthly evolution paths. This is driven to a large extent by the fruits sub-category. Imports demand increases strongly as compared to previous years in January-February 2020. This deviation form benchmark keeps imports high until the end of the shock period because of the relative importance of this set of products in that particular period following established seasonal patterns. Then the fruits sub-category is assumed to recover previously observed growth rates in period 4. As projected benchmark bi-monthly growth rates are essentially negative for this sub-category, its relative importance in sectoral imports shrinks and increasing

weight goes to other products all facing a negative in COVID-19 scenarios in particular fish and salts. As a consequence, the category performance deteriorates with respect to benchmark. The above explanation is corroborated by the figures obtained for scenario 2 where convergence occurs not in growth rates but levels. Results obtained for scenario two are closer to benchmark in most statistical dimensions.

Figure 6: Food products (benchmark versus scenario 1)



Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

3. Projections and simulation exercises: country level findings

Tables 8 to 12 report results obtained at the country level in the five commodities groups under consideration. Imports projected in 2020 under the three scenarios (columns 2 to 4) are reported together with the corresponding annual growth rate. Countries expected to see their exports to China fall with respect to benchmark projections are reported in red. Figures should be interpreted with caution as relative variations observed at the sectoral level for the January-February period are assumed to apply equally to all countries in the two COVID-19 scenarios. Hence, results do not reflect any possible any country specific effect and experience. As mentioned previously the absence so far of comprehensive detailed bilateral data justifies such generalization. Nevertheless, information reported in Table A.1 can be used to identify those products driving results disclosed in Tables 8 to 12 below and could help building the narratives for each country experience. For the sake of clarity, only countries whose commodities exports to China represented more than 10 percent of their total commodities exports during the years 2016, 2017 and 2018 have been reported in Tables 8 to 12. Results for commodity dependent developed countries have also been reported when relevant. Note that

according to UNCTAD's definition there are five developed countries whose commodities exports represent more than 60 per cent of their total exports: Australia (mining), Greece (energy), Iceland (agriculture), New-Zealand (agriculture) and Norway (energy).

Energy products

Results shown in Table 8 indicate that large exporters to China of natural gases such as Myanmar may see their trade perspectives deteriorate because of the coronavirus pandemic effects in China.

Imports from China may also fall, although to a lesser extent than in the case of natural gases, for exporters of lignite (i.e. Russian Federation) and crude petroleum oils (e.g. Brazil, Iraq, Oman). In the latter case, recent developments observed on international markets may blur the picture emerging from Table 8 even if the observed tendency is clearly downward for most exporters.

Countries such as Mongolia, the Russian Federation and Australia and may see a surge in their exports of coal to China. The latter product is the only one amongst energy products whose imports from China are expected to rise in 2020 stimulated by a positive shock due to the pandemic crisis.

Note that the overall effect on exports from the Russian Federation is the result of contrasting effects across energy products imported by China. The Russian Federation appears to be a large exporter of four products out of the five included in this commodities category. Negative effects predominate but overall export perspectives do not change drastically with respect to benchmark projections.

Ores and concentrates products

Overall Table 9 reveals that losses due to the expected effects of the COVID-19 crisis are large both in absolute and relative terms when compared to potential gains. Countries that may expect an "abnormal" increase in imports from China are copper (i.e. Chile, Peru, Mongolia, Australia) and aluminium exporters (i.e. Guinea, Australia, Brazil). Large exporters of iron (i.e. Brazil, Australia) may on the contrary face a downward imports demand from China. Results suggest that Brazil and Australia effects are predominantly driven by the expected fall in their exports of iron. Other countries such as Guinea may see a rebound of their exports projected to fall significantly in the benchmark scenario. This result, however, should be interpreted with caution as the shock used to simulate the COVID-19 pandemic impact is product specific not product and country specific. By doing so we may elude country specific characteristics and tendencies.

Table 8: Import values and annual growth rates: Energy products

Exporters	Levels (Million USD)			Differences w.r.t. benchmark (Million USD)		Annual growth rates (%)		
	Bench.	Scen. 1	Scen. 2	Scen. 1	Scen. 2	Bench.	Scen. 1	Scen. 2
Angola	25552	27897	26757	2346	1205	13	23	18
Australia	18055	25657	21772	7602	3717	-20	14	-3
Brazil	25713	23467	24578	-2245	-1135	39	27	33
Colombia	6193	6231	6209	38	15	14	15	14
Congo	6512	7306	6901	794	389	17	32	25
Iraq	33593	28527	31210	-5066	-2384	42	20	32
Kazakhstan	2027	1881	1957	-145	-70	35	26	31
Kuwait	12685	12305	12500	-379	-185	18	14	16
Mongolia	2768	3516	3171	749	403	-10	14	3
Myanmar	2021	1161	1475	-860	-546	15	-34	-16
Oman	24986	18296	21727	-6690	-3259	52	12	33
Russian Federation	49179	48584	48893	-595	-285	22	20	21
Saudi Arabia	46752	43991	45436	-2761	-1316	17	10	13
Turkmenistan	8938	9112	9025	174	88	4	6	5
Uzbekistan	1515	1606	1561	91	46	28	35	32

Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Table 9: Import values and annual growth rates: Ores and concentrates

Exporters	Levels (Million USD)			Differences w.r.t. benchmark (Million USD)		Annual growth rates (%)		
	Bench	Scen. 1	Scen. 2	Scen. 1	Scen. 2	Bench	Scen. 1	Scen. 2
Australia	75393	63687	69727	-11706	-5666	17	-1	9
Brazil	26520	23811	25539	-2709	-981	19	7	15
Chile	13822	14497	14153	675	330	15	20	17
Guinea	1721	2361	2088	640	366	-31	-6	-17
Mongolia	1472	1884	1706	413	234	-18	5	-5
Peru	8625	9331	8993	706	368	-5	3	-1

Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Raw Agricultural products

Large exporters of wood in the rough (i.e. Russian Federation, Papua New Guinea, Solomon Islands, Equatorial Guinea, Mozambique, Congo and Australia), wool (i.e. Uruguay, Australia and New Zealand) and natural rubber (i.e. Lao P.D.R and Myanmar) are expected to gain in the two COVID-19 scenarios as suggested by Table A.1. Those of cotton (i.e. Australia, Brazil) and synthetic rubber (i.e. Russian Federation) are expected to lose. Table 10 suggests that except for Mozambique, New Zealand, Papua New Guinea and the Russian Federation all reported countries are expected to see their situation improve in both COVID-19 scenarios relative to exports levels that would be reached in the benchmark scenario. Highest gains relative to benchmark projections are projected to occur for Brazil and Australia in absolute terms and Equatorial Guinea in relative terms. Figures obtained for Mozambique and Papua New Guinea are somewhat surprising as their export performance was expected to improve with respect

to benchmark projections. This reflects the fact that the already downward tendency observed in previous years was not as marked as the one observed for other exporters such as Congo or Equatorial Guinea. This again probably relates to the common shock assumed to be faced by all exporting countries. Tendencies however remain in line with expectations based on this paper's projections. Sectors such as the wood sector may absorb more than expected imports to compensate possibly for some native internal supply shock due to the pandemic crisis. Imports may act as a buffer.

Table 10: Import values and annual growth rates: Raw agricultural products

Exporters	Levels (Million USD)			Differences w.r.t. benchmark (Million USD)		Annual growth rates (%)		
	Bench.	Scen.1	Scen.2	Scen 1	Scen 2	Bench.	Scen 1	Scen 2
Australia	1988	2863	2377	875	389	-38	-10	-25
Brazil	307	766	476	459	169	-67	-18	-49
Congo	143	196	167	53	24	-33	-8	-22
Equatorial Guinea	10	225	164	215	154	-95	19	-14
Lao P.D.R	186	269	215	84	30	-28	5	-16
Mozambique	183	161	172	-22	-11	-23	-33	-28
Myanmar	83	95	91	13	8	-58	-52	-54
New Zealand	2062	1904	1978	-159	-84	-16	-23	-20
Papua New Guinea	573	453	512	-120	-62	-5	-25	-16
Russian Federation	1004	952	976	-52	-28	-15	-19	-17
Solomon Islands	299	311	306	12	7	-26	-23	-24
Uruguay	10	31	26	21	15	-82	-45	-55

Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Grain Food

As suggested by Table A.1 this commodities group show important difference in import demand conditions prevailing in January-February 2020. On one hand a strong increase in imports demand is expected to occur for soya beans and maize in comparison with previous years tendencies. On the other hand, imports demand for wheat and rice may decline significantly. Largest gains relative to benchmark projections are obtained for Australia and Argentina in relative terms in relative terms and Brazil in absolute terms. Argentina and Brazil are both large exporters of soya beans while Australia is the main export of barley. It must be noted that as in cases reviewed previously gains stay in relatively lower reductions in projected imports. Losses in absolute terms, however, are anticipated for Myanmar which is a large exporter of rice.

Table 11: Import values and annual growth rates: Grain food

Exporters	Levels (Million USD)			Differences w.r.t. benchmark (Million USD)		Annual growth rates (%)		
	Bench.	Scen. 1	Scen. 2	Scen. 1	Scen. 2	Bench.	Scen. 1	Scen. 2
Argentina	790	2466	1751	1677	962	-78	-31	-51
Australia	97	450	355	353	258	-87	-37	-51
Brazil	31903	34323	33237	2420	1335	38	49	44
Kazakhstan	79	67	74	-11	-5	-13	-25	-18
Lao P.D.R	51	61	57	10	6	-33	-19	-24
Myanmar	280	152	236	-128	-44	19	-35	0

Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

Food products

Estimations based on shock scenarios pinpoint gains (or lower losses) for exporters of fresh and dried fruits or nuts (i.e. Chile, Australia, New Zealand and Peru). This is reflected in results shown in Table 12. Other countries are expected to lose especially large exporters of aquatic products. This is verified for the Russian Federation. Meat exporters may either gain or lose in COVID-19 scenarios. While Argentina is expected to lose slightly, Uruguay may benefit from the new prevailing import demand conditions in China. Brazilian exports are projected to fall significantly driven by negative shocks to meat and sugars. As mentioned above, Australian exports are estimated to be boost by higher import demand for fruits and nuts. However, this expanding effect may be dampened by negative import demand shocks to aquatic products and in particular salts.

Table 12: Import values and annual growth rates: Food products

Exporters	Levels (Million USD)			Differences w.r.t. benchmark (Million USD)		Annual growth rates (%)		
	Bench.	Scen. 1	Scen. 2	Scen. 1	Scen. 2	Bench.	Scen. 1	Scen. 2
Argentina	4831	4705	4775	-126	-57	105	100	103
Australia	5912	6141	6035	230	123	41	46	44
Brazil	9026	8306	8689	-721	-337	102	86	95
Chile	897	3602	3156	2705	2259	-63	49	31
New Zealand	4713	4837	4765	124	52	49	53	50
Peru	79	501	307	421	228	-74	64	0
Russian Federation	2430	2255	2356	-175	-74	11	3	8
Uruguay	1609	2371	1998	762	388	37	101	70

Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.

4. Discussion

The series of estimates presented and discussed in this paper provide a first assessment of the impact the coronavirus pandemic may have on a set of major commodities imported by China. Some specific attention is dedicated to imports from

CDDCs. While the predominant feeling is strongly influenced by catastrophic projections about production around the world and in particular in the largest industrial countries and economic areas, some products may face an increase in imports demand. Above projections suggest that products such as coal, aluminium, soya beans, barley. Subsequently, not all countries are expected to see their exports to China collapse. Those most at risk are some major exporters of crude petroleum oils. Other countries may either see their exports increase or would expect a mixed experience due to contrasting effects on the various products sold on Chinese markets. The former group may include some small African states such as Guinea, Equatorial Guinea. Chile could also see its export perspectives improve thanks to products such as Copper and fruits. A similar conclusion can be drawn for Peru which is exporting a comparable basket of products to China. Mixed experiences could characterize exports from some other Latin American countries such as Brazil and to a lesser extent Argentina.

The behaviour of international markets and the subsequent variations in prices of traded commodities are not accounted for in the previous assessment exercise. Implicitly, international price conditions are supposed to stay relatively constant. For instance, current turmoil on markets for crude petroleum oils is certainly not properly accounted for as mentioned previously. This missing element does not necessarily invalidate projections and relative simulations as it would induce supply and demand effects that may not necessarily affect dramatically trade value considerations which are at the core of the simulation exercises retained here. On the contrary the above linkages may be reversed, and simulation results may provide some indication about future evolution on international commodities markets. Indeed, simulations here assume prices to remain constant after a possible variation on impact, that is during the first observed crisis period. If imports of some products are projected to rise, prices of those products may also be expected to rise within a couple of periods. That could be the case for Copper, Aluminium wood in the rough, wool and fruits.

Estimates produced in this paper are based on a hybrid simulation approach mixing basic projection techniques and core components of computable models. Both components could be refined and improved. The margin of manoeuvre, however, is quite narrow. A trade-off between the level of disaggregation, both at the country and product level, that can be preserved and the sophistication of the underlying economic model on one hand and the technicality of the computational approach on the other hand, will soon appear. The approach adopted in this paper eventually offers a reasonable balance between technicality and traceability of results allowing for some transparent interpretation. Nonetheless, and independently of the degree of refinement chosen, previous results clearly partial estimates and may only reflect the effects of the first wave of coronavirus pandemic. Part of the indirect effects of the second wave hitting Europe and the United States of America may also be accounted for in the two COVID-19 scenarios simulated here as return to some kind of pre-crisis tendencies would not occur before July-August 2020. The publication of February to March trade data by the European Union and the United States of America will certainly enlarge the assessment scope and will certainly allow for a refinement and completion of the potential effects to be seen at least until the end of 2020. A big question mark stays in the possible effects of the COVID-19 propagation to Sub-Saharan Africa and South America in particular in Brazil. The effects could create severe shortage in the supply of several commodities and in particular agricultural ones. For instance, the exports of soya beans from Brazil may be negatively impacted with potentially important consequences on international markets.

References

UNCTAD, 2019. State of Commodity Dependence 2019. UNCTAD, Geneva. Available at https://unctad.org/en/PublicationsLibrary/ditccom2019d1_en.pdf.

World Trade Organization, 2020. Methodology for the WTO trade forecast of April 8 2020. Available at https://www.wto.org/english/news_e/pres20_e/methodpr855_e.pdf

Appendix

A.1. Methodology and data

General equilibrium simulations are essential in identifying global effects of shocks as they explicitly account for input-output linkages both within and across countries and their dependence on macroeconomic aggregates. This paper provides a more specialized analysis of up to date and disaggregated information. It is based on using Chinese imports data of select commodities as reported by Chinese customs to understand the immediate changes in exports of CDDCs. The approach could be extended to other countries as well, but China was first to release trade figures for January and February 2020, which have been downloaded from Chinese customs website. Data for previous years are from the ITC Trade Map.

As data for January-February are at aggregate level, information for previous years is also aggregated on a two-month basis, implying that each year includes six periods.

Country coverage is exhaustive up to December 2019. However, sectoral and product data published for January-February are not at bilateral level. Consequently, we applied the same relative variation to all trade partners. Relative variation is shown on a year-to-year basis in the last column of Table 2 (Shocks).

Estimates are based on import values, without volume. A major limitation while working with values only is the impossibility to disentangle price effects and quantity effects driven by either changing demand and/or supply conditions. A major consequence could be the smoothing out of simulated future variations in import values. It can also be argued that focusing on values scenarios makes the simulation exercise less exposed to extraordinary quantity variations due to unexpected decisions or market behavior. Results are reported at a relatively high level of aggregation, as the prime objective is to understand short term trends in exports of major commodities groups.

A.2. Approach followed in simulation exercises

The approach requires three computational steps:

1. The first step consists of comparing monthly changes in January and February 2020 published by Chinese customs with those that would be obtained if bi-monthly growth rates observed in the previous three years (i.e. 2017, 2018 and 2019) or a combination them were the realized ones. Obtained differences are interpreted as bi-monthly import demand shocks.

2. The second step consists in defining a shock scenario and computing corresponding bi-monthly import flows for the time spell under consideration. Projected flows are computed up to the November-December 2020 bi-monthly period.

3. In the third and final step, several statistics are computed to characterize each scenario elaborated in step two. The effects of the COVID-19 crisis corresponds to the differences obtained between a benchmark scenario based on past imports flows bi-monthly variations and the various shock scenarios under consideration.

This parsimonious approach allows to disregard information about production/GDP shocks which would have to be translated into import demand shocks. The latter approach would require inter alia information about input-output linkages and would have to rely on a large set of ad-hoc assumptions as for instance in the case of simulations in General Equilibrium setups.

Several constraints, however, are also binding in the approach adopted here. Variations in import flows are at the sectoral level and do not cover the whole product space, implying that results presented are at best partial. Scenarios about the possible evolution of imports until December 2020 do not account for any evolution outside China. In other words, parsimony is also the major limitation of our simulation exercise. As mentioned before, adding input-output information, without necessarily relying on a full-fledged General Equilibrium framework, would allow the inclusion of forward and backward production chains effects across sectors and across countries. A more comprehensive shock scenario would also be needed to activate these linkages. In this context the parsimonious approach adopted here may represent a relevant cautionary alternative.

Differences on impact

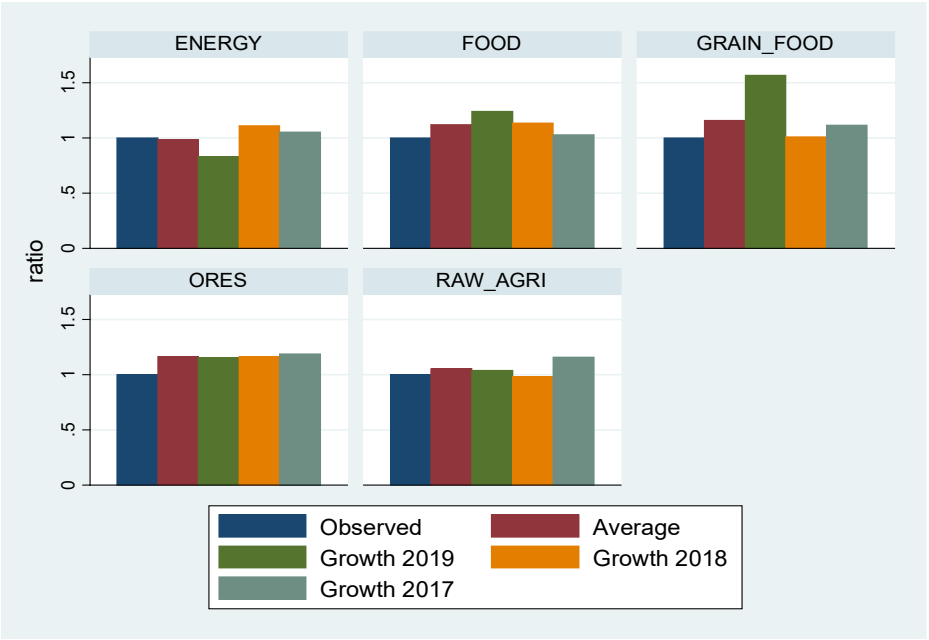
As per the first computational step, projections of import flows on impact, that is during the January-February 2020 period, are shown in Figure A.1. Deviations in ratio terms with respect to realized imports (i.e. what would have happened in the absence of the coronavirus pandemic) as reported by Chinese customs are graphed. The ordinate of the first bar in each graph is equal to 1, as it corresponds to realized import values. Other bars refer to the ratio between projected import values and realized ones. We consider first import values obtained by applying the geometric mean of the bi-monthly growth factors observed in 2017, 2018, 2019. We then consider individually the bi-monthly growth rate observed in 2017, 2018 and 2019 respectively.

Panel (a) in Figure A.1 refers to total commodities imports. Independently of the growth rate selected to compute our hypothetical import values for the first bi-monthly period of 2020, projections appear to be higher than realized values except for energy products. In the latter case, the bi-monthly growth rate observed in 2019 is significantly lower than what is observed in 2020. Panel (b) refers to imports of commodities from CDDCs. We first notice that while all projections would lead to a downward tendency of total imports because of the COVID crisis, this is not necessarily the case for imports from CDDCs. The difference is the result of some product composition effects. Products within commodities groups exported mostly by CDDCs have been less hit by the crisis than products exported by other countries. Moreover, the direction of deviations with respect to realized import values varies depending on the bi-monthly growth rate selected except for ores. In the latter case the effects of the COVID-19 crisis are clearly negative.

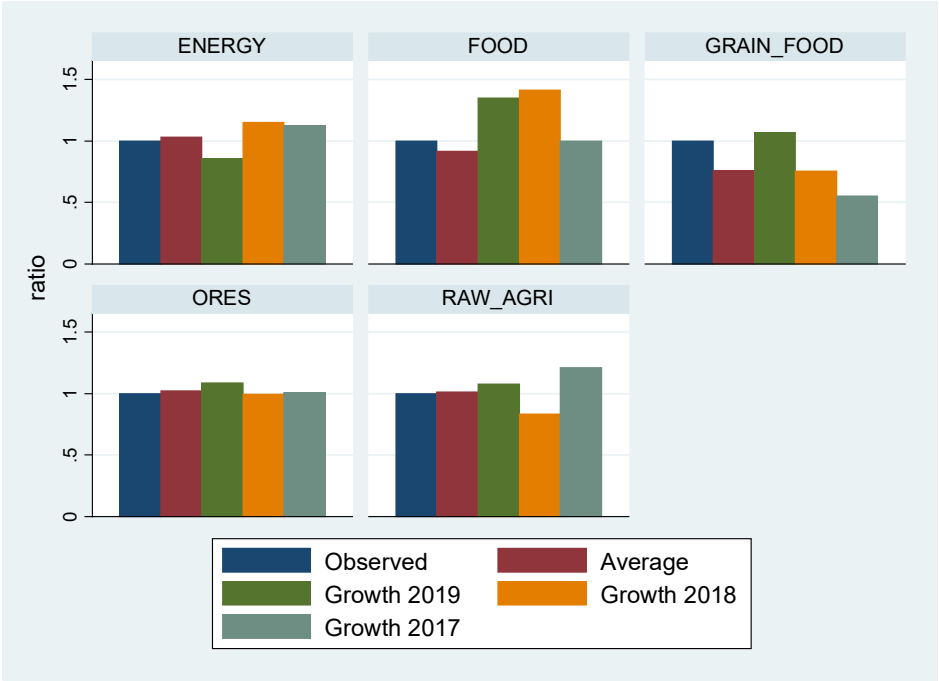
Considering results shown in Figure A.1, the benchmark scenario is defined using the average growth factor projections (i.e. it corresponds to the second bar in each graph) in order to avoid any possible year-specific bias. Indeed, by focusing on a single year and the natural candidate would be 2019, we may capture trade effects which do not necessarily reflect any structural tendency or structural seasonal patterns. For instance, the trade war that exploded between China and the United States of America may have influenced significantly import demand in China for some specific product. By taking a three-year average as the reference bi-monthly evolution rate, the impact of such periodic episodes is likely to be smoothed out or at least reasonably dampened.

Figure A.1: Realized versus expected commodities imports: January-February 2020

(a) Total



(b) CDDCs



Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.
Note: Values are ratios between realized commodities imports in January-February 2020 and import value projections based on different growth rates. Average bars correspond to projections obtained by applying an average of growth rates observed at the same period in 2017, 2018 and 2019. Other bars report projections obtained by applying the indicated year's growth rate observed for the same period.

Scenarios

As mentioned above, a benchmark or reference situation needs to be defined in order to determine the COVID-19 impact over some time spell. Scenarios about the possible

evolution of import demand in China can then be assessed with respect to the benchmark scenario. “Deviations” from this reference evolution would then be attributed to the coronavirus pandemic.

The benchmark scenario (scenario 0) assumes that bi-monthly imports in 2020 vary according to the average growth observed for the same period during the previous three years, namely 2017, 2018 and 2019. In other words, information released for January-February 2020 Chinese imports is not accounted for. This scenario should not be interpreted as a proper forecast exercise, but rather as a hypothetic evolution of imports based on periodic variations observed during the past three years. Discrepancies with specific current forecasts, for instance about the evolution of oil prices and subsequent trade values, should not be interpreted as inaccuracies but rather as an indication of the incidence of short-term volatility which may be totally orthogonal to longer term trends.

As already mentioned, January-February 2020 data are used to construct our COVID-19 scenarios. The first one (scenario 1) assumes that the realized deviation from the benchmark value is maintained during the following two bi-monthly periods, that is until the end of June 2020. We then assume that period-to-period growth rates are those define in the benchmark scenario. In the second scenario realized deviations from the benchmark are imposed in the first three bi-monthly periods of 2020 like in scenario 1. We then assume that levels converge with the benchmark in the following three bi-monthly periods. This allows us to restrict shock effects to be temporary not only in terms of bi-monthly growth rates but also in terms of levels. In other words, a complete return to the benchmark evolution is imposed in the fourth period and the effects of the pandemic crisis shock are then associated with temporary deviations with respect to the benchmark scenario in the first three bi-monthly periods of 2020 only.

COVID-19 scenarios are expected to reflect the first wave of contamination impacting essentially East Asia bit they may also reflect at least partially the effects of the second wave of contamination hitting both continental European countries and the United States, although to a lesser extent.

A.3. Impact for CCDCs imports at the product level

Table A.1 shows the sign and amplitude of shocks faced by imports from CDDCs to China together with the observed variation reported in January-February 2020 period and referring to the same period in 2019. The qualitative indication about the amplitude of the shock reflects absolute differences in annual growth obtained between the benchmark scenario and scenario 1 as described in section 1 and section A.2 of the appendix. Ranges of latter the differentials are specified in the third row.

Table A.1: Projected shocks for CDDCs due to the coronavirus pandemic

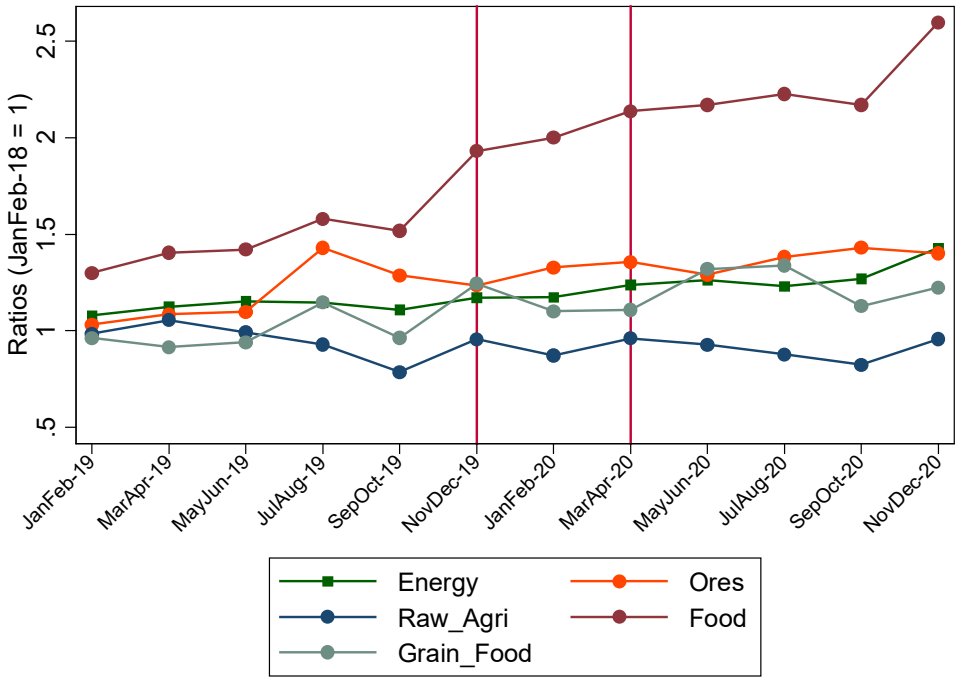
	Shock due to COVID-19 (scenario 1)						*Observed Variation in Jan-Feb 2020*
	Strongly Negative	Negative	Weakly Negative	Weakly Positive	Positive	Strongly Positive	
Annual growth differential (percentage points)	More than -15%	Between -5% and -15%	Between 0% and -5%	Between 0% and +5%	Between +5% and +15%	More than +15%	
Energy							
Coal							*Positive*
Lignite							*Positive*
Crude petroleum oils							*Positive*
Natural gas (liquefied)							*Negative*
Natural gas (gaseous)							*Negative*
Ores							
Iron							*Positive*
Copper							*Negative*
Aluminum							*Negative*
Raw-Agri							
Wood in the rough							*Negative*
Wool							*Negative*
Cotton							*Negative*
Natural rubber							*Positive*
Synthetic rubber							*Positive*
Grains							
Wheat							*Negative*
Maize							*Positive*
Rice							*Negative*
Soya beans							*Positive*
Barley							*Negative*
Food							
Meat							*Positive*
Fresh or dried fruits and nuts							*Positive*
Sugars							*Positive*
Salt							*Negative*
Aquatic products							*Negative*

Source: Author's elaboration based on projections and information released by Chinese customs.

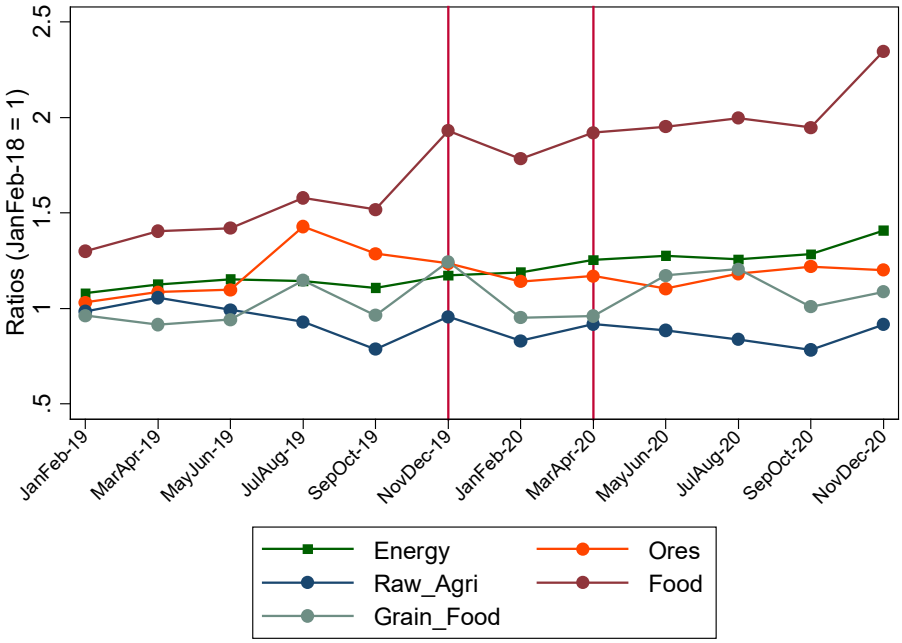
A.4. Impact on total imports

Figure A.2: All commodity groups: benchmark versus COVID-19 scenario (Total imports)

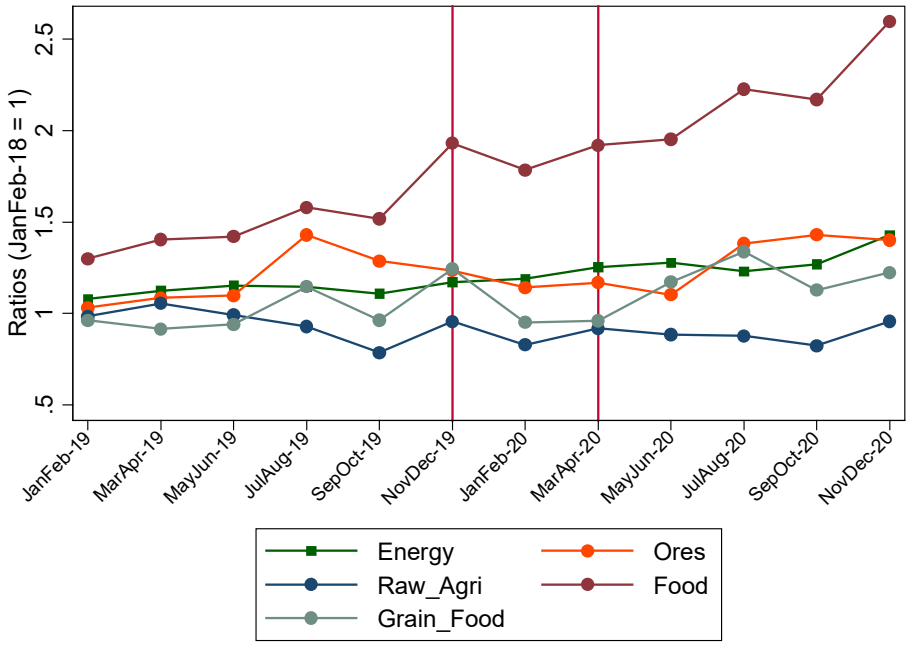
(a) Benchmark



(b) COVID-19_July



(c) Level convergence in July-August 2020



Source: Author's computations based on Chinese Customs data and ITC Trade map extraction.