

Analysis of the COVID-19 Shock, Technology and Trade

New Expansion Proposal for Extensive Margin - India

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We will blown-up the dataset at the firm-month-HS6 level but we won't use every HS6 possible, just a set of feasible HS6 products for each firm.

1. First Expansion Proposal: Using HS4 codes

We will expand the dataset at the firm-month-HS6 level, but only using feasible HS6 products. The set of feasible HS6 products will be obtained using the HS4 codes. If a firm exported (imported) an HS6 product, then we will allow an expansion of this firm in all months (quarters) to all products in the HS4 code of the HS6 product that the firm exported.

1.1 Number of observations in the blown-up dataset

Table 1: Does tech adoption affect trade outcomes? - Expected number of observations in the Indian expanded datasets when using HS4 codes.

Data	Num. Obs. Firm-Month-Feasible HS6	Num. Obs. Firm-Quarter-Feasible HS6
Exports	69,771,870	23,257,290
Imports	86,846,928	28,948,976

Table 2: Did tech adoption mitigate COVID impacts on trade outcomes? - Expected number of observations in the Indian expanded datasets when using HS4 codes.

Data	Num. Obs. Firm-Month-Feasible HS6	Num. Obs. Firm-Quarter-Feasible HS6
Exports	45,382,080	15,127,360
Imports	57,142,584	19,047,528

1.2 In which percentage are the firms exporting (importing) the same HS4?

The table below that shows the percentage of firms in which the same HS4 code represents 90%, 80%, or 70% of the total trade volume during the analysis period.

2. Second Expansion Proposal: Using NAICS3 codes

We will expand the dataset at the firm-month-HS6 level, but only using feasible HS6 products. The set of feasible HS6 products will be obtained using the NAICS3 codes (NAICS subsectors). For each NAICS3 code, we take the HS6 codes that are ever exported by any firm in that 3 digit subsector. This will be the feasible subset of HS6 codes for a firm in a particular 3 digit subsector.

Table 3: Does tech adoption affect trade outcomes? - Percentage of firms for which the same HS4 code accounts for 90%, 80%, or 70% of total trade volume

Data	90\% same HS4	80\% same HS4	70\% same HS4
Exports	46.32479	55.69314	64.32770
Imports	36.11134	45.73215	54.96168

Table 4: Did tech adoption mitigate COVID impacts on trade outcomes? - Percentage of firms for which the same HS4 code accounts for 90%, 80%, or 70% of total trade volume

Data	90\% same HS4	80\% same HS4	70\% same HS4
Exports	45.80802	55.26345	64.02666
Imports	35.78260	45.43930	54.72129

2.1 Number of observations in the blown-up dataset

Table 5: Does tech adoption affect trade outcomes? - Expected number of observations in the Indian expanded datasets when using NAICS3 sucsector.

Data	Num. Obs. Firm-Month-Feasible HS6	Num. Obs. Firm-Quarter-Feasible HS6
Exports	2,684,228,694	894,742,898
Imports	2,530,020,360	843,340,120

Table 6: Did tech adoption mitigate COVID impacts on trade outcomes? - Expected number of observations in the Indian expanded datasets when using NAICS3 sucsector.

Data	Num. Obs. Firm-Month-Feasible HS6	Num. Obs. Firm-Quarter-Feasible HS6
Exports	1,791,250,080	597,083,360
Imports	1,701,035,904	567,011,968