Appendix: TradeSystem

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Different countries may use different trade systems and thus being a likely factor of discrepancy between reporters’ exports and their partners’ imports. Therefore, we collected information of trade system that countries use and displayed it in our discrepancy data frame.

The information of trade system was collected from a survey conducted by UN Comtrade (<https://comtrade.un.org/survey/Reports/byQuestion>). Specifically, we focused on the results of 3 questions in this survey:

* Q1: do you disseminate trade statistics only according to the general trade system?
* Q2: do you disseminate trade statistics only according to the special trade system?
* Q3: do you disseminated trade statistics according to both the general and special trade system?

Yes, no, not applicable are responded. We organized the result and then followed the below rules to decide whether a country use general system or special system:

* if Q1 is responded yes or Q3 is responded yes, then use general system.
* if Q2 is responded yes, then use special system.

Table below shows the result of the use of trade systems

load("data/countrykey.rda")  
  
SurveryQ1\_Q5 <- read\_csv("SurveryQ1-Q5.csv")  
  
SurveryQ1\_Q5 <- SurveryQ1\_Q5 %>%  
 select(Country, Q1Response, Q2Response, Q3Response) %>%  
 left\_join(countrykey, by = c("Country" = "country\_name")) %>%  
 select(-c(ISO2, country\_code))  
  
  
survey\_df <- SurveryQ1\_Q5 %>%  
 mutate(ISO3 = ifelse(Country == "Dominican Rep.", "DOM", ISO3)) %>%  
 mutate(ISO3 = ifelse(Country == "Marshall Isds", "MHL", ISO3)) %>%  
 mutate(ISO3 = ifelse(Country == "Switzerland", "CHE", ISO3)) %>%  
 mutate(ISO3 = ifelse(Country == "Bosnia Herzegovina", "BIH", ISO3)) %>%  
 mutate(ISO3 = ifelse(Country == "USA", "USA", ISO3)) %>%  
 mutate(ISO3 = ifelse(Country == "Cayman Isds", "CYM", ISO3))  
  
  
survey\_df <- survey\_df %>%  
 mutate(trade\_system = case\_when(Q1Response == "Yes" | Q3Response == "Yes" ~ "general",  
 Q2Response == "Yes" ~ "special"))  
  
  
flextable(survey\_df)

| Country | Q1Response | Q2Response | Q3Response | ISO3 | trade\_system |
| --- | --- | --- | --- | --- | --- |
| Cambodia | Yes | No | Yes | KHM | general |
| Spain | Yes | No | No | ESP | general |
| Morocco | Yes | No | No | MAR | general |
| Armenia | Yes | No | No | ARM | general |
| Canada | Yes | No | No | CAN | general |
| Japan | Yes | No | No | JPN | general |
| Ireland | Yes | No | No | IRL | general |
| Madagascar | Yes | No | No | MDG | general |
| Dominican Rep. | Yes | No | Yes | DOM | general |
| Tunisia | Yes | No | No | TUN | general |
| India | Yes | No | No | IND | general |
| Norway | Yes | No | No | NOR | general |
| Rwanda | Yes | No | No | RWA | general |
| Bangladesh | Yes | No | No | BGD | general |
| Seychelles | Yes | No | No | SYC | general |
| Malawi | Yes | No | No | MWI | general |
| Indonesia | Yes | No | No | IDN | general |
| Aruba | Yes | No | No | ABW | general |
| Bahrain | Yes | No | No | BHR | general |
| Libya | Yes | No | No | LBY | general |
| Sierra Leone | Yes | No | No | SLE | general |
| China | Yes | No | No | CHN | general |
| Maldives | Yes | No | No | MDV | general |
| Mexico | Yes | No | No | MEX | general |
| Afghanistan | Yes | No | No | AFG | general |
| Mongolia | Yes | No | No | MNG | general |
| Malaysia | Yes | No | No | MYS | general |
| Brunei Darussalam | Yes | No | No | BRN | general |
| Singapore | Yes | No | No | SGP | general |
| Myanmar | Yes | No | No | MMR | general |
| Ukraine | Yes | No | Not Applicable | UKR | general |
| Uzbekistan | Yes | No | No | UZB | general |
| Viet Nam | Yes | No | No | VNM | general |
| Thailand | Yes | No | No | THA | general |
| Saudi Arabia | Yes | No | No | SAU | general |
| Suriname | Yes | No | No | SUR | general |
| Belarus | Yes | No | No | BLR | general |
| China, Hong Kong SAR | Yes |  |  | HKG | general |
| Lesotho | Yes |  |  | LSO | general |
| Georgia | Yes | No | No | GEO | general |
| Mauritius | Yes | No | No | MUS | general |
| Azerbaijan | Yes | No | No | AZE | general |
| Netherlands | Yes | No | No | NLD | general |
| Botswana | Yes | No | No | BWA | general |
| Sri Lanka | Yes | No | No | LKA | general |
| Malta | Yes | No | No | MLT | general |
| Andorra | Yes | No | No | AND | general |
| Egypt | Yes | No | No | EGY | general |
| Yemen | Yes | No | Yes | YEM | general |
| Costa Rica | Yes | No | No | CRI | general |
| Austria | No | Yes | No | AUT | special |
| Czechia | No | Yes | No | CZE | special |
| Israel | No | Yes | No | ISR | special |
| Denmark | No | No | Yes | DNK | general |
| South Africa | No | Yes | No | ZAF | special |
| Bulgaria | No | Yes | No | BGR | special |
| Iceland | No | Yes | No | ISL | special |
| Estonia | No | Yes | No | EST | special |
| Germany | No | No | Yes | DEU | general |
| Guyana | No | Yes | No | GUY | special |
| Namibia | No | No | Yes | NAM | general |
| Tokelau | No | No | No | TKL |  |
| Mauritania | No | No | No | MRT |  |
| Marshall Isds | No | No | No | MHL |  |
| Slovakia | No | Yes | No | SVK | special |
| Ecuador | No | No | Yes | ECU | general |
| Switzerland | No | Yes | No | CHE | special |
| Kuwait | No | Yes | No | KWT | special |
| New Zealand | No | Yes | No | NZL | special |
| Latvia | No | Yes | No | LVA | special |
| Australia | No | No | Yes | AUS | general |
| State of Palestine | No | Yes | No | PSE | special |
| Poland | No | Yes | No | POL | special |
| Ethiopia | No | No | Yes | ETH | general |
| Nepal | No | No | No | NPL |  |
| Bosnia Herzegovina | No | Yes | No | BIH | special |
| Equatorial Guinea | No | No | Yes | GNQ | general |
| Bhutan | No | No | No | BTN |  |
| Brazil | No | Yes | No | BRA | special |
| Belgium | No | Yes | No | BEL | special |
| Hungary | No | Yes | No | HUN | special |
| Luxembourg | No | Yes | No | LUX | special |
| Turkey | No | Yes | No | TUR | special |
| Greece | No | Yes | No | GRC | special |
| Sweden | No | Yes | Not Applicable | SWE | special |
| Montenegro | No | Yes | No | MNE | special |
| Finland | No | Yes | No | FIN | special |
| Cyprus | No | No | Yes | CYP | general |
| Jordan | No | Yes | No | JOR | special |
| United Kingdom | No | No | Yes | GBR | general |
| Panama | No | Yes | No | PAN | special |
| Honduras | No | No | No | HND |  |
| Bermuda | No | Yes | No | BMU | special |
| Bolivia (Plurinational State of) | Not Applicable | No | Yes | BOL | general |
| Croatia | Not Applicable | Yes | No | HRV | special |
| Jamaica | Not Applicable | Yes | No | JAM | special |
| Portugal | Not Applicable | Yes | Not Applicable | PRT | special |
| Iraq | Not Applicable | No | Yes | IRQ | general |
| USA | Not Applicable | No | Yes | USA | general |
| Chile | Not Applicable | No | Yes | CHL | general |
| Albania | Not Applicable | Yes | No | ALB | special |
| Cayman Isds | Not Applicable | No | No | CYM |  |
| Colombia | Not Applicable | Yes | No | COL | special |
| North Macedonia | Not Applicable | Yes | No | MKD | special |
| Serbia | Not Applicable | Not Applicable | Yes | SRB | general |
| Romania | Not Applicable | No | Yes | ROU | general |
| Cameroon | Not Applicable | No | Yes | CMR | general |
| France |  | Yes |  | FRA | special |