

Linking asymmetry to partner attribution in merchandise imports statistics

A case study: Norway and Paraguay

1. In my paper *Asymmetries in official international trade statistics and analysis of globalization* it was argued that conceptually, compiling trade data by the country of consignment offers the possibility of obtaining consistent statistics and reasonable comparability and that partner attribution in import statistics “should result in more symmetrical data”. However, it was said that such a statement “is still a hypothesis which is yet to be supported by facts”.
2. As of now, UNSD has received imports data by both country of origin and country of consignment from 12 countries. These data create an opportunity to test whether, in fact, the use of country of consignment in import statistics reduces asymmetry. The work is underway and is expected to be completed by the end of December. At the moment, annual data (for 2013 and 2014) of Norway and Paraguay was looked at. The detailed analysis of these data is still unfinished, but some rather interesting results are presented in two tables below.
3. In summary:
 - a. Comparison of all available partner pairs for a given year for both Norway and Paraguay shows a clear reduction of absolute asymmetry when imports by country of consignment were used (I used absolute values not to reduce asymmetry by summing up positives with negatives);
 - b. However, looking just at the top five partners (with the largest absolute asymmetries) one can see that in each country case the asymmetry was less for three pairs of mirror data when imports were by country of consignment, but for two pairs asymmetry was less when imports by origin was used.
4. I would suggest that all available country data sets are analyzed to get a more firm ground to formulate some conclusions. After the comparison is completed, countries needed to be contacted to get a better understanding on how “country of origin” and “country of consignment” were actually assigned.

Table 1: Asymmetries in mirror data when partner exports are compared with imports data by origin and consignment

Norway	2013	2014
(1) Count of compared pairs of mirror data	128	121
(2) Sum of partner exports in the compared pairs	86602267932	85440693857
(3) Sum of absolute values of asymmetry between partner exports and corresponding imports by origin	28239175017	28012483313
(4) Sum of absolute values of asymmetry between partner exports and corresponding imports by consignment	14763222370	11788690322
(3) / (2) in %	32.6%	32.8%
(4) / (2) in %	17.0%	13.8%
Ratio of "origin" asymmetry to "consignment" asymmetry: (3) / (4)	191.3%	237.6%
Paraguay		
(1) Count of compared pairs of mirror data	69	71
(2) Sum of partner exports in the compared pairs	10007781548	10391620246
(3) Sum of absolute values of asymmetry between partner exports and corresponding imports by origin	5454007522	12386419647
(4) Sum of absolute values of asymmetry between partner exports and corresponding imports by consignment	3102789305	11979770883
(3) / (2) in %	54.5%	119.2%
(4) / (2) in %	31.0%	115.3%
Ratio of "origin" asymmetry to "consignment" asymmetry: (3) / (4)	175.8%	103.4%

Table 2: Five partners where asymmetry was the largest: asymmetry with a given partner in percent to total asymmetry with all partners

Norway: five partners with the largest asymmetries				
C_CODE	C_NAME	Year	“Origin” asymmetry	“Consignment” asymmetry
752	Sweden	2013	20.2%	9.4%
156	China	2013	19.6%	0.7%
208	Denmark	2013	6.6%	5.0%
528	Netherlands	2013	5.1%	12.6%
616	Poland	2013	4.2%	12.7%
C_CODE	C_NAME	Year	“Origin” asymmetry	“Consignment” asymmetry
752	Sweden	2014	18.8%	7.1%
156	China	2014	17.7%	0.1%
842	USA	2014	13.7%	27.0%
208	Denmark	2014	6.0%	4.0%
528	Netherlands	2014	5.1%	11.9%
Paraguay: five partners with the largest asymmetries				
		Year	“Origin” asymmetry	“Consignment” asymmetry
842	USA	2013	20.9%	7.5%
32	Argentina	2013	6.8%	38.6%
152	Chile	2013	5.8%	0.0%
344	China, Hong Kong SAR	2013	5.6%	8.6%
392	Japan	2013	4.0%	0.6%
C_CODE	C_NAME	Year	“Origin” asymmetry	“Consignment” asymmetry
76	Brazil	2014	25.4%	23.8%
156	China	2014	14.0%	4.1%
32	Argentina	2014	9.2%	17.5%
643	Russian Federation	2014	8.9%	8.9%
842	USA	2014	7.7%	9.7%