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New developments in communication, globalization and digitalization

G.1 Valuation of Imports and Exports of Goods: Second Stage Survey Results

Prepared by the Globalization Task Team¹

Summary

The Globalization Task Team (GZTT) conducted a two-stage testing strategy to assess the practical feasibility of recording imports and exports of goods at their observed transaction value. During the first stage, a total of 120 economies, with a wide geographical coverage, submitted complete answers. Thirteen economies participated in the second stage of the survey and 12 submitted data needed to assess the impact of the adoption of invoice (transaction) values for the valuation of imports and exports of goods. This document presents the initial results of this second stage survey. These results will be considered by the IMF Committee on Balance of Payments Statistics (BOPCOM) and the Advisory Expert Group (AEG) on National Accounts for final decision. GZTT will decide the next steps based on the feedback from the AEG and the BOPCOM.

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I. Introduction

1. **The Globalization Task Team (GZTT) conducted a two-stage testing strategy to assess the practical feasibility of recording Imports and Exports of goods at their observed transaction value.**² During the first stage, a total of 120 economies, with a wide geographical coverage, submitted complete answers and 43 economies volunteered to participate in the second stage of testing. However, only 13 economies participated in the second stage of the survey and 12 submitted data needed to assess the impact of the adoption of invoice (transaction) values for the valuation of imports and exports of goods (see Table 1 in the Appendix). A significant share of the respondents focused on data on imports only, given the unavailability or non-reliability of the exports data. Some of the respondents provided detailed data by chapter of the *Harmonized Commodity Description and Coding System Nomenclature 2017 Edition (HS 2017)* and by delivery terms (incoterms). The initial results of this second stage survey are presented in the next section.

II. Results of the second stage of testing

2. **A total of twelve economies tested the difference between the total value of Imports of Goods using a CIF (cost, insurance, freight) and transaction (invoice) valuation, reporting impacts that span from 0.2 to 8.5 percent of total Imports of Goods using a CIF valuation** (see Graph 1 in the Appendix). For each economy, the information reported refers to different periods, and an average of the several periods reported is considered in this analysis. The variation of the impact for the periods reported by each economy does not appear to be relevant. The average of results for the several economies is 4.2 percent. However, it should be noted that two of the participating economies reported as transaction (invoice) values the total Imports using FOB valuation, and one reported the impacts on imports and exports for intra-European Union trade only.

3. **For total Exports of Goods, a total of six economies tested the difference between the FOB and transaction (invoice) valuation, reporting impacts from -2.5 to 15.0 percent of total Exports of Goods using FOB (free on board) valuation** (see Graph 2 in the Appendix). The average of results for the several economies is 2.1 percent. Some of the non-reporting respondents noted that, in the customs forms, the invoice (transaction) value field is not mandatory or not collected for Exports of Goods, and the required testing is not possible or not reliable for this reason.

4. **The analysis of goods classified by HS chapter³ reveals a significant heterogeneity of impacts.** Seven economies tested the difference between the total value of Imports of Goods using a CIF and transaction (invoice) valuation by HS chapter, with maximum and minimum impacts around 30 and -12 percent⁴ (see Graphs 3 and 4 in the Appendix). In the case of Exports of Goods, three economies reported on the difference between the total value of Exports of Goods using FOB and transaction (invoice) valuation by HS chapter, with maximum and minimum impacts around 13 and -13 percent of (see Graphs 5 and 6 in the Appendix). However, these impacts are substantially lower when considering only the five HS chapters with a highest share on the total Imports and Exports of Goods.

5. **The shares of the delivery terms present significant differences across the reporting economies for both Imports and Exports of Goods** (see Tables 2, 3, and 4 in

² The results of the Stages 1 and 2 of testing will be incorporated in the GN after the Committee and AEG discussions.

³ At the international level, the Harmonized System (HS) for classifying goods is a six-digit code system. Refer to [Harmonized Commodity Description and Coding Systems \(HS\)](#) for additional details.

⁴ This analysis excludes *HS 2017* Chapter 99 (Commodities not specified according to kind).

the Appendix).⁵ Significant differences in the shares of incoterms⁶ may partly justify the span of impacts found across the reporting economies. In addition, as mentioned in Hiemstra and de Haan 2017,⁷ a logical stepwise pattern would be expected in the difference between the transaction (invoice) value and the CIF value for Imports of Goods (or FOB for Exports of Goods) by delivery terms, when using a scheme in which the delivery terms are organized from EXW (EX Works) to DDP (Delivered Duty Paid) for Imports of Goods (see Table 5 in the Appendix).

6. **With a few exceptions, the impact presented does not show a clear pattern, which may raise concerns on data quality (see Graphs 7 and 8 in the Appendix).** In view of this, the GZTT considers that for regular use of transaction (invoice) value data in the national accounts and balance of payments, these data would need to be analyzed and corrected as is the current practice. Given the vast amount of data, this would imply the use of significant resources.

⁵ Eight and six economies provided data detailed by delivery terms for Imports and Exports of Goods, respectively. In more than one case, a relevant share of the total value was not assigned to a delivery term code.

⁶ Incoterms refer to the standardized terms of delivery and provide a set of international rules for the interpretation of the most commonly used trade terms in foreign trade.

⁷ In “CIF/FOB Recording of Imports and Exports in the National Accounts and the Balance of Payments”, Leo Hiemstra & Mark de Haan, Paper prepared for the AEG meeting in New York, December 5–7, 2017.

Appendix

Graphs and Tables on GN G.1 Second Stage Testing Results

Table 1
List of Economies that Participated in the Second Stage of Testing

<i>Economy⁸</i>	<i>Period</i>	<i>Data for Total Data for Total</i>			
		<i>Imports of Goods</i>	<i>Exports of Goods</i>	<i>Disaggregated Data by HS Chapter</i>	<i>Disaggregated Data by Delivery Terms</i>
Economy 1	2018–2021	Yes	-	Yes	Yes
Economy 2	2010/11– 2019/20	-	-	-	-
Economy 3	2011–2020	Yes	-	-	-
Economy 4	2018–2020	Yes*	-	Yes	-
Economy 5	2019–2021	Yes*	-	Yes	-
Economy 6	2018	Yes	Yes	-	Yes
Economy 7	2017–2019	Yes**	Yes**	Yes	Yes
Economy 8	2018–2020	Yes	Yes	Yes	Yes
Economy 9	2018–2019	Yes	-	-	Yes
Economy 10	2013 and 2018–2020	Yes	Yes	Yes	Yes
Economy 11	2018–2020	Yes	-	-	-
Economy 12	-	Yes	Yes	-	Yes
Economy 13	2019–2021	Yes	Yes	Yes	Yes

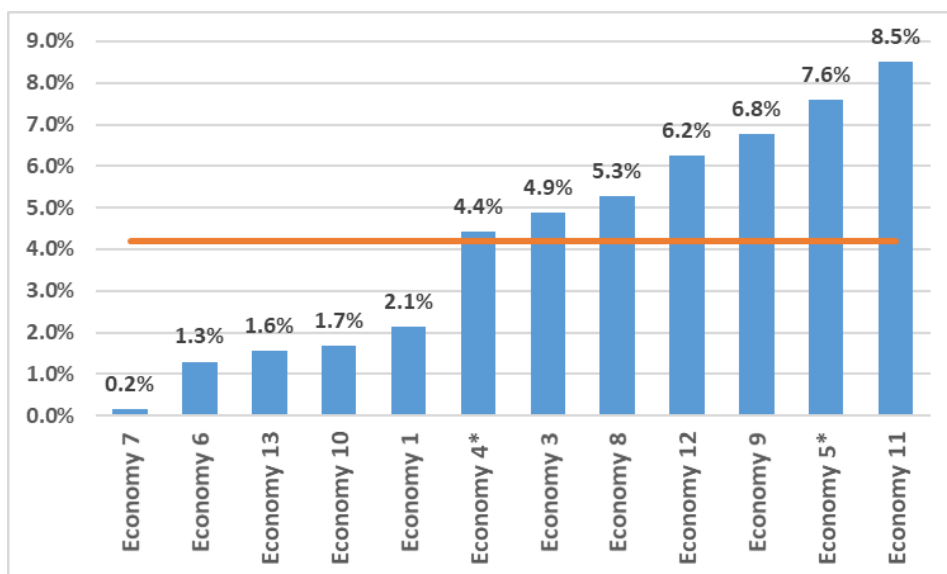
Note: * For Economies 4 and 5, FOB values are reported as transaction (invoice) values for Imports of Goods. For Economy 7, the tested results refer to Intra-EU trade.

** Economy 7 only reported the impact for the intra-European Union (EU) trade, given the unavailability of data for extra-EU trade.

⁸ The participant economies are Albania, Bangladesh, Colombia, Costa Rica, Dominican Republic, Germany, Ireland, Moldova, Netherlands, Norway, Saudi Arabia, Thailand, and Uzbekistan.

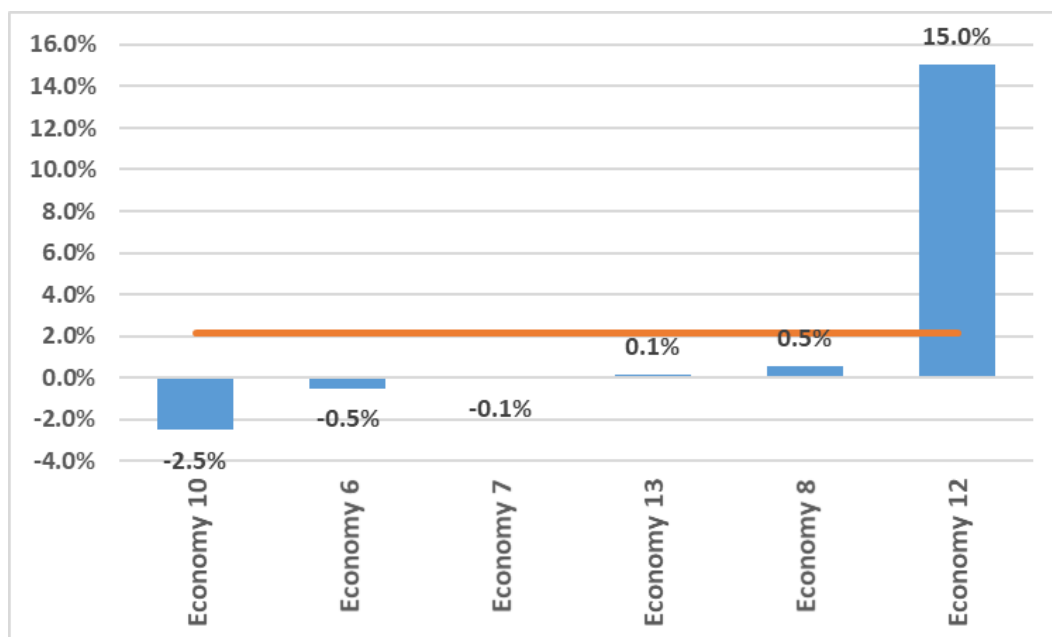
Graph 1

Imports of Goods: Difference between CIF and Transaction (Invoice) Values, as Percentage of CIF Values (Simple Average of Reported Periods)



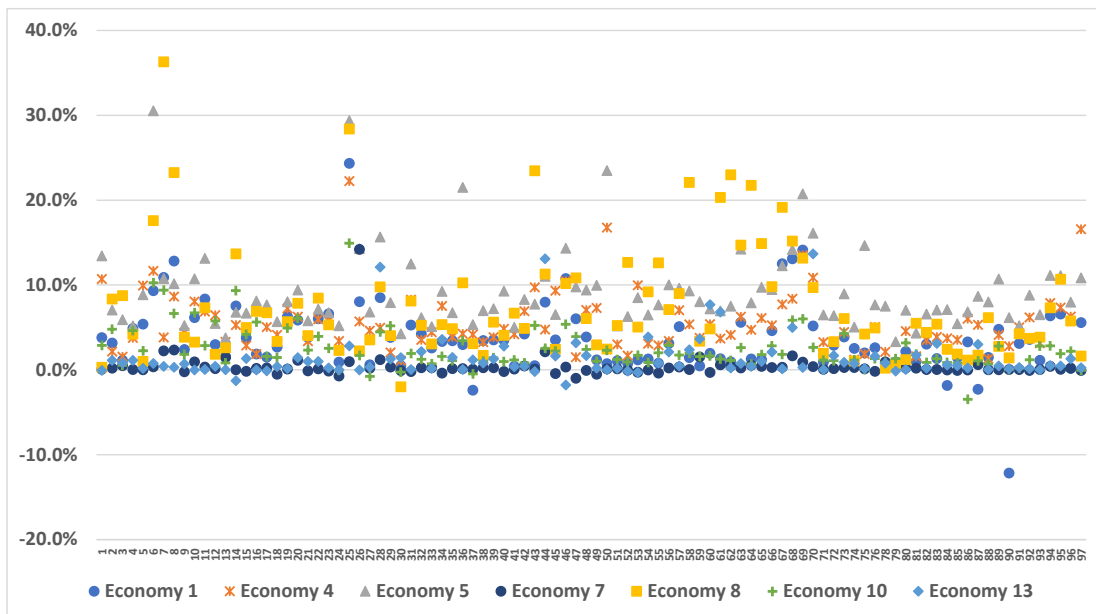
Graph 2

Exports of Goods: Difference between FOB and Transaction (Invoice) Values, as Percentage of FOB Values (Simple Average of Reported Periods)



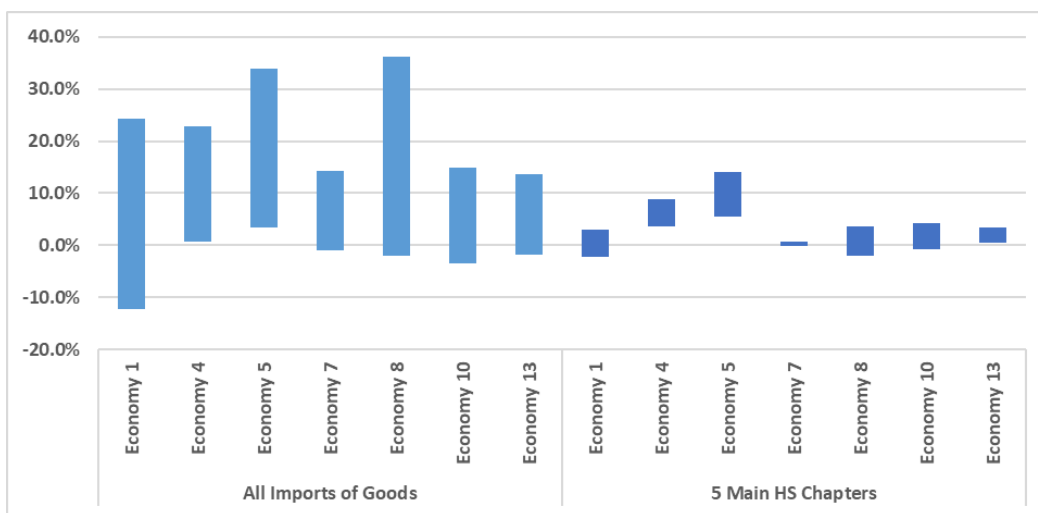
Graph 3

Imports of Goods by HS chapter: Difference Between CIF and Transaction (Invoice) Values by HS Chapters (Excluding Chapter 99), as Percentage of CIF Values, by Reporting Economy (Simple Average of Reported Periods)



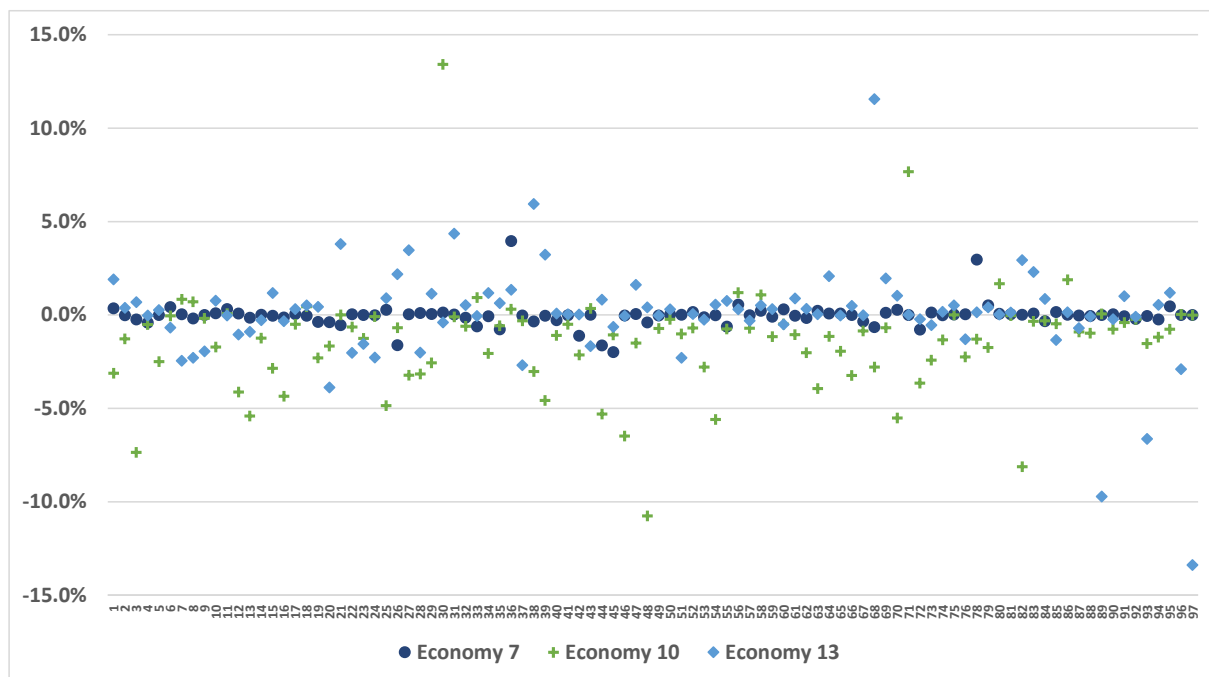
Graph 4

Imports of Goods by HS Chapter: Maximum and Minimum Difference Between CIF and Transaction (Invoice) Values for all HS Chapters (Excluding Chapter 99), as Percentage of CIF Values, by Reporting Economy (Simple Average of Reported Periods)

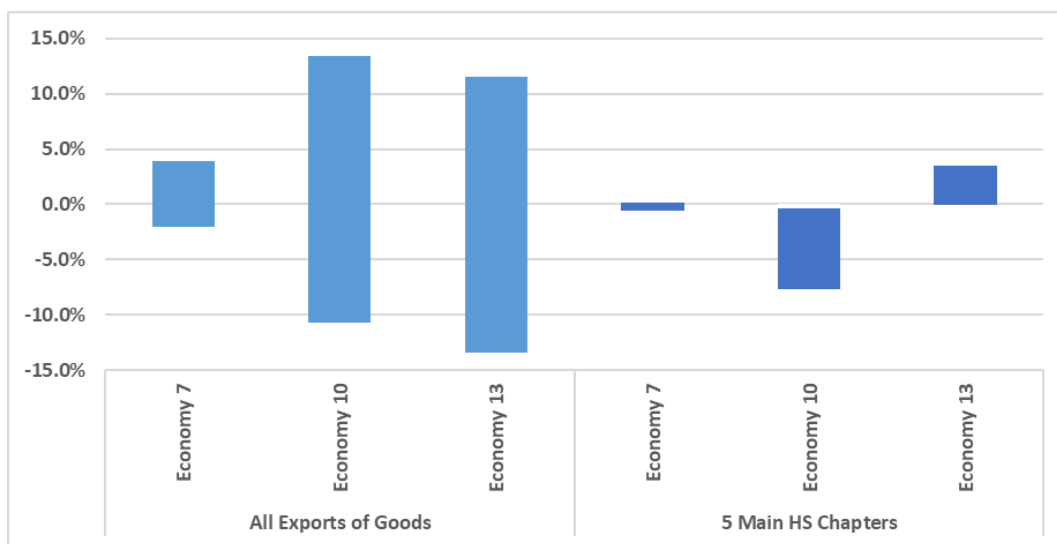


Note: For each economy, the graph represents the maximum and minimum impact of using transaction (invoice) values for the valuation of Imports of Goods by HS chapter, as a percentage of CIF values.

Graph 5
Exports of Goods by HS Chapter: Difference Between FOB and Transaction (Invoice) Values by HS Chapters (Excluding Chapter 99), as Percentage of FOB Values, by Reporting Economy (Simple Average of Reported Periods)



Graph 6
Exports of Goods by HS Chapter: Maximum and Minimum Difference between FOB and Transaction (Invoice) Values for all HS Chapters (Excluding Chapter 99), as Percentage of FOB Values, by Reporting Economy (Simple Average of Reported Periods)



Note: For each economy, the graph represents the maximum and minimum impact of using transaction (invoice) values for the valuation of Exports of Goods by HS chapter, as a percentage of FOB values.

Table 2
Share of Imports of Goods by Delivery Terms, by Reporting Economy (Percentage of Total Invoice Value, for Average of Reported Periods)

<i>Delivery terms</i>	<i>Economy 1</i>	<i>Economy 6</i>	<i>Economy 7</i>	<i>Economy 8</i>	<i>Economy 9</i>	<i>Economy 10</i>	<i>Economy 12</i>	<i>Economy 13</i>
EXW	31.6%	12.5%	15.3%	15.5%	8.4%	19.3%	6.7%	2.1%
FCA	8.7%	15.0%	6.7%	37.0%	10.4%	7.8%	2.4%	4.5%
FAS	0.0%	0.3%	0.3%	0.0%	0.4%	0.5%	0.0%	0.0%
FOB	9.8%	20.0%	4.5%	6.3%	21.4%	10.8%	19.8%	3.4%
CFR	3.5%	5.0%	3.0%	1.3%	5.1%	1.6%	11.0%	0.0%
CIF	16.3%	10.9%	23.8%	1.4%	18.0%	10.6%	49.6%	0.0%
CPT	5.4%	3.3%	3.1%	8.5%	1.7%	4.7%	0.5%	5.8%
CIP	9.3%	9.1%	4.6%	6.1%	6.8%	5.2%	2.3%	12.6%
DAT	0.3%	0.5%	3.2%	0.2%	0.5%	0.6%	0.2%	0.0%
DAP	14.4%	16.4%	10.5%	23.6%	20.8%	28.6%	3.8%	10.0%
DDP	0.8%	5.5%	9.1%	0.1%	6.4%	10.3%	0.4%	0.1%
Other, not assigned, or confidential	0.0%	1.4%	15.9%	0.0%	0.0%	0.0%	3.3%	61.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: The analysis considers Incoterms 2010 (for more information, please see <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-rules-2010/>). The values of imports reported using codes before or after the 2010 version were reassigned to the 2010 version. The table is organized according to the allocation of costs to the buyer/seller (for more information, please see http://www.inprogroup.com/allocations_of_costs_buyerseller_according_to_incoterms_2010.php).

Table 3
Share of Exports of Goods by Delivery Terms, by Reporting Economy (Percentage of Total Invoice Value, for Average of Reported Periods)

<i>Delivery terms</i>	<i>Economy 1</i>	<i>Economy 6</i>	<i>Economy 7</i>	<i>Economy 8</i>	<i>Economy 10</i>	<i>Economy 12</i>	<i>Economy 13</i>
EXW	42.4%	19.9%	8.4%	2.7%	10.4%	4.2%	2.1%
FCA	4.8%	17.7%	14.2%	23.5%	8.2%	2.8%	36.2%
FAS	0.0%	0.2%	0.0%	0.0%	0.5%	0.0%	0.0%
FOB	15.0%	8.5%	3.0%	8.7%	12.5%	63.2%	0.0%
CFR	3.9%	5.0%	1.5%	1.6%	4.0%	8.3%	0.3%
CIF	10.0%	15.4%	19.6%	4.1%	15.9%	15.6%	0.2%
CPT	7.5%	6.7%	8.2%	24.9%	2.3%	0.7%	5.0%
CIP	2.6%	10.4%	7.1%	2.2%	6.8%	1.9%	1.5%
DAT	0.2%	0.6%	0.4%	0.2%	1.5%	0.1%	0.1%
DAP	13.0%	12.3%	26.2%	31.3%	18.1%	2.1%	34.8%
DDP	0.6%	3.2%	4.3%	0.7%	19.7%	0.9%	0.7%
Other, not assigned, or confidential	0.0%	0.0%	7.0%	0.0%	0.0%	0.3%	19.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note: The analysis considers Incoterms 2010 (for more information, please see <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-rules-2010/>). The values of imports reported using codes before or after the 2010 version were reassigned to the 2010 version. The table is organized according to the allocation of costs to the buyer/seller (for more information, please see http://www.inprogroup.com/allocations_of_costs_buyerseller_according_to_incoterms_2010.php).

Table 4
Allocation of Costs to the Buyer and Seller by Delivery Terms (Incoterms 2010)

<i>Delivery terms</i>		<i>Description</i>
EXW	Ex works	“Ex Works” means that the seller delivers when it places the goods at the disposal of the buyer at the seller’s premises or at another named place (i.e., works, factory, warehouse, etc.). The seller does not need to load the goods on any collecting vehicle, nor does it need to clear the goods for export, where such clearance is applicable
FCA	Free carrier	“Free Carrier” means that the seller delivers the goods to the carrier or another person nominated by the buyer at the seller’s premises or another named place. The parties are well advised to specify as clearly as possible the point within the named place of delivery, as the risk passes to the buyer at that point.
FAS	Free alongside ship	“Free Alongside Ship” means that the seller delivers when the goods are placed alongside the vessel (e.g., on a quay or a barge) nominated by the buyer at the named port of shipment. The risk of loss of or damage to the goods passes when the goods are alongside the ship, and the buyer bears all costs from that moment onwards.
FOB	Free on board	“Free on Board” means that the seller delivers the goods on board the vessel nominated by the buyer at the named port of shipment or procures the goods already so delivered. The risk of loss of or damage to the goods passes when the goods are on board the vessel, and the buyer bears all costs from that moment onwards.
CFR	Cost and freight (CFR).	“Cost and Freight” means that the seller delivers the goods on board the vessel or procures the goods already so delivered. The risk of loss of or damage to the goods passes when the goods are on board the vessel. the seller must contract for and pay the costs and freight necessary to bring the goods to the named port of destination.
CIF	Cost, insurance and freight	“Cost, Insurance and Freight” means that the seller delivers the goods on board the vessel or procures the goods already so delivered. The risk of loss of or damage to the goods passes when the goods are on board the vessel. The seller must contract for and pay the costs and freight necessary to bring the goods to the named port of destination. The seller also contracts for insurance cover against the buyer’s risk of loss of or damage to the goods during the carriage. The buyer should note that under CIF the seller is required to obtain insurance only on minimum cover. Should the buyer wish to have more insurance protection, it will need either to agree as much expressly with the seller or to make its own extra insurance arrangements.
CPT	Carriage paid to	“Carriage Paid to” means that the seller delivers the goods to the carrier or another person nominated by the seller at an agreed place (if any such place is agreed between parties) and that the seller must contract for and pay the costs of carriage necessary to bring the goods to the named place of destination.
CIP	Carriage and insurance paid to	“Carriage and Insurance Paid to” means that the seller delivers the goods to the carrier or another person nominated by the seller at an agreed place (if any such place is agreed between parties) and that the seller must contract for and pay the costs of carriage necessary to bring the goods to the named place of destination. The seller also contracts for insurance cover against the buyer’s risk of loss of or damage to the goods during the carriage. The buyer should note that under CIP the seller is required to obtain insurance only on minimum cover. Should the buyer wish to have more insurance protection, it will need either to agree as much expressly with the seller or to make its own extra insurance arrangements.
DAT	Delivered at Terminal	“Delivered at Terminal” means that the seller delivers when the goods, once unloaded from the arriving means of transport, are placed at the disposal of the buyer at a named terminal at the named port or place of destination. “Terminal”

*Delivery terms**Description*

includes a place, whether covered or not, such as a quay, warehouse, container yard or road, rail or air cargo terminal. The seller bears all risks involved in bringing the goods to and unloading them at the terminal at the named port or place of destination.

DAP	Delivered at Place	“Delivered at Place” means that the seller delivers when the goods are placed at the disposal of the buyer on the arriving means of transport ready for unloading at the named place of destination. The seller bears all risks involved in bringing the goods to the named place.
DDP	Delivered Duty Paid	“Delivered Duty Paid” means that the seller delivers the goods when the goods are placed at the disposal of the buyer, cleared for import on the arriving means of transport ready for unloading at the named place of destination. The seller bears all the costs and risks involved in bringing the goods to the place of destination and has an obligation to clear the goods not only for export but also for import, to pay any duty for both export and import and to carry out all customs formalities.

Source: <https://iccwbo.org/resources-for-business/incoterms-rules/incoterms-rules-2010/>

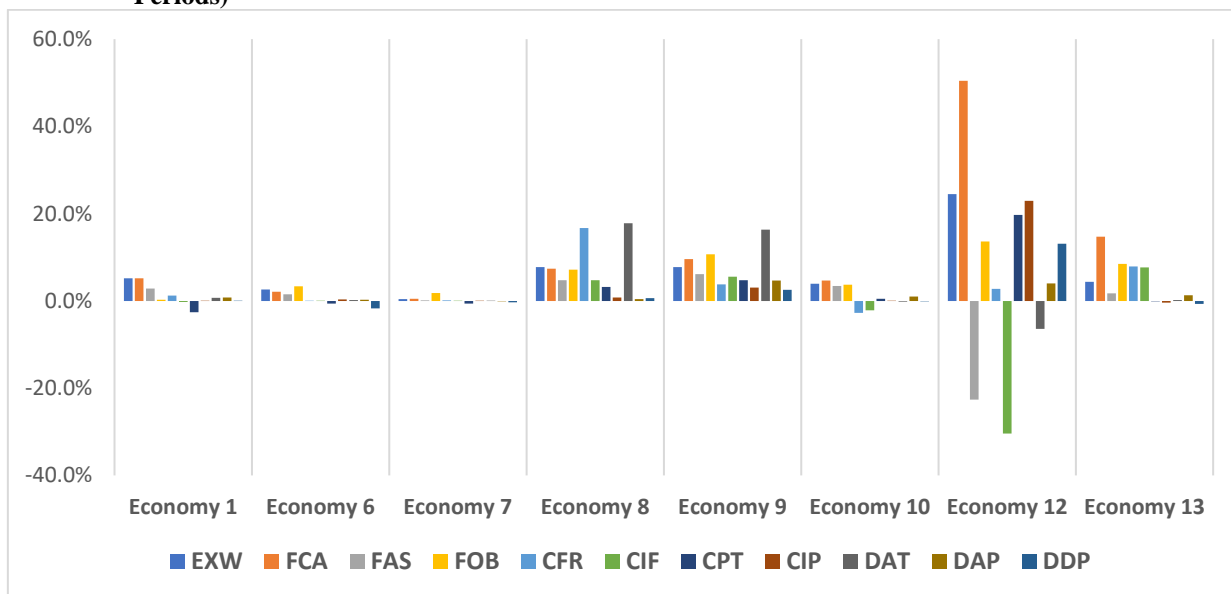
Table 5
Allocations of Costs Buyer/Seller According to Incoterms 2010

<i>Incoterms 2010</i>	<i>Export-Customs declaration</i>	<i>Carriage to port of export</i>	<i>Unloading of truck in port of export</i>	<i>Loading charges in port of export</i>	<i>Carriage to port of import</i>	<i>Unloading charges in port of import</i>	<i>Loading on truck in port of import</i>	<i>Carriage to place of destination</i>	<i>Insurance</i>	<i>Import customs clearance</i>
EXW	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer		Buyer
FCA	Seller	Seller	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer		Buyer
FAS	Seller	Seller	Seller	Buyer	Buyer	Buyer	Buyer	Buyer		Buyer
FOB	Seller	Seller	Seller	Seller	Buyer	Buyer	Buyer	Buyer		Buyer
CFR	Seller	Seller	Seller	Seller	Seller	Seller	Buyer	Buyer		Buyer
CIF	Seller	Seller	Seller	Seller	Seller	Seller	Buyer	Buyer	Seller	Buyer
CPT	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller		Buyer
CIP	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Buyer
DAT	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller		Buyer
DAP/DDU	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller		Buyer
DDP	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller		Seller

Source: http://www.inprogroup.com/allocations_of_costs_buyerseller_according_to_incoterms_2010.php

Graph 7

Imports of Goods by Delivery Terms: Difference Between CIF and Transaction (Invoice) Values by Delivery Terms, as Percentage of CIF Values, by Reporting Economy (Simple Average of Reported Periods)



Graph 8

Exports of Goods by Delivery Terms: Difference between FOB and Transaction (Invoice) Values by Delivery Terms, as Percentage of FOB Values, by Reporting Economy (Simple Average of Reported Periods)

