Re-Evaluation of Free Trade Agreement:
Based on Regional Value Contents in Agricultural, Fishery and Livestock products

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Summary

The purpose of this study is to evaluate the economic effects of FTAs using the concept of value-added exports. So far, the economic effects of FTAs have been dependent on decrease in import prices due to tariff cuts in importing countries, but the actual tariff reduction need to consider the value added of the exporting countries. Value-added export refers to the value created in the exporting country out of total exports. Among value-added exports, direct value-added export is interpreted as the Regional Value Contents (RVC), from which the economic effect of the FTA can be analyzed. A modified GTAP-VA model takes into account RVC in order to fix overestimation problem. By the re-evaluation of the FTA based on the RVC, this paper makes it clear that the economic effects of the existing FTA methodology have the possibility of overestimation.

1. Introduction

As a high-ranking country in FTAs, Korea notified the WTO of the entry into force and conclusions of FTAs with more than 20 economic partners, which is the 8th in the world in terms of the number of FTAs (WTO, 2021). Korea has concluded FTAs with major trading partners including the US, EU, and China, and is currently in the stage of signing mega FTAs. The RCEP (Regional Comprehensive Economic Partnership) is expected to enter into force in early 2022, and the Korean government is actively considering joining the CPTPP (Comprehensive and Progressive agreement of Tans-Pacific Partnership). Korean national research institutes have been estimating the effects of FTAs through preliminary assessments and establishing domestic support program for agricultural, fisheries and livestock sectors. In particular, through the preliminary impact assessment of the Korea-US FTA and the Korea-EU FTA, it was

estimated that trade values would increase by up to 14% (Bae, et al., 2016, 2018).

Nevertheless, it seems that the FTAs signed by Korea have not yet been fully utilized. The Korea Customs Service (2021) announced Korea's FTA export utilization rate at an average of 74% in 2020, along with relatively high level agreements such as Canada (95.4%), EU (87.10%), and the United States (84.4%), and low FTA utilization agreements such as New Zealand (42.8%), Vietnam (44.5%), ASEAN (54.1%), and China (64.9%). Also, by industry, the utilization rate of machinery (85.4%) was high, but rate of miscellaneous products (46.7%), textiles (50.3%), and agricultural, forestry and fishery products (64.6%) were below the average.

The low utilization of FTAs is largely due to the role of Rules of Origin. Estevadeordal & Suominen (2004) is a representative study that introduced and empirically analyzed the concept of the strictness index of the rules of origin, and explained that the strictness of the rules of origin is a major factor hindering free trade. Kala (2005) found that the more stringent the rules of origin, the higher the production cost reduces consumer surplus. The more stringent the rules of origin consequently resulted in the lower the FTA utilization rate (Mitsuyo and Shujiro, 2018). And researchers have analyzed that rules of origin play a major role in increasing trade costs in FTAs (Koskinen, 1983; Hayakawa, 2017; Carrière and de Melo, 2004; Cadot et al., 2005).

The rule of origin is a measure to prevent trade deflection from non-FTA economy, on the assumption that value added would occur in the partner country over a certain level. Specifically, there are various criterion such as change of tariff item number, occurrence of specific process, regional value contents, etc., but the common point is that the value added of an exporting country should be over the level of ROO agreed in advance. The actual value-added generated within a country is low, it is likely that the rules of origin cannot be met, which leads to non-fulfillment of the FTA.

The low FTA utilization rate following the conclusion of FTAs shows that there could be errors in evaluating their economic impacts. Assessing the effects of FTAs without taking into accounts countries of origin would result in overestimation, assuming that all trading goods are FTA eligible. In order to assess the impact of FTAs, this study presents methodologies reflecting value-added created within an exporting country using the Regional Value Contents (RVC).

2. Literature Review

There is no common methodology to analyze the impact of FTA. However, the economic effects of trade liberalization could be summarized as (i) tariff reduction, (ii) importing price down, (iii) trade creation, and (iv) production expansion (Hertel et al., 2001; Kawasaki, 2003; Calvo Pardo et al., 2009; Plumer et al., 2011). In recent studies, although the scope of research has extended from the effect of Foreign Direct Investment (FDI) to spillover (Thangavelu and Findlay, 2011; Thangavelu and Narjoko, 2014; Duong et al., 2020), the effect of trade liberalization on trade of goods is mainly examined based on the tariff reduction.

The most direct effect of the FTA is the trade impact according to the tariff liberalization (Haveman and Thursby, 1999; Harwit, 2001; Rena, 2012). Tariff cuts have the price of export products lower, and in turn increase the demand for importing products. CGE (Computable General Equilibrium) model is widely being used for analyzing these explained impact of FTA (Cheong, 2005; Ando and Urata, 2007; Kitwiwattanacha et al., 2010). Also, econometric models are used to analyze the effect of specific industry or product (Francois et al., 2005; Urata and Okabe, 2010; Kahouli and Makouf, 2015).

The econometric method usually estimates the price elasticity of imports by HS code, which calculates the volume of trade creation or diversion depending on import price (Plumer et al., 2011; Sato, 2017). The trade creation results from an increase in demand while the diversion is caused by replacement of origin through efficiency variation (Kahouli and Maktouf, 2015).

3. Re-evaluation of Free Trade Agreement

There are various limitations when evaluating the impact of FTAs using current methodologies (Koopman et al., 2014; Borin and Mancini, 2015). One of these limitations is that the changes of gross exports is not directly correlated to the real GDP and job increase, but the value-added created within a country could contribute those growth (Stehrer, 2012). For example, even if gross exports increase by 10% after an FTA, domestic production does not necessarily increase by 10%. It was necessary to consider domestic value-added, but value-added has not been appropriately measured when estimating the effects of FTA due to absence of related data and methodology.

However, after the publication of the World Input-Output Table (WIOT), it is now feasible to estimate the domestic value-added in trade (Wang, Wei and Zhu, 2013). Analysis methodologies using value-added exports hve been developed with the release of the global Input Output Table (Timmer et al., 2015; Ke and Tang, 2016; Antràs, 2020). Although WIOT mainly provides major developed countries' IO, estimating the detailed exports, which divided into four categories, could give substantial implications for those countries and also the countries are linked with them. Also, it is possible to seek policy gap through the current position of a country in the environment of the global value chains.

Additionally, researches on the relation between the rule of origin in FTAs and the value-added in trade have been conducted recently. The rules of origin of FTAs indicate the minimum share of the domestic value-added to get preferential tariffs by 6 digit HS code. Although the rules of origin could include 'Change in Tariff Heading(CT)' and 'Specific Process Standards(SP),' most of agricultural, fisheries and livestock goods could be quantified in the value-added.

In this study, we question whether the tariff reduction agreed in the FTA would be fully reflected in importing prices. In other words, the conclusion of an FTA does not mean the reduction or elimination of tariffs. Every FTA agreements have rules of origin to prevent trade deflection, and tariff reduction is only applied when ROO criterion is met. However, the current FTA research methodology does not take this into account, and all products 'shipped' from an exporting country are considered to be FTA qualified, which would consequently overestimate the effect of FTA. To correct the estimation errors, a tariff should be calculated based on domestic value added. By including this, FTA qualification would be determined by the value added ratio generated in the exporting country.

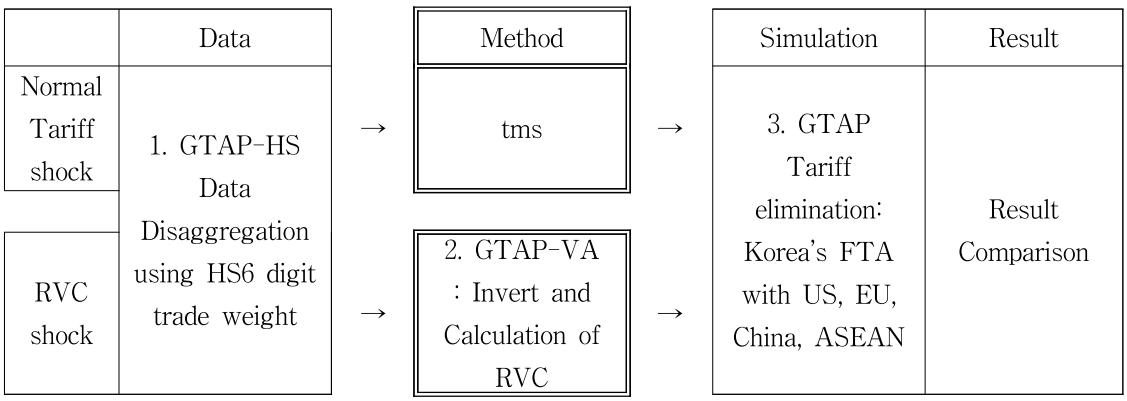
In estimating the economic effect of an FTA, this study aims to estimate the change in exports according to the value-added contents ratio. To this end, the concept of 'value-added exports' which means value added ratio in total exports (Koopman et al, 2014), and based on the GTAP-VA model (Antimiani and Fusacchia, 2018) applied to general equilibrium analysis, a modified CGE model was suggested by applying the 'regional value-added standard.' Based on the country's value-added included in total exports, this the model could decide whether the FTA tariff rate was applied or not, and preferential FTA tariffs was applied only to products that qualify value added criterions.

The characteristics of agricultural, fishereis, livestock industries are as follows: 1. High import tariff rates, 2. Exclusion from participation in GVC, 3. Wholly

obtained criterion (WO). This study classifies agricultural, fishery and livestock products by HS code. WO applies to most of the products but there are also other types of products [change in tariff classification criterion (CTC), other combination of criteria, etc.]. In order to separate WO products from others, it is necessary to classify analysis targets by HS code. To this end, this study uses GTAP-HS (Aguiar et al., 2021) to group items for WO and to identify & classify the level of value-added for products to which WO applies. This is deemed to make it possible to identify the impact of FTAs on products to which WO applies, as well as differences between the two methodologies in economic impact.

The following three phases apply. ① Items are classified into agricultural, fishery and livestock products for WO and other products by using data disaggregation tools (GTAP-HS). Taking into account that there are various kinds of products to which WO applies, this study classifies products by HS 6 digit code to check RVC by type. ② Applying the GTAP-VA model with data disaggregated by HS. As a result, among agricultural, fishery, and livestock products that were not identified via existing GTAP data, the RVC of products by HS type to which WO applies was able to be checked. The RVC acts as weighted value reflecting real tariff cuts. Considering the characteristics of WO, ROO was set to 99%, so that the effects of FTAs only applied to products which have enough domestic value-added. ③ The effects of FTAs are estimated by using the general GTAP model, assuming that tariffs are partially lifted in connection with key FTAs concluded between Korea and its partners.

< Model Description: modified GTAP model considering RVC >



4. Research Method

The method of estimating the FTAs effects differs depending on the subject and purpose, but the General Equilibrium Model is widely used. Hertel et al. (2007), Ando (2009), Cheong et al. (2007), Lim et al. (2019) and other researchers have estimated the effects of FTAs. Although the detailed model setting and scenarios are different, the common methodology suggests that the reduction in tariff rates lowers import prices and the imports increase by consuming more imported goods with lower prices than domestic goods. This is summarized in the following equation:

The market price (pms: domestic price for good i supplied from r to region s) is affected by two variables: the import price (pcif) and the tariff rate (tm, tms). Here, FTA would affect the reduction of tariffs, and the market price (pms) would decrease according to tariff reduction ratio.

$$PMS_{i,r,s} = PCIF_{i,r,s} TMS_{i,r,s} \qquad (1)$$

The decrease in the price of goods i imported into country s increases the quantity of exports (QXS) of country r. Here, the export volume from country r is determined not only by the PMS, but also by the total price (PIM) and quantity (QMS) in an importing country market. After all, the final imports of country s (VIMS: imports of i from r to s valued at domestic mkt prices) are determined by the import price (PIM) and quantity (QMS).

$$PIM_{i,s} QMS_{i,s} = \sum_{r} PMS_{i,r,s} QXS_{i,r,s} \qquad (2)$$

$$VIMS_{i,r,s} = PMS_{i,r,s} QXS_{i,r,s} \qquad (3)$$

In this model, the tariff change rate dependent on domestic value-added (tmso) is derived from relation between RVC (Regional Value Contents) and ROO (Rules of Origin). RVC refers to the ratio of domestic value added included in total exports. Thus, in this study, when referring to value added for FTAs, the term RVC is more appropriate than DVA (Domestic Value Added). Products with RVC exceeding ROO are eligible to preferential tariffs, but otherwise they are not subject to FTA. For example, if the RVC of product i with an ROO of 50% is 55%, the tariff concession in the agreement is wholly

applied to product i. However, RVC 45% product, which has a lower domestic value added than ROO, has only 90% applied of the tariff reduction. (RVC = 45%/50%)

$$qxs(i,r,s) = qim(i,s) - ESUBM(i) * [pms(i,r,s) - pim(i,s)]; \qquad (4)$$

$$PMS_{i,r,s} = PCIF_{i,r,s} TMSO_{i,r,s} \qquad (5)$$

$$TMSO_{i,r,s} = \frac{RVC_{i,r,s}}{ROO_{i,r,s}} TMS_{i,r,s} \text{ , where } RVC_{i,r,s} \leq ROO_{i,r,s} \qquad (6)$$

The Gempack code for tmso calculation is as follows.

```
Variable (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) tmso(i,r,s) # source-spec. change in tax on imports of i from r into s #;
Coefficient (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) RVC_dm(i,r,s) # source-spec. change in tax on imports of i from r into s #;
READ RVC_dm from file GTAPDATA header "RVCD" ;
Equation E_tmso (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) tmso(i,r,s) = RVC_dm (i,r,s) * tms(i,r,s) ;
Equation MKTPRICES # eq'n links domestic and world prices (HT 24) # (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) pms(i,r,s) = tm(i,s) + tmso(i,r,s) + pcif(i,r,s);
```

In the context of domestic value-added, RVC includes only the 'Bilateral domestic value-added' presented by Antimiani and Fusacchia (2018), excluding 'Multilateral domestic value-added'. It is attributable to those on direct transportation among rules of origin in FTAs. In most cases, FTA rules stipulate that preferential treatment applies only to cases where goods are directly exported to importers, excluding those where products are imported via a third country. As a result, domestic value-added came from a third country should be excluded, and only the bilateral value-added was included to calculate RVC.

$$RVC_j^{sr} = \frac{DVA - blt_j^{sr}}{VXE_j^{sr}} \qquad (7)$$

$$DVAEXP_j^{sr} = \underbrace{\sum_i \widehat{VSH}_i^s LOC_{ij}^{ss} * VXE_j^{sr}}_{DVA-blt_j^{sr}} \tag{8}$$
$$+ \underbrace{\sum_i \sum_{t \neq s,r} \widehat{VSH}_j^s L_{jt}^{st} * VXE_j^{tr} - \sum_k \sum_l \sum_m \sum_i \sum_{t \neq s,r} \widehat{VSH}_j^s LOC_{jk}^{ss} A_{kl}^{sr} L_{lm}^{rs} L_{mi}^{st} * VXE_i^{tr}}_{DVA-mlt_j^{sr}}$$

Gempack code for RVC calculation is as follows.

```
Coefficient (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) RVC (i,r,s) # Regional Value Content # ;
Formula (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) RVC (i,r,s) = if [ r NE s, (VADIR (i,r,s) /
VATOT (i,r,s))*100 ] + if [ r EQ s,0 ] ;
Coefficient (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) RVC_dm (i,r,s) # Regional Value Content
dummy # ;
Formula (all,i,TRAD_COMM)(all,r,REG)(all,s,REG) RVC_dm (i,r,s) = if ( RVC(i,r,s) >= ROO(i,r,s),
1) + if (0< RVC(i,r,s) and ROO(i,r,s) > RVC(i,r,s), RVC(i,r,s)/ROO(i,r,s)) ;
```

The following table shows the distribution of rules of origin by product (agricultural, fishery and livestock products) in connection with FTAs that Korea has concluded with the US, the EU, China, and ASEAN. WO applies to 806 items among 972 agricultural, fishery and livestock products. In the case of the Korea-US FTA, change of chapter (CC) applies to most items but it is considerable that exporters cannot use CC for agricultural, fishery and livestock products. For example, an fish fillets exporter (CC, HS chapter 3) won't be able to use other than fish (HS chapter 3).

< Rules of Origin Criterion in Agriculture, Fisheries and related products >

HS	01	02	03	04	05	06	07	08	09	10	11
CT	-	-	-	-	-	-	-	-	-	-	-
WO	34	66	189	32	14	16	67	66	39	26	27
Total	**34**	**66**	**189**	**32**	**14**	**16**	**67**	**66**	**39**	**26**	**27**
HS	12	13	14	15	16	17	18	19	20	21	22
CT	-	-	-	-	18	-	11	7	18	14	18
WO	48	10	5	47	23	17	-	12	34	2	2
Total	**48**	**10**	**5**	**47**	**41**	**17**	**11**	**19**	**52**	**16**	**20**
HS	23	24	41	43	44	50	51	52	53	71	Total
CT	19	-	9	5	7	8	16	-	16	-	166
WO	4	10	-	-	-	1	11	1	-	3	806
Total	**23**	**10**	**9**	**5**	**7**	**9**	**27**	**1**	**16**	**3**	**972**

* CT (Change of Tariff), WO (Wholly Obtained)

Source: Author's Calculation based on each agreement

Analyzing FTAs effects between Korea and partners (the US, the EU, China,

and ASEAN), scenario 1 uses existing FTA analysis methodologies, assuming that tariffs on target products are eliminated in accordance with tariff reduction schedules. Scenario 2 reflects the level of domestic value-added by industry, differentially applying FTA effects in accordance with the level of domestic value-added created.

< Analysis scenarios >

	S1	S2
Model	GTAP standard (v6)	Combination of GTAP standard and GTAP-VA
Scenario	Korea-US, Korea-EU, Korea-China, Korea-ASEAN FTA economic effects respectively	
Shock	50% tariff elimination in agricultural, fishery, livestock products	

5. Result and Discussion

Intermediate goods, labor costs, and capital input for producing exported goods differ by country. This also applies to domestic value-added included in exports. Generally, the value-added of primary commodities for agricultural, fisheries, livestock industries tends to be high while the domestic value-added for industries featuring active GVC is to be low. The following table classifying agricultural, fishery and livestock products by HS code shows that Korea's level of value-added exports is lower than US, EU, Chian and ASEAN.

< Regional Value Contents in Agricultural and Fishery Exports >

[unit: %]

HS	Korea	USA	EU	China	ASEAN
1	72.45	89.05	84.85	88.2	83.56
2	65.38	90.18	85.3	88.12	86.22
3	59.42	89	85.12	87.99	83.39
4	70.69	91.55	84.72	87.86	82.97
5	59.17	89.21	84.58	88.17	83.49
6	65.8	89.05	84.3	89.51	88.56
7	71.34	89.12	85.13	87.94	83.84
8	68.45	89.15	85	87.95	84.6
9	64.34	88.79	84.8	90.59	84.38
10	74.51	92.33	87.3	87.96	83.53
11	76.07	89.8	85.82	87.97	82.37

12	76.95	91.85	85.37	87.32	85.33
13	70.33	88.46	85.62	88.75	84.66
14	58.85	89.73	84.69	87.41	83.1
15	63.39	90.25	85.6	87.69	84.15
16	67.67	89.5	85.26	94.28	87.03
17	59.88	89.97	85.9	88.37	82.86
19	65.41	90.1	85.44	87.86	82.94
20	65.16	89.1	85	89.51	85.99
21	70.68	90.34	85.56	88.76	82.95
22	71.65	89.04	85.02	89.76	84.58
23	58.14	92.69	85.67	87.42	81.94
24	65.18	90.71	85.15	88.59	83.9
50	58.83	96.63	83.94	87.71	83.6
51	58.84	96.41	84.9	87.25	87.61
52	61.11	99.75	93.1	87.24	81.65
71	80.78	90.1	93.36	89.5	89.09

Source: Author's Calculation based on Domestic Value Added

The following table shows simulation results by export and import. Based on GTAP basedata, S1 shows export/import analysis results using the standard GTAP model. S2 reflects RVC, applying different import tariff rates in accordance with the share of value-added exports by countries. 'Diff' indicates differences in amount and percentage between S2 and S1, could be named as overestimation.

The standard GTAP model shows that exports increase due to FTAs between Korea and its partners (the US, the EU, China, and ASEAN). The impact of the Korea-US FTA on export growth is estimated to be the biggest (266.8%) while the effects of the Korea-EU FTA thereon are found to be the smallest (23.4%). The analysis results based on S2 also reveal that Korea's FTA increased the exports of agricultural, fisheries and livestock products but that the margin of growth dropped significantly. China (73.6%), ASEAN (59.7%), the US (55.3%), and the EU (7.5%). In other words, the RVC-based model shows that the economic impact of the Korea-China FTA on agricultural, fisheries, livestock export is overestimated the most significantly.

< Korea's Agricultural and Fishery exports Overestimation >

[unit: million dollars, (%)]

FTA	basedata	S1 (A)	S2 (B)	diff (A-B)
USA	394	1,444 (266.8)	1,227 (211.5)	218 (55.3)
EU	144	177 (23.4)	167 (15.9)	11 (7.5)
China	804	2,307 (186.9)	1,715 (113.3)	592 (73.6)

ASEAN	625	1,532 (145.1)	1,159 (85.4)	373 (59.7)

Source: Author's Calculation

Korea, an agricultural, fishery, and livestock product importer, have been recorded trade deficits with its FTA partners so far. Analysis results also show that import growth rates are higher than export growth rates, clarifying the differences between the two models. In terms of the impact of the Korea-US FTA, S1 and S2 show 713% and 638.8% increases, respectively. The overestimation is to be 4.9 billion dollars, 74.1% of the initial import in amount. In terms of import estimates, inter-model differences for the Korea-US FTA were found to be the biggest, the share of the EU in 'diff' is 50.6%, the second following that of the US. The shares of China and ASEAN in 'diff' were found to be 35.5% and 13.5%, respectively.

< Korea's Agricultural and Fishery imports Overestimation >

[unit: million dollars, (%)]

FTA	basedata	S1 (A)	S2 (B)	diff (A-B)
USA	6,547	53,228 (713.0)	48,373 (638.8)	4,855 (74.1)
EU	1,713	5,955 (247.5)	5,088 (196.9)	867 (50.6)
China	4,059	12,918 (218.2)	11,478 (182.8)	1,439 (35.5)
ASEAN	2,624	4,492 (71.2)	4,138 (57.7)	354 (13.5)

Source: Author's Calculation

6. Conclusion

The following conclusions can be made via the analyses.

1. The domestic value-added of Korea's agricultural, fishery, and livestock products is lower than those of the US, the EU, China, and even ASEAN. Therefore, considering RVC, the error of overestimation cannot be avoided.
2. The overestimated economic impact of FTAs between Korea and its partners differs by FTA, import, and export. In connection with the US and the EU, economic effects were considerably overestimated in terms of import while in relation to China and ASEAN, economic effects were significantly overestimated in the context of export.
3. Overestimation level may differ by product. In the case of the Korea-US FTA, overestimation for HS chapter 7 (vegetables), HS chapter 12

(oleaginous fruits and other vegetable products), and HS chapter 13 (vegetable saps) in terms of import is higher than 100%, which is to be the highest level. (Appendix)

4. Overestimation for agricultural, fishery and livestock products to which CT applies is to be relatively low.

In analyzing the effects of an FTA, this paper suggests a modified analysis methodology under the assumption that tariff cuts are applied differently by the RVC and the rules of origin, unlike the current methodology in which tariff cuts are applied uniformly. The advantage of this model is that it could accurately estimate the economic effect of the FTA by using value-added exports as a criterion for using the FTA. The notion that enough value-added from an exporting country is a necessary condition to meet the rules of origin was introduced into the CGE model for the first time. By adjusting the difference and overestimation, governmental policy will be able to based on reliable data and evaluated in agricultural, fisheries and livestock sectors.

Appendix. Overestimation ratio in Agricultural, Fishery and Livestock products for Korea's FTA

[Unit: %]

		US		EU		China		ASEAN	
		Export	Import	Export	Import	Export	Import	Export	Import
WO	1	43.7	76.1	6.5	54.1	68.8	34.8	51.0	14.1
	2	58.6	68.8	7.8	52.6	84.6	35.0	64.0	11.6
	3	70.6	63.6	9.2	52.7	97.6	34.6	73.5	14.0
	4	46.1	67.8	6.7	55.1	72.1	36.7	54.5	14.5
	5	72.1	62.2	9.5	54.7	98.4	34.0	73.9	13.8
	6	54.9	65.7	7.8	55.9	84.0	30.0	63.2	9.5
	7	46.2	103.9	6.5	53.9	70.8	36.7	53.6	13.8
	8	51.9	88.9	7.2	53.9	77.5	36.0	58.6	13.1
	9	59.0	74.2	8.2	54.1	87.7	26.7	65.4	13.2
	10	39.2	83.3	5.8	46.3	63.4	37.4	48.2	14.0
	11	36.2	132.1	5.6	52.1	59.4	37.8	45.1	15.1
	12	33.4	106.8	5.2	53.9	56.3	40.7	43.7	12.5
	13	48.5	108.4	7.1	51.9	73.0	33.8	55.3	13.0
	14	70.3	56.8	12.5	54.2	97.5	36.6	74.4	14.3
	15	59.8	55.4	8.3	51.0	88.2	36.0	66.9	13.4
	16	51.9	73.0	7.4	52.6	80.7	15.0	59.9	10.9
	17	68.1	55.1	9.1	49.9	96.7	33.4	72.5	14.5
	19	56.0	60.6	7.7	51.8	84.2	35.6	63.2	14.5
	20	58.7	77.5	8.0	53.6	85.8	30.4	64.3	11.8
	21	47.8	88.4	6.8	52.3	72.7	33.8	54.7	14.5
	22	44.6	77.9	6.6	53.4	71.1	29.7	52.9	13.1
	23	71.4	33.2	8.9	50.6	99.7	36.3	75.2	15.2
	24	56.2	53.4	7.9	52.8	85.2	33.0	63.6	13.7
	50	#DIV/0!	2.6	0.0	60.0	100.0	34.8	66.7	13.3
	51	61.5	4.9	10.6	53.2	94.0	37.8	74.3	10.3
	52	66.7	-15.4	11.1	22.7	91.8	34.6	70.3	15.5
	71	36.1	54.5	0.0	20.0	51.7	30.5	36.6	9.4
CT		24.4	-2.3	0.8	-0.3	1.2	-0.2	0.1	0.2
other than Agriculture		0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total		0.7	7.6	0.1	1.3	0.3	1.4	0.6	0.7

Source: Author's Calculation

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