RIETI Discussion Paper Series 15-E-036

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Research Institute of Economy, Trade & Industry, IAA

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March 2015

Industry-specific Real Effective Exchange Rates in Asia*

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Abstract

This study constructs a monthly series of industry-specific real effective exchange rates (I-REERs) based on the producer price indices of nine Asian economies from 2001 to 2014. To check the usefulness of the I-REERs as a measurement of international price competitiveness, we calculated the aggregated I-REER (Avg-I-REER) and compared it with the REER published by the Bank for International Settlements (BIS-REER). We found that in some Asian economies, the Avg-I-REER exhibited different movements from the BIS-REER due to the differences in the underlying prices and weights used for the data construction. We also conducted a panel analysis to investigate the effect of both the Avg-I-REER and BIS-REER on real exports in the nine Asian economies. It was revealed that an appreciation of the Avg-I-REER has a negative and significant impact on real exports, whereas that of the BIS-REER has a positive and insignificant influence on real exports. Even the "aggregated" I-REER shows a greater advantage when used for measuring the export price competitiveness relative to the conventional REERs.

Keywords: Real effective exchange rate (REER), BIS-REER, Industry-specific REER, Export competitiveness

JEL classification: F31, F33, F15

*This study is conducted as a part of the Project "Research on Currency Baskets" undertaken at Research Institute of Economy, Trade and Industry (RIETI), and also financially supported by the JSPS Grant-in-Aid for Scientific Research (A) No. 24243041, (B) No. 24330101, and (C) No. 24530362. We wish to thank Takatoshi Ito, Eiji Ogawa, Kentaro Kawasaki, Keiko Ito, and Willem Thorbecke for their valuable comments.

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1. Introduction

The real effective exchange rate (REER) is widely used in international economics to measure the extent of export price competitiveness. International organizations such as the Bank for International Settlements (BIS) publish REER data for a large number of countries, but only the aggregated REERs are published. To take into account the possible differences in export price competitiveness across industries, however, it is necessary to use the industry breakdown data of the REER.

Sato, Shimizu, Shrestha and Zhang (2012a, 2012b, 2013a, 2013b) constructed industry-specific REERs (I-REERs) for Japan, China, and Korea, and the data are published on the website of the Research Institute of Economy, Trade and Industry (RIETI; http://www.rieti.go.jp/en/). The study's primary purpose is to construct the I-REER data for nine Asian economies: Japan, China, Korea, Taiwan, Singapore, Malaysia, Indonesia, the Philippines, and Thailand. This study shows that there is a large difference in the level of I-REERs across industries.

Another purpose is to draw a comparison between the I-REERs and the REERs published by the BIS (BIS-REERs). More specifically, the I-REERs were aggregated into the average or all-industry level I-REERs (Avg-I-REERs), and the Avg-I-REERs were compared with the BIS-REERs. The findings of this study reveal a large difference in level and movements between the Avg-I-REERs and BIS-REERs in some Asian economies. We investigated the source of the differences between the two REERs and found that different prices and weights were used to construct the REERs between the I-REERs and BIS-REERs. The question of this study is, "Which REER is better to use to measure export price competitiveness?"

Using the two types of REERs, we conducted an econometric analysis to examine whether the REERs had a significant effect on the real exports of the Asian economies reviewed. We found that an appreciation of the Avg-I-REERs has a significantly negative impact on real exports, whereas that of the BIS-REERs has a positive effect on real exports. Thus, the I-REERs published on the RIETI website will be a better measurement for export price competitiveness than the other REERs.

The remainder of this paper is organized as follows. Section 2 describes how to construct I-REERs. Section 3 shows a comparison between the Avg-I-REERs and BIS-REERs, and Section 4 presents the results of the econometric analysis that reveals that I-REERs are better measurements of export price competitiveness than BIS-REERs. Finally, Section 5 concludes the study.

2. Data Construction

Sato, Shimizu, Shrestha and Zhang (2013a) constructed a daily series of I-REERs for 13 industries, starting from 2005 for Japan, China, and Korea, which are available on the RIETI website (http://www.rieti.go.jp/en/).[1] The data construction of the I-REERs is extended in this study and a new series of I-REERs is presented for six more Asian economies: Indonesia, Malaysia, the Philippines, Singapore, Taiwan, and Thailand.

For constructing the I-REERs for Japan, China, and Korea, we used one home country and 26 partner (export destination) countries. This time, however, we revised the underlying data for an additional six Asian economies for calculating the I-REERs. Twenty-eight partner countries are chosen by excluding South Africa and including Denmark, New Zealand, and Switzerland.[2] Since the industry classification of the price data for South Africa substantially changed, we decided to exclude it from the list of partner countries. In addition, we have started to construct both the daily and monthly series of the I-REERs for the nine Asian economies. The daily data are suitable for the exchange rate surveillance on a daily basis, but the monthly series may be more useful in both macroeconomic and trade analyses.

2.1 Formula for I-REER

We use the following formula to construct the I-REER for the nine Asian economies.

$$REER_{it} = \prod_{j=1}^{n} \left(RER_{it}^{j} \right)^{\alpha_{it}^{j}}, \qquad (1)$$

where $REER_{it}$ denotes the REER for the home country's i^{th} industry at time t. $RER_{it}^{j} = NER_{t}^{j} \cdot \left(\frac{P_{it}^{Home}}{P_{it}^{j}} \right)$ represents the bilateral real exchange rate of the partner country j's currency vis-à-vis the home currency at time t. NER_{t}^{j} is the nominal exchange rate of the partner country j vis-à-vis the home currency, and P_{it}^{Home} and P_{it}^{j} are the industry-specific prices of the home country and the partner country j, respectively. α_{it}^{j} is the share of home country's exports of industry i to partner country j. We use the relative unit price in equation (1) to calculate the industry-specific nominal effective exchange rates (I-NEERs).

[1] See Table 1 for details of the industry classifications.
[2] See Appendix Table 1 for the list of home and partner countries.

2.2 Industry Classification

We use the 2-digit level of the International Standard Industrial Classification Revision 3 (ISIC.R3) for our industry classification. However, industry-specific price data for all home and partner countries are not available in the ISIC.R3 classification,[3] so we aggregate the 21 ISIC.R3 classified manufacturing industries into 13 industries. The details are presented in Table 1.

Table 1: Industry Classifications

No.	ISIC.R3	Industry Name	Description
1	15-16	Food	Food, Beverage, and Tobacco
2	17-19	Textile	Textiles, Textile Products, Leather, and Footwear
3	20	Wood	Wood Products (excl. Furniture)
4	21-22	Paper	Paper, Paper Products, Printing, and Publishing
5	23	Petroleum	Coke, Refined Petroleum Products, and Nuclear Fuel
6	24	Chemical	Chemicals and Chemical Products
7	25	Rubber	Rubber and Plastics Products
8	26	Non-Metal	Non-metallic Mineral Products
9	27-28	Metal	Basic Metals and Fabricated Metal Products
10	29	General Machinery	Machinery and Equipment n.e.c.
11	30-32	Electric Machinery	Electrical Machinery and Apparatus n.e.c.
12	33	Optical Instruments	Optical and Precision Instruments
13	34-35	Transport Equipment	Transport Equipment

Note: We exclude ISIC 36 and 37 categories from our classification.

2.3 Price Data

To measure export price competitiveness, it is more appropriate to use the producer price index (PPI) for constructing the REER series, because the consumer price index (CPI) includes the price of non-tradable goods. While the REER published by the BIS was calculated using the CPI, we employed the industry breakdown data of the PPI for home and partner countries to construct the I-REERs for the nine Asian economies.

We collected monthly industry-specific price data for 29 economies, starting from 2001.[4] Since such price data are not standardized across countries but are based on their own classification, we carefully classified the disaggregated price data of each country according to the ISIC categories. In this process, if we found that the price data of a sample country was more disaggregated than the ISIC categories, we calculated the weighted average of disaggregated price data. If the weight data were not available, to compute the

[3] See Appendix Table 4 for availability of the industry-specific price data.
[4] See Appendix Tables 4 and 5 for the availability and sources for industry-specific price data.

weighted average of the disaggregated price data, we used the industry breakdown real output data from the United Nations Industrial Development Organization Industrial Statistics Database (UNIDO INDSTAT) at the 4-digit ISIC.R3 level. We used the seasonally adjusted (by Census X-12 method[5]) monthly series for the PPI (normalized to 100 as of 2005) for all countries except Australia and New Zealand. For these two countries, quarterly series price data were converted to monthly series by assuming that the monthly price index was constant for the respective quarters.

2.4 Country Coverage

It is better to include as many partner countries as possible to construct the REER series. Due to the limited availability of the industry-specific price data based on the common industry classification, we could collect data on 29 economies: 10 Asian economies (China, India, Indonesia, Japan, Korea, Malaysia, the Philippines, Singapore, Taiwan, and Thailand), 15 European economies (Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Russia, Spain, Sweden, Switzerland, and the United Kingdom), two North American countries (Canada and the United States), and two Oceania countries (Australia and New Zealand). Thus, for calculating the REER series, we used the price from one home country and 28 partner countries.[6]

2.5 Trade Weight

The REER is typically trade-weighted. We calculated the trade weight in two steps. First, for each home country, we computed the annual total amount of industry breakdown exports to 28 partner countries. These numbers are regarded as the "28-total" exports.[7] On the basis of the "28-total" exports, we calculated the trade weight of each partner country for each industry. Second, we took a three-year average of the trade shares to smooth out the annual change in the trade share.[8] The annual export data were obtained from the UN Comtrade database. Appendix Table 3 gives a sample of the trade weights (precisely, the export share by industry and destination) for the nine Asian economies for the year 2010. Once the new export data were available on an annual basis, we updated the trade weight.

2.6 Nominal Exchange Rates

We collected the daily series of bilateral nominal exchange rates from the

[5] We used EViews 8 for seasonal adjustments.
[6] See Appendix Table 1 for the country coverage.
[7] In this analysis, we used the simple export weight of direct bilateral trade to calculate the effective exchange rate. For the weighting scheme, there are several ways such as exports, imports, total exports and imports, and the BIS's "double weighting," which includes third-market competition. See Klau and Fung (2006) for the details of the double-weighting approach.
[8] For instance, we used the three-year average (2007–2009) trade share for calculating the REER series for 2010.

Datastream and converted the series into the nominal exchange rate of the partner country's currency vis-à-vis the home currency. We updated the nominal exchange rates on a daily basis and calculated the daily series of the I-REER. In addition, we calculated the monthly series of the I-REER by taking a simple monthly average of the daily series.

2.7 Aggregate I-REER

A weighted average of I-REERs can be a good measurement of export price competitiveness when considering the total exports of a country concerned. After calculating the I-REERs for 13 manufacturing industries, we took a weighted average of the 13 series of I-REERs to obtain the I-REER for all manufacturing industries, which is called the Avg-I-REER. In the aggregation process, we used the industry weight that was calculated from an industry breakdown of the home countries' exports to obtain the Avg-I-REER.[9]

3. I-REERs and Comparison with BIS-REERs

3.1 I-REERs in Asian Economies

Figure 1 shows the I-REERs for the top five industries and the Avg-I-REER for the nine Asian countries, where an increase (decrease) in the I-REERs denotes an appreciation (depreciation) of the domestic currency.[10] The top five industries are chosen in terms of the value of exports in their respective economies. It is clear that the I-REER movements differed substantially across industries in all nine Asian economies, which indicates that the aggregated REER published by international organizations, such as the BIS and the International Monetary Fund, may not be the correct measurement for an industry-level analysis of export price competitiveness.

The benchmark period for the daily series I-REERs is January 3, 2005. We calculated the monthly average of the daily data to obtain the monthly series. The benchmark for the monthly series was 2005, which was set to be 100. Although the I-REER series started from the beginning of 2001, we selected 2005 as the base period to capture the large movements of the I-REERs from 2005 to 2014.

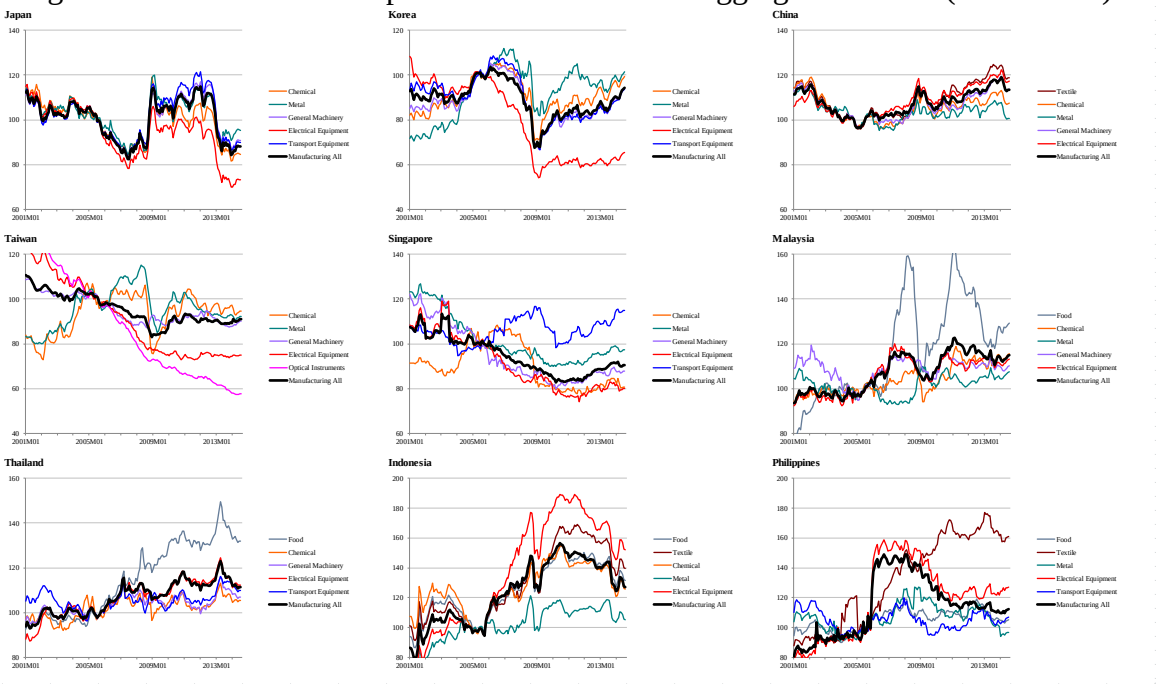
3.2 Avg-I-REER and BIS-REER

The BIS publishes both the nominal effective exchange rate (NEER) and REER.[11]

[9] See Appendix Table 3 for the industry weights of nine Asian countries for a sample year, 2010.
[10] We presented I-REERs for the top five industries and the aggregate I-REER in the graph for graph clarity. However, on the RIETI website, we published the I-REER data series for all 13 industries and the aggregate I-REER.
[11] For details, see the Bank for International Settlements (BIS) homepage (http://www.bis.org/statistics/eer/).

The REER published by the BIS (BIS-REER) is widely used to measure export price competitiveness. In this section, we compare the Avg-I-REER with the BIS-REER to show how the two REER series differ in terms of movements.

Figure 1: I-REERs for the top five industries and the aggregate I-REER (2005 = 100)



Note: "Manufacturing All" refers to the Avg-I-REER.
Source: Authors' calculation.

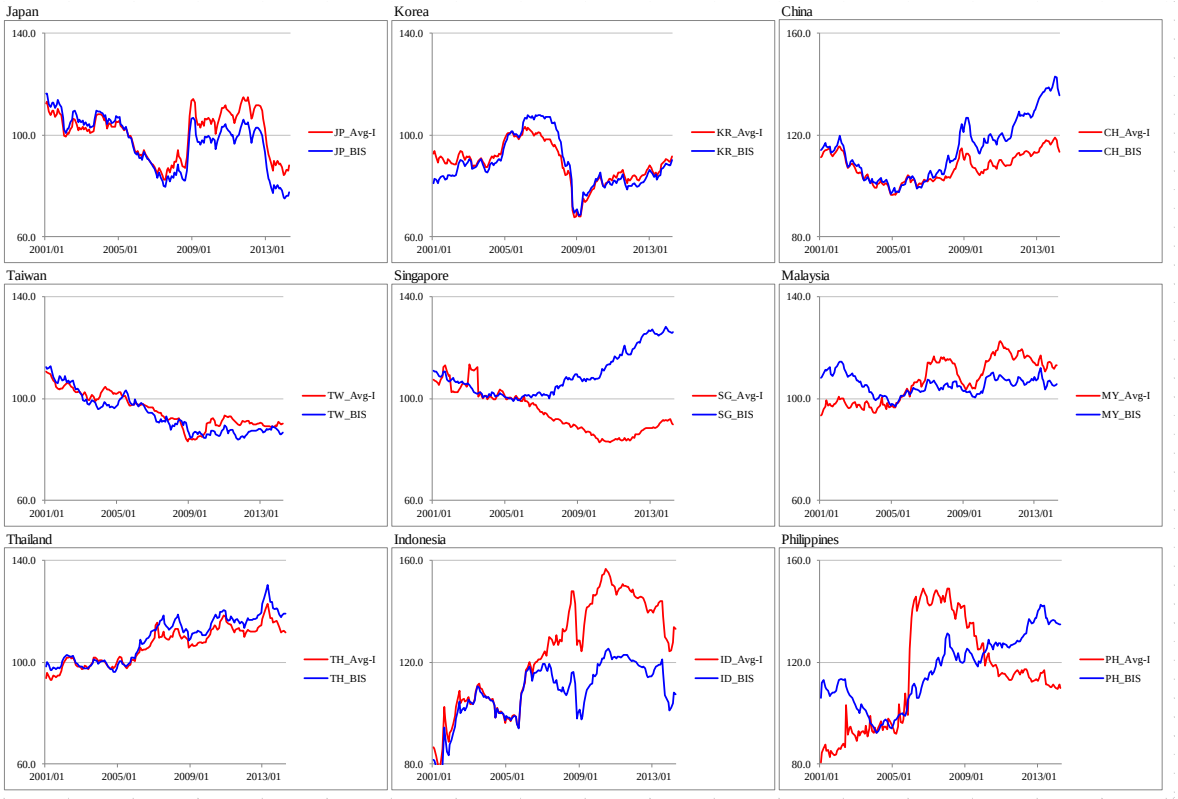
Figure 2 shows a comparison, in the monthly series (2005 = 100), between the Avg-I-REER (red line) and the BIS-REER[12] (blue line) from January 2001 to April 2014. The two REER series appear to move similarly in four economies (Japan, Korea, Taiwan, and Thailand), but the remaining five economies (Singapore, the Philippines, Malaysia, Indonesia, and China) show a large difference in movements and level of REERs. A natural question is why the two series of REERs exhibit different movements.

Table 2 shows the differences between the Avg-I-REER and BIS-REER in their method of data construction. These differences may have been due not only to the underlying price data but also to the trade weight employed for the data construction. First, the choice of the underlying price data is different between the two REERs: the PPI is used for the Avg-I-REER and the CPI is used for the BIS-REER. According to Figure 3, in most

[12] The BIS publishes the two types of the REER indices: the narrow indices and broad indices. For comparison purposes, we only used the broad indices of the BIS-REER because its narrow indices do not cover all nine Asian economies.

Asian economies, the PPI series exhibit larger fluctuations than the CPI series. Hence, since the CPI includes the price of non-tradable goods, it is better to use the PPI series for the construction of the REER as long as the main purpose is to measure the export price competitiveness.

Figure 2: Avg-I-REER and BIS-REER (2005 = 100)



Note: Avg-I and BIS represent the Avg-I-REER and BIS-REER, respectively.
Source: Authors' calculation and the BIS website.

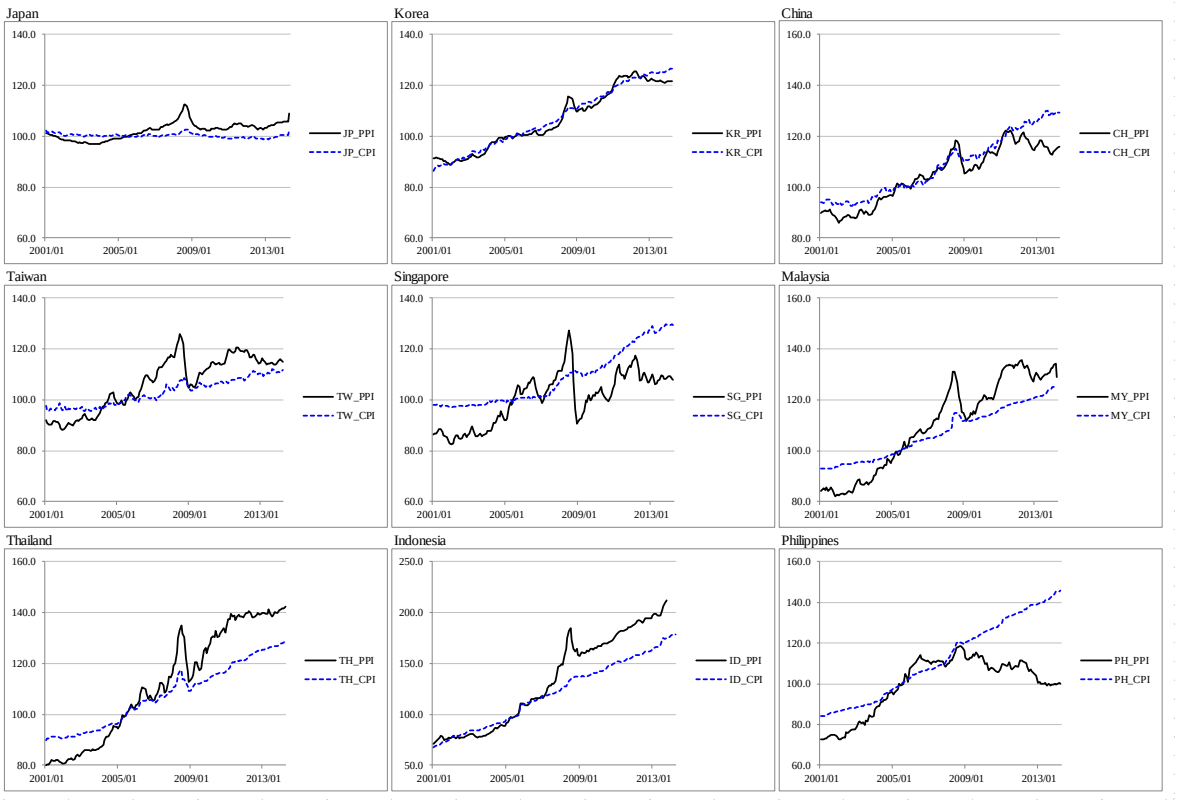
While Figure 3 shows the aggregate PPI, the Avg-I-REER was calculated using the industry-specific PPI and export weight. For a more rigorous consideration of the effects of both the price and export weights, we calculated the weighted average PPI series using two different weights: the export weight and industry weight. Since the Avg-I-REER is constructed using the export weight, we calculated the weighted average of the industry-specific PPIs using the export weight, which is called the "IPPI_Exp." In contrast, the aggregate PPI for each economy may be constructed as a weighted average of the industry-specific PPIs using the industry breakdown production weight.

Table 2: Method of Data Construction between Avg-I-REER and BIS-REER

	Avg-I-REER	**BIS-REER**
Price index	PPI or WPI	CPI
Trade weight	Industry breakdown of manufacturing exports	Gross manufacturing trade flow (exports and imports)
Country coverage	29 countries (including home)	61 countries (broad indices) 27 countries (narrow indices)
Exchange Rate	Daily and Monthly	Monthly
Industry structure	Aggregate of 13 industries	No industry breakdown

Note: WPI denotes the whole sale price index.

Figure 3: CPI and PPI Movements (2005 = 100)



Source: CEIC Database.

Thus, we collected the industry breakdown production weights[13] for nine Asian economies and calculated the weighted average of the industry-specific PPIs, which is called the "IPPI_Prod." Both weights by industry are presented in Table 3, which indicates a large difference in weights between the IPPI_Exp and IPPI_Prod. For example, in the petroleum industry, the production weights are much higher than the export weights for the period under study. This is likely because most Asian economies refine petroleum for domestic use and not for export. Reflecting the growing intra-regional trade of intermediate goods, in most ASEAN economies and China, the IPPI_Exp is far larger than the IPPI_Prod. Such dissimilarities in the industrial structure cause different movements of the aggregated PPIs, which may result in a large difference between the Avg-I-REER and BIS-REER.

Table 3: Export and Production Weights (Percent)

Industry:	Japan		Korea		China		Taiwan		Singapore		Malaysia		Thailand		Indonesia		Philippines	
	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod	Exp	Prod
Food	0.6	6.7	1.1	4.6	2.4	9.9	1.1	4.3	3.3	3.3	14.1	13.5	15.8	17.0	22.5	29.1	5.6	40.4
Textile	1.2	2.1	3.8	3.5	20.3	8.4	5.7	4.1	1.8	0.4	2.0	4.3	6.1	8.9	14.9	7.8	5.3	2.9
Wood	0.0	0.6	0.0	0.9	0.8	2.4	0.1	0.3	0.1	0.1	2.8	4.3	0.8	1.3	3.8	5.0	2.2	2.9
Paper	0.6	4.4	0.9	0.9	0.9	2.4	0.8	2.5	1.3	0.5	0.9	4.3	2.0	2.2	6.4	4.1	0.5	2.9
Petroleum	0.1	1.9	0.3	10.0	0.4	4.4	0.2	8.1	0.7	23.1	1.4	21.9	0.3	10.7	2.4	13.4	0.3	8.6
Chemical	11.3	13.9	13.1	17.0	6.2	13.7	16.4	14.5	21.0	24.3	9.5	6.8	9.8	5.9	10.3	7.3	2.4	8.2
Rubber	3.7	1.8	2.6	1.3	3.0	2.4	3.7	3.5	1.6	0.2	4.9	4.3	5.3	4.4	3.5	3.7	1.2	2.9
Non-Metal	1.5	2.5	0.5	2.4	2.1	5.9	1.2	2.0	0.4	0.9	1.3	3.5	1.8	3.4	1.4	2.9	0.5	8.5
Metal	10.2	8.8	11.2	18.9	10.3	15.7	12.4	15.7	7.5	2.9	6.1	3.5	8.8	5.6	12.2	1.7	4.8	8.5
General	17.5	13.9	10.0	8.4	10.0	8.6	8.7	6.8	12.5	6.2	5.3	8.4	9.0	6.1	3.9	6.3	1.5	3.6
Electrical	16.0	21.1	20.5	20.2	33.4	8.6	32.0	32.6	36.4	34.1	45.9	8.4	24.4	18.4	13.0	6.3	67.5	3.6
Optical	6.0	1.5	8.9	1.4	4.1	8.6	13.4	1.1	5.6	3.6	3.4	8.4	2.6	5.9	0.8	6.3	2.7	3.6
Transport	31.2	20.8	27.0	10.4	6.0	8.6	4.2	4.6	7.9	0.4	2.5	8.4	13.4	10.2	4.9	6.3	5.6	3.6

Note: Exp and Prod denote the export weight and production weight, respectively. Weights above 10 percent are shaded.
Source: UN Comtrade. See also Appendix Table 6.

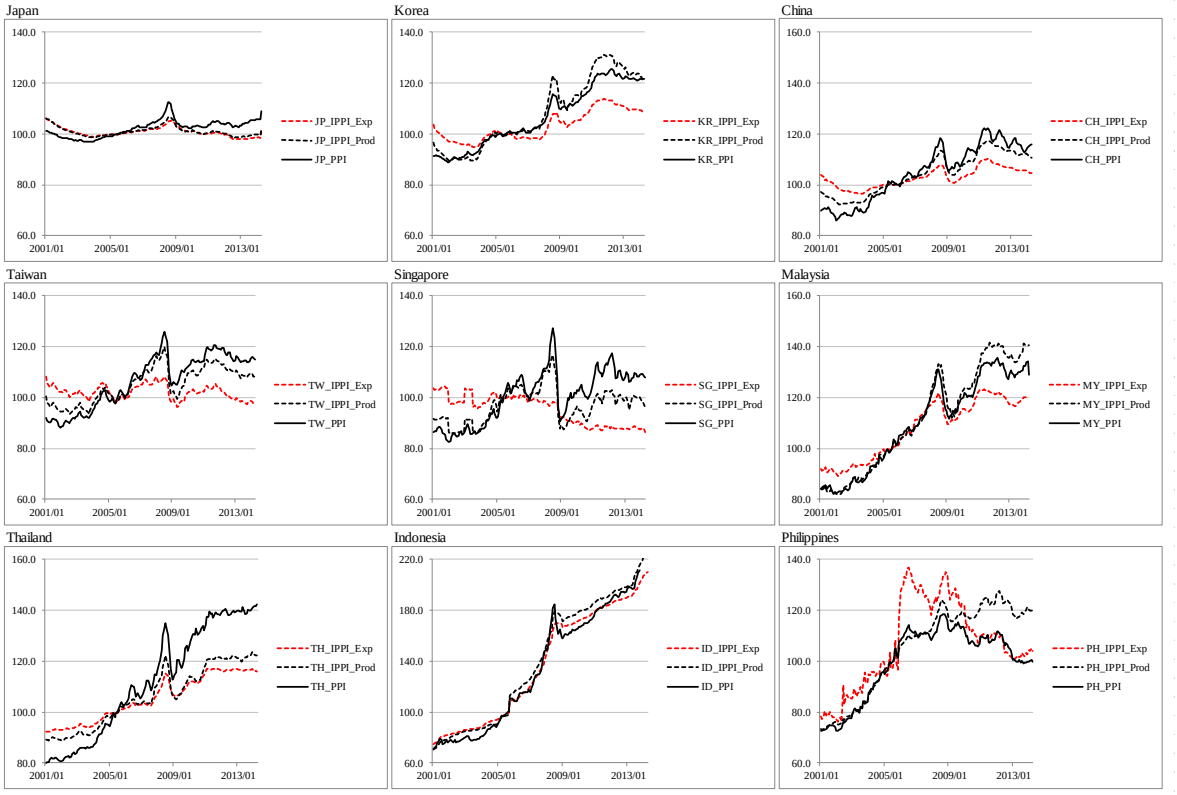
Figure 4 shows the PPI (i.e., the aggregate PPI of the respective economies) and the two series of weighted averages of industry-specific PPIs (i.e., the IPPI_Exp and IPPI_Prod) for the nine Asian economies. First, the IPPI_Prod (black dotted line) and PPI (black line) show similar movements in all economies except Thailand and the Philippines. This is likely because the PPI is also constructed using the production-weighted average. Second, the IPPI_Exp (red dotted line) exhibits different movements from the other two price series. This observation suggests that the choice of weight, either the export weight or the production weight, is crucially important for constructing the REER series.

Figure 5 shows the Avg-I-REER (red line), BIS-REER (blue line), two price series,

[13] See Appendix Table 6 for the sources and variables used to calculate the weighted averages of industry-specific PPIs based on production, i.e., "IPPI_Prod."

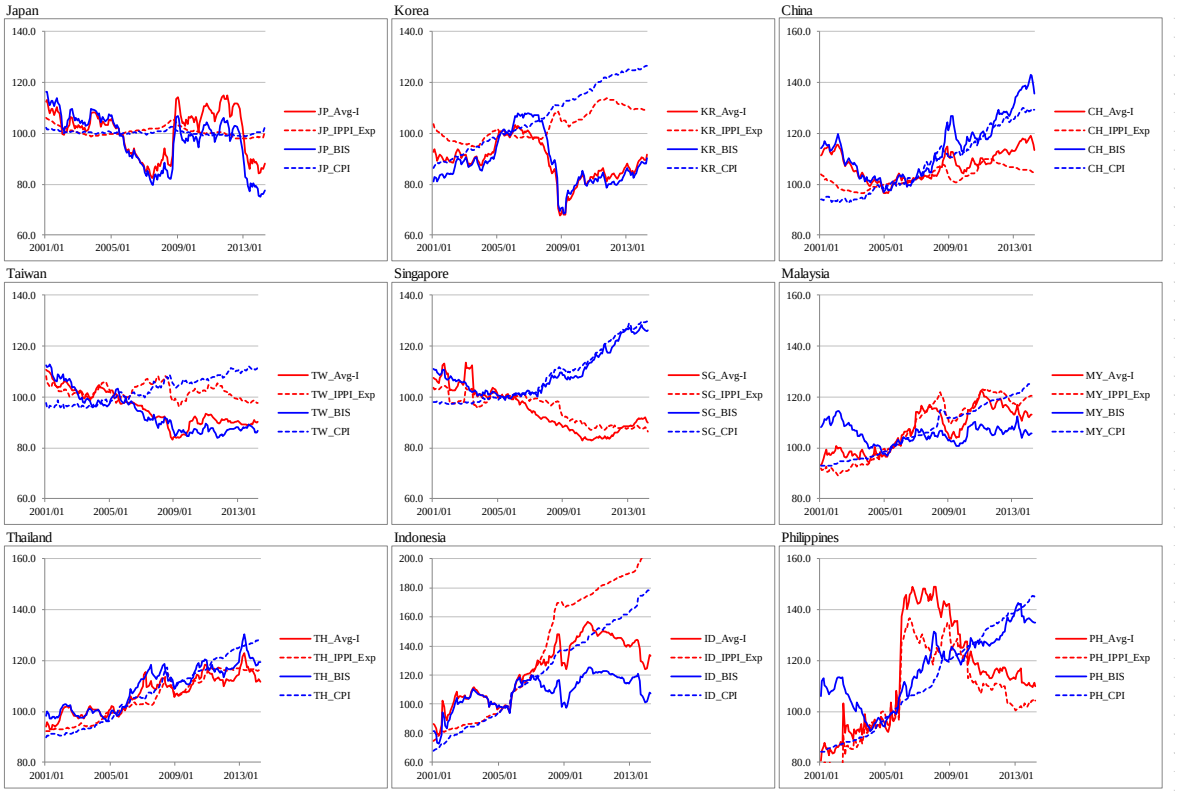
IPPI_Exp (red dotted line), and CPI (blue dotted line). In most economies, the Avg-I-REER tends to follow the IPPI_Exp, whereas the BIS-REER tends to move similarly to the CPI movements. In some countries, such as Japan and Korea, the change in the nominal exchange rates dominates the fluctuations of REERs. In Singapore, for instance, the BIS-REER and Avg-I-REER move in opposite directions, reflecting the fact the IPPI_Exp moves in a different direction than the CPI, in which case the choice of the REER is crucial when considering export price competitiveness. Since the purpose of this study is to measure export competitiveness at an industry level as well as at an aggregate level, both the I-REER and Avg-I-REER will better reflect the export price relative to the competitor's price.

Figure 4: Comparison of PPI and Average of Industry-specific PPIs (2005 = 100)



Note: IPPI_Exp and IPPI_Prod are weighted averages of industry-specific prices with export- and production-based aggregation weights, respectively. See Table 3 for the differences in the two types of aggregation weights.
Source: Authors' calculation and CEIC Database.

Figure 5: Avg-I-REER and BIS-REER and Prices Associated with the REERs (2005 = 100)



Note: Avg-I and BIS represent the Avg-I-REER and BIS-REER, respectively.
Source: Authors' calculation, BIS website, and CEIC Database.

4. Empirical Analysis

To confirm the advantage of the Avg-I-REER, we conducted the following panel estimation using the Avg-I-REER and BIS-REER.

$$\ln EX_{it} = \beta \ln REER_{it} + \alpha_i + \gamma_t + \varepsilon_{it},$$

where *EX* denotes real exports, *REER* represents either the Avg-I-REER or BIS-REER, α_i and γ_t, respectively, denote the cross-section effect and time effect, and ε_{it} denotes an error term.

This estimation aims to check whether the two types of REERs have different effects on real exports and which REER has a significantly negative impact on them, given that an increase (decrease) in the REER is defined as an appreciation (depreciation) of the home currency. The estimated result suggests the REER that is more appropriate for measuring export price competitiveness.

The monthly series of real exports by industry were obtained from the CEIC Database. In the following estimations, we also included the US real output when we excluded the time effect. The monthly series of the US industrial production index were taken from the CEIC Database and were used for our estimations. The sample period spans from January 2001 to December 2013. All variables are in natural logarithms, and seasonality is adjusted except with respect to the REER.

The estimation results are presented in Tables 4 and 5. Table 4 shows the effects of a home currency appreciation on real exports when measured by the BIS-REER. The results clearly show that an appreciation in terms of the REER promotes real exports. Since we employed variables in level, these results suggest a possible long-run positive relationship between the REER and real exports, which is counterintuitive.

Table 4: Estimations Results: Real Exports and BIS-REER

BIS REER and Real Exports						
Dependent Variable: *Real Exports*	(1)	(2)	(3)	(4)	(5)	(6)
REER	0.861***	0.733***	0.245***			
	(0.217)	(0.070)	(0.052)			
$REER_{-1}$				0.232***		
				(0.052)		
$REER_{-2}$					0.226***	
					(0.051)	
$REER_{-3}$						0.218***
						(0.051)
Output (USA)	3.416***	3.445***				
	(0.513)	(0.153)				
Constant	-14.278***	-12.525***	5.011***	5.867***	5.876***	5.912***
	(2.493)	(0.784)	(0.263)	(0.242)	(0.239)	(0.238)
Time dummy	No	No	Yes	Yes	Yes	Yes
Country dummy	No	Yes	Yes	Yes	Yes	Yes
Observations	1,404	1,404	1,404	1,395	1,386	1,377
R-squared	0.046	0.914	0.973	0.973	0.974	0.974

Note: Estimator: OLS. *** p < 0.01, ** p < 0.05, * p < 0.10. Standard errors in parenthesis.

In contrast, Table 5 shows that the Avg-I-REER has a significantly negative impact on real exports in level when including the cross-section and time effects. As demonstrated in the previous section, both the I-REER and Avg-I-REER better reflect the export structure

of a given country. Hence, we may conclude that both the I-REER and Avg-I-REER are more appropriate measurements for export price competitiveness.

Table 5: Estimations Results: Real Exports and Avg-I-REER

Industry-specific REER (Weighted Average) and Real Exports						
Dependent Variable: *Real Exports*	(1)	(2)	(3)	(4)	(5)	(6)
I-REER	-0.174	0.339***	-0.094**			
	(0.205)	(0.062)	(0.044)			
$I\text{-}REER_{-1}$				-0.104**		
				(0.043)		
$I\text{-}REER_{-2}$					-0.110**	
					(0.043)	
$I\text{-}REER_{-3}$						-0.117***
						(0.043)
Output (USA)	3.672***	3.498***				
	(0.501)	(0.159)				
Constant	-10.701***	-11.011***	6.563***	7.446***	7.508***	7.534***
	(2.511)	(0.731)	(0.228)	(0.201)	(0.206)	(0.205)
Time dummy	No	No	Yes	Yes	Yes	Yes
Country dummy	No	Yes	Yes	Yes	Yes	Yes
Observations	1,404	1,404	1,404	1,395	1,386	1,377
R-squared	0.036	0.910	0.972	0.973	0.973	0.974

Note: Estimator: OLS. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Standard errors in parenthesis.

5. Concluding Remarks

This study presents constructions of both daily and monthly series of industry-specific real effective exchange rates (I-REERs) for 13 industries in nine Asian economies. To check the usefulness of the I-REERs as a measurement of international price competitiveness, we calculated the aggregated I-REER (Avg-I-REER) and compared it with the REER published by the Bank for International Settlements (BIS-REER). We found that in some Asian economies, the Avg-I-REER exhibits different movements from the BIS-REER. This is due to the differences in the underlying prices and weights used for the data construction. We also conducted a panel analysis to investigate the effects of both the Avg-I-REER and BIS-REER on real exports in nine Asian economies. We revealed that an appreciation of the Avg-I-REER has a negative and significant impact on real exports, whereas that of the BIS-REER has a positive influence on real exports. The I-REER is obviously useful for an industry-level analysis of export price competitiveness. In addition,

we also found that even the “aggregated” I-REER has a greater advantage for measuring export price competitiveness than conventional REERs.

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Appendix Table 1: Country Coverage and its Code

No.	Country	Country code
1	Australia	AUS
2	Belgium	BEL
3	Canada	CAN
4	Switzerland	SWZ
5	China	CHN
6	Germany	GER
7	Denmark	DEN
8	Spain	SPN
9	Finland	FIN
10	France	FRA
11	Greece	GRC
12	Indonesia	IDN
13	India	IND
14	Ireland	IRL
15	Italy	ITA
16	Japan	JPN
17	Korea	KOR
18	Malaysia	MAL
19	Netherlands	NED
20	Norway	NOR
21	New Zealand	NZL
22	Philippines	PHL
23	Russia	RUS
24	Singapore	SGP
25	Sweden	SWE
26	Thailand	THA
27	Taiwan	TWN
28	United Kingdom	UK
29	United States	USA

Note: The shaded countries are treated as a home country in the I-REER calculation.

Appendix Table 2: Export Share by Industry and Destination (Percent)

2.1 Japan

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	1.9	0.5	1.7	0.2	15.5	0.9	0.1	0.4	0.1	1.1	0.0	1.4	0.1	0.1	0.3	-	11.5	1.3	1.1	0.1	1.1	1.5	1.8	4.4	0.1	7.8	18.7	1.2	25.2	70.4
Textile	0.5	0.6	0.5	0.3	59.5	1.9	0.2	0.4	0.1	1.5	0.1	1.5	0.6	0.1	2.2	-	6.8	1.6	0.3	0.0	0.1	1.1	0.2	1.5	0.1	3.9	4.6	1.0	8.9	74.0
Wood	0.3	1.1	0.5	0.4	27.2	2.1	0.1	0.1	0.1	1.1	0.0	2.8	0.1	0.0	0.2	-	15.4	1.5	1.1	0.0	0.1	16.6	0.7	0.6	0.1	3.1	5.2	1.8	17.6	91.8
Paper	3.0	0.4	0.8	0.2	28.1	2.4	0.1	0.3	0.1	1.0	0.0	2.7	1.0	0.0	0.6	-	9.9	4.3	2.2	0.0	1.3	1.9	1.1	3.0	0.1	6.8	9.5	1.4	17.7	86.2
Petroleum	0.5	0.0	0.0	0.0	13.1	0.4	0.0	2.2	0.0	1.9	-	1.1	11.9	-	1.2	-	25.3	0.5	4.1	-	0.1	0.7	0.0	0.1	4.9	1.9	3.3	0.6	26.1	90.9
Chemical	1.0	1.8	0.3	0.8	25.7	3.1	0.1	0.6	0.1	1.5	0.0	2.0	1.5	0.8	1.4	-	16.4	2.0	2.3	0.1	0.1	1.4	0.2	2.4	0.2	5.0	13.3	1.4	14.6	90.1
Rubber	3.3	2.8	1.8	0.2	18.9	3.4	0.1	0.6	0.4	1.4	0.2	2.5	0.9	0.1	1.1	-	18.8	1.5	1.7	0.1	0.3	1.9	1.7	2.1	0.3	4.0	11.5	2.0	16.3	79.3
Non-Metal	1.3	1.2	0.5	0.1	17.7	4.1	0.0	0.2	0.1	1.0	0.0	1.2	0.8	0.0	0.6	-	24.5	2.6	2.9	0.1	0.1	2.9	0.3	2.4	0.1	4.1	18.7	1.0	11.5	88.0
Metal	1.7	0.6	1.0	1.4	24.6	1.3	0.1	0.2	0.1	0.4	0.1	3.4	2.1	0.0	0.4	-	16.8	5.4	0.8	0.6	0.2	2.3	0.4	4.9	0.2	8.4	10.4	3.6	8.5	85.3
General	2.1	1.9	1.3	0.2	21.4	3.6	0.1	0.8	0.3	1.9	0.2	2.7	2.4	0.2	1.5	-	10.4	2.2	3.2	0.1	0.3	1.3	1.4	3.4	0.3	5.4	9.7	2.1	19.7	83.1
Electrical	1.2	0.9	1.2	0.3	26.3	6.1	0.1	0.8	0.5	1.4	0.0	1.3	1.0	0.1	0.8	-	7.7	4.4	3.5	0.0	0.1	3.0	0.4	3.6	0.5	4.4	6.0	2.8	21.2	79.6
Optical	0.9	1.6	1.1	0.6	22.8	9.4	0.2	0.6	0.1	1.2	0.1	0.8	1.2	0.1	1.0	-	10.3	1.8	3.6	0.1	0.1	1.8	0.4	2.2	0.4	3.3	8.4	2.5	23.4	84.7
Transport	6.0	1.4	4.6	0.6	8.6	3.1	0.2	1.5	0.6	2.0	0.6	1.7	0.5	0.3	1.8	-	1.7	1.9	2.1	0.5	0.8	0.8	5.6	2.3	0.4	3.2	1.5	4.3	41.5	69.7

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.2 Korea

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	2.7	0.1	1.1	0.0	15.8	0.4	0.0	1.9	0.0	0.5	0.0	2.3	0.2	0.0	1.0	36.8	-	1.1	0.4	0.1	3.1	2.3	9.1	1.0	0.1	4.5	2.2	0.4	12.8	78.6
Textile	1.0	0.6	1.2	0.1	38.6	2.2	0.1	1.1	0.7	1.8	0.2	12.2	1.2	0.0	1.4	9.1	-	0.5	0.6	0.2	0.3	2.9	1.7	0.9	0.2	1.8	1.4	1.3	16.7	60.5
Wood	2.1	1.0	0.7	0.1	21.6	1.3	0.0	0.8	0.1	0.4	0.1	3.8	2.9	0.0	2.3	32.5	-	0.2	0.2	0.1	0.2	4.7	9.3	1.1	0.6	0.4	0.6	0.5	12.3	71.9
Paper	7.6	0.1	1.6	0.0	18.5	0.4	0.0	0.2	0.1	0.3	0.3	2.3	7.8	0.2	1.1	11.0	-	3.4	0.2	0.0	1.3	1.6	3.1	2.4	0.0	4.2	5.3	1.5	25.3	71.2
Petroleum	0.4	0.1	0.3	0.0	78.7	0.1	-	0.0	0.0	0.1	0.0	0.2	0.4	-	0.0	13.0	-	0.5	0.2	0.1	0.2	1.0	0.8	0.5	0.0	0.2	1.7	0.2	1.6	95.8
Chemical	1.3	1.2	0.5	0.1	53.7	1.2	0.0	0.6	0.1	0.4	0.1	3.1	3.5	0.1	1.1	7.9	-	1.7	0.7	0.0	0.3	1.5	2.2	1.5	0.1	2.8	7.4	0.6	6.2	77.9
Rubber	3.2	0.9	2.4	0.3	22.5	3.7	0.3	2.0	0.5	1.3	0.4	1.6	1.5	0.2	2.2	13.6	-	1.2	2.7	0.3	0.5	1.2	2.8	1.4	0.8	1.3	3.0	3.3	24.5	75.2
Non-Metal	1.9	0.7	1.1	0.3	17.8	2.7	0.0	0.7	0.1	0.7	0.3	2.5	1.5	0.0	2.0	22.8	-	1.9	0.5	0.3	0.3	1.2	1.3	2.1	0.2	1.3	18.8	1.0	16.0	80.6
Metal	2.7	1.9	1.3	0.3	26.2	1.0	0.2	0.9	0.1	0.4	0.3	3.3	6.9	0.1	2.2	15.6	-	3.3	1.0	0.1	0.3	2.6	0.7	3.6	0.3	5.9	6.0	1.6	11.2	70.9
General	1.8	1.8	1.9	0.1	29.4	3.3	0.4	1.0	0.6	1.0	0.3	1.8	4.9	0.1	1.7	9.4	-	1.3	2.4	0.1	0.3	1.5	3.0	1.9	0.3	2.6	3.0	1.8	22.4	71.4
Electrical	1.9	0.1	1.2	0.2	32.7	4.8	0.1	1.2	1.7	2.8	0.3	1.4	1.8	0.5	1.4	6.0	-	2.9	1.4	0.2	0.2	1.1	2.0	2.2	0.4	1.4	2.2	4.0	24.1	76.3
Optical	0.1	0.2	0.2	0.1	63.7	2.9	0.0	3.3	0.1	0.7	0.0	0.7	0.5	0.0	0.3	8.6	-	2.6	0.3	0.0	0.0	0.2	0.7	0.6	0.0	1.3	3.2	1.0	8.4	69.5
Transport	3.1	2.5	3.9	0.2	8.4	10.4	0.5	1.8	0.2	2.4	4.2	0.8	3.6	0.8	2.5	1.6	-	0.9	1.2	2.9	0.3	0.5	8.7	8.8	0.6	0.5	0.3	4.0	24.1	51.1

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.3 China

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	2.4	1.2	2.6	0.1	-	4.9	0.5	2.2	0.1	1.5	0.1	1.3	0.3	0.0	1.4	30.9	9.8	3.1	2.9	0.2	0.4	1.8	4.0	1.3	0.5	2.0	2.1	2.4	20.2	76.2
Textile	2.6	1.7	3.3	1.0	-	6.2	0.9	2.9	0.5	3.3	0.4	1.2	1.5	0.3	4.1	17.4	4.2	1.7	2.6	0.5	0.4	0.8	6.6	1.9	0.7	0.8	0.6	4.9	27.2	64.8
Wood	1.8	2.4	4.1	0.1	-	5.2	0.6	2.3	0.4	2.7	0.6	0.8	0.7	0.9	2.5	19.2	4.3	2.1	3.3	0.2	0.2	0.3	1.6	2.9	0.7	1.2	1.8	6.6	30.6	81.1
Paper	5.6	1.2	2.1	0.1	-	3.1	0.4	1.4	0.3	2.3	0.6	1.5	4.1	0.2	2.0	12.3	4.3	2.8	2.2	0.2	0.8	1.5	2.1	1.9	0.5	2.2	4.1	7.2	33.2	64.6
Petroleum	3.5	6.8	2.0	0.0	-	1.2	0.0	0.4	0.0	3.4	0.0	1.4	12.1	0.0	1.4	21.2	5.1	1.1	5.1	0.0	0.2	3.5	2.3	5.2	0.0	1.6	3.2	1.2	18.0	59.3
Chemical	2.6	2.5	1.3	0.6	-	5.7	0.2	2.2	0.2	1.6	0.2	3.4	10.8	0.3	2.7	13.3	9.5	2.5	4.2	0.2	0.3	1.4	2.5	2.1	0.2	3.8	6.3	2.3	17.0	69.2
Rubber	4.0	1.8	3.3	0.1	-	4.4	0.4	2.0	0.5	2.5	0.5	1.3	2.4	0.3	2.4	11.3	2.7	1.7	2.8	0.3	0.5	1.6	3.2	1.6	0.6	1.2	1.8	5.2	39.3	68.9
Non-Metal	3.3	2.2	2.8	0.1	-	5.4	0.6	3.7	0.3	1.9	0.8	1.8	4.2	0.5	3.8	11.4	10.9	2.7	3.0	0.3	0.5	1.4	5.5	2.5	0.7	2.0	2.4	4.0	21.5	63.7
Metal	2.9	2.9	2.7	0.1	-	3.9	0.4	2.5	0.5	1.4	0.6	2.7	5.5	0.1	3.8	8.7	15.8	2.1	3.9	0.3	0.3	1.2	3.3	3.2	0.5	2.5	3.6	3.4	21.2	67.3
General	3.0	1.5	2.7	0.3	-	6.2	0.8	2.5	1.1	3.0	0.7	2.9	5.9	0.2	4.2	12.1	4.2	2.1	2.6	0.3	0.3	0.8	4.1	2.4	0.7	2.3	2.1	4.2	27.0	66.7
Electrical	2.1	0.7	1.8	0.2	-	7.9	0.3	1.9	1.2	3.0	0.2	1.1	3.2	0.8	1.7	9.8	5.7	2.2	7.8	0.1	0.2	0.6	1.6	3.8	0.5	1.4	2.7	3.8	33.8	64.8
Optical	1.1	0.8	1.0	0.6	-	7.4	0.5	1.4	0.5	1.6	0.2	1.8	2.0	0.9	2.2	15.2	7.8	6.5	4.5	0.1	0.1	0.8	1.8	2.2	0.3	2.6	7.0	2.4	26.6	51.4
Transport	2.4	1.0	2.6	1.0	-	10.1	2.6	0.7	0.3	3.5	1.7	2.0	1.8	0.2	3.2	10.3	5.3	1.9	3.2	1.2	0.2	0.8	3.9	11.0	0.4	1.0	1.8	4.2	21.7	61.2

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The Sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.4 Taiwan

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	2.9	0.2	2.7	0.0	7.0	0.8	0.1	0.2	0.0	0.3	0.4	0.8	0.2	0.0	0.2	31.8	6.0	3.0	0.6	0.3	0.3	1.9	0.7	4.9	0.0	16.4	-	0.6	17.5	82.3
Textile	1.2	0.6	1.7	0.2	43.0	2.3	0.2	0.8	0.1	1.0	0.1	4.4	1.6	0.1	1.3	4.8	1.4	2.0	0.6	0.3	0.3	1.9	0.5	1.2	0.4	4.2	-	2.0	21.9	60.4
Wood	1.1	0.4	4.4	0.1	9.9	5.1	0.2	0.5	0.1	2.0	0.2	1.0	0.1	0.7	2.5	21.4	0.5	1.6	1.2	0.2	0.1	0.3	0.3	2.0	0.4	1.2	-	5.0	37.3	85.6
Paper	3.0	0.2	1.3	0.1	35.7	1.5	0.1	0.6	0.1	0.9	0.1	4.3	1.0	0.2	0.4	7.5	3.6	11.2	0.8	0.1	0.5	3.3	0.8	3.6	0.1	3.7	-	2.2	12.8	76.4
Petroleum	0.1	0.0	0.0	-	51.4	0.6	0.0	0.0	0.0	0.3	0.0	0.9	1.6	0.0	0.0	7.1	10.4	3.5	0.0	-	0.0	19.4	0.0	0.1	0.0	2.5	-	0.1	1.7	75.9
Chemical	0.7	0.6	0.4	0.3	64.6	1.5	0.1	0.4	0.0	0.5	0.1	2.1	3.0	0.1	0.8	6.6	4.0	2.4	0.4	0.0	0.2	1.1	0.3	2.0	0.1	3.3	-	0.6	4.0	79.0
Rubber	3.7	0.5	2.8	0.2	29.1	3.8	0.2	0.9	0.2	1.8	0.2	0.9	0.7	0.2	1.4	8.9	1.9	1.7	1.8	0.4	0.6	0.6	1.0	1.5	0.6	2.6	-	3.5	28.0	81.3
Non-Metal	1.8	0.6	1.4	0.1	36.7	3.0	0.1	1.2	0.2	1.7	0.2	0.8	0.7	0.1	1.5	16.8	5.0	2.5	0.5	0.1	0.4	0.5	0.3	3.2	0.3	1.2	-	1.8	17.4	81.6
Metal	2.5	1.0	2.8	0.3	33.6	3.5	0.5	1.0	0.3	1.3	0.3	1.3	1.1	0.1	2.5	5.5	3.6	3.1	1.2	0.4	0.6	1.1	0.8	2.7	0.8	4.2	-	3.0	20.8	82.2
General	1.8	0.7	2.6	0.5	32.6	4.0	0.5	1.1	0.4	1.5	0.3	2.8	2.9	0.1	2.3	6.5	2.3	3.8	1.4	0.3	0.2	0.6	1.2	2.3	0.7	4.1	-	2.3	20.4	79.8
Electrical	1.2	0.3	1.7	0.3	26.2	6.0	0.4	1.9	0.4	3.7	0.1	0.4	1.0	0.8	1.3	5.8	3.2	6.8	2.5	0.6	0.2	4.1	0.8	3.4	0.4	2.4	-	3.3	20.7	76.4
Optical	0.4	0.1	1.1	0.1	74.2	1.4	0.0	0.2	0.0	0.4	0.0	0.1	0.2	0.1	0.3	2.5	1.0	0.4	0.3	0.1	0.1	0.2	0.8	0.5	0.1	0.2	-	4.0	11.3	94.9
Transport	3.4	2.4	4.1	1.1	3.9	8.6	1.2	2.6	0.5	3.6	0.6	0.8	0.3	0.1	4.4	8.1	2.4	0.6	4.3	1.1	0.6	0.7	0.9	1.1	1.2	1.3	-	6.7	33.7	86.0

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.5 Singapore

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	6.3	0.3	0.5	0.1	14.4	0.1	0.0	0.2	0.1	0.4	0.0	11.7	1.3	0.1	0.4	18.1	2.4	16.8	0.5	0.0	1.0	5.5	0.5	-	0.0	7.6	5.9	1.2	4.4	70.5
Textile	3.9	1.1	0.8	0.4	1.9	1.7	0.5	0.8	0.0	1.1	0.4	26.2	0.9	0.2	0.7	1.2	1.4	17.4	1.2	0.0	0.6	1.9	0.5	-	0.2	3.3	0.4	6.0	25.2	81.4
Wood	13.4	5.1	0.4	0.0	6.8	5.9	1.9	0.1	1.0	1.9	0.2	18.0	1.5	0.0	3.5	3.8	1.6	19.1	3.9	0.1	0.8	1.4	0.1	-	0.8	2.6	0.9	1.1	4.3	67.9
Paper	7.2	0.2	0.7	0.2	4.1	1.4	0.1	0.3	0.1	1.4	0.1	10.5	10.3	0.1	0.3	4.9	4.6	19.2	0.9	0.1	1.7	3.5	0.0	-	0.1	9.5	3.8	6.0	8.7	81.4
Petroleum	2.9	0.0	0.0	0.0	22.3	0.0	0.0	0.0	-	0.3	-	24.2	1.7	-	0.0	0.1	0.1	43.7	0.0	0.0	1.7	1.5	0.0	-	-	1.1	0.0	0.0	0.2	81.9
Chemical	2.3	5.0	4.8	0.1	13.1	0.4	0.0	0.5	0.0	4.4	0.0	10.3	5.0	0.1	0.4	4.6	4.2	10.3	4.8	0.0	0.4	2.3	0.0	-	0.0	6.6	4.6	6.4	9.2	85.2
Rubber	3.5	1.3	0.3	0.1	9.1	1.6	0.0	0.4	0.1	1.1	0.1	19.2	3.7	0.3	0.5	7.3	1.9	23.7	4.7	0.0	0.5	3.3	0.3	-	0.1	7.4	2.2	1.9	5.5	81.7
Non-Metal	20.6	0.1	0.1	0.1	3.5	0.3	0.0	0.0	0.0	0.2	0.0	13.8	3.8	0.0	0.1	3.3	20.1	20.7	0.7	0.0	0.3	4.2	0.4	-	0.0	2.6	2.9	0.2	1.8	88.4
Metal	11.3	0.2	0.1	2.9	10.2	0.6	0.0	0.2	0.0	0.2	0.0	21.4	5.0	0.1	0.4	4.2	2.1	22.8	2.3	0.1	0.4	1.9	0.1	-	0.0	6.1	4.1	0.7	2.4	83.8
General	4.2	0.6	0.3	0.2	13.3	1.3	0.0	0.2	0.1	0.4	0.1	28.2	6.3	0.1	0.3	3.4	3.2	17.4	1.2	0.1	0.5	2.2	0.6	-	0.1	5.8	2.9	1.1	6.1	77.6
Electrical	2.3	0.3	0.4	0.3	10.1	4.0	0.1	0.1	0.2	1.0	0.0	14.8	4.5	1.1	0.1	6.7	2.9	17.9	1.5	0.0	0.4	3.6	0.3	-	0.1	6.0	3.7	2.1	15.5	78.6
Optical	2.6	1.5	0.9	2.6	8.6	5.7	0.0	0.3	0.1	1.6	0.0	11.4	5.2	0.2	0.3	8.9	4.2	12.6	2.5	0.1	0.4	1.6	0.3	-	0.1	5.0	4.0	1.6	17.5	85.7
Transport	8.2	0.5	0.9	0.2	10.5	2.8	0.1	0.8	0.0	2.3	0.0	13.1	4.6	0.1	0.3	5.2	7.0	8.5	1.8	0.0	1.3	1.3	0.7	-	0.1	4.7	3.5	6.1	15.3	75.3

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.6 Malaysia

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	3.0	0.2	0.5	0.1	29.6	1.1	0.6	0.5	0.5	0.6	0.2	4.0	5.2	0.0	1.4	6.5	2.5	-	9.9	0.0	0.9	2.5	2.6	10.0	0.5	3.3	1.8	0.8	11.1	64.9
Textile	1.7	2.9	1.5	0.3	4.0	4.5	0.5	1.2	0.1	2.1	0.4	5.5	1.3	0.3	2.7	9.2	1.0	-	1.6	0.1	0.3	1.6	0.1	11.1	0.4	3.1	1.6	5.1	36.1	72.2
Wood	3.7	1.9	0.3	0.0	4.3	2.1	0.5	0.2	0.0	1.0	0.2	1.6	1.2	0.1	1.1	33.4	10.5	-	5.8	0.1	0.1	2.1	0.1	4.8	0.1	5.9	7.2	5.1	6.4	80.7
Paper	7.1	0.6	0.5	0.0	4.1	3.8	0.2	0.6	0.1	1.4	0.2	5.9	2.8	0.3	0.2	5.6	2.4	-	1.4	0.0	1.7	4.1	0.0	31.6	0.2	9.5	2.0	4.5	9.3	77.8
Petroleum	0.4	0.0	0.0	-	1.7	1.1	-	0.0	-	0.3	-	2.6	14.6	-	0.0	10.9	19.5	-	0.9	0.0	0.2	8.0	-	35.0	-	2.8	0.4	0.0	1.4	88.6
Chemical	2.8	0.7	0.2	0.1	17.5	1.6	0.4	0.9	0.0	0.5	0.1	10.2	7.6	0.1	0.5	7.1	5.2	-	5.0	0.0	0.5	3.2	0.3	11.8	0.4	12.3	4.9	0.9	5.4	77.9
Rubber	4.6	1.1	1.2	0.3	15.7	5.0	0.3	1.8	0.2	2.3	0.4	2.9	1.0	0.3	2.5	9.9	1.6	-	1.7	0.1	0.6	1.9	1.2	11.5	0.3	4.2	1.2	6.9	19.3	82.8
Non-Metal	4.7	0.8	0.5	0.1	4.8	2.0	0.1	0.3	0.0	1.3	0.0	11.5	1.4	0.0	0.5	19.5	9.6	-	1.0	0.1	0.6	2.3	0.2	25.3	0.1	4.4	4.4	1.4	3.0	84.2
Metal	8.5	0.6	0.6	0.3	6.9	2.1	0.1	1.2	0.2	0.5	0.1	7.4	4.5	0.1	1.2	6.8	4.3	-	1.1	0.4	1.0	2.4	0.2	27.4	0.2	11.3	4.2	1.1	5.5	78.2
General	4.3	0.5	0.9	0.4	7.1	3.7	0.2	1.3	1.0	2.3	0.3	7.9	3.1	0.3	1.6	5.5	1.6	-	1.7	0.4	0.5	2.0	0.7	21.2	1.4	8.7	2.4	3.3	15.8	79.4
Electrical	3.6	0.4	0.8	0.1	10.0	4.9	0.1	0.5	0.5	1.4	0.1	1.0	2.1	0.5	0.5	8.5	1.9	-	6.3	0.0	0.4	0.9	0.5	16.5	0.2	6.0	2.4	1.8	28.0	85.4
Optical	1.8	0.5	1.3	0.7	7.6	6.0	0.3	0.3	0.4	0.4	0.0	1.6	1.3	0.0	0.6	16.8	2.7	-	8.4	0.1	0.1	0.8	0.1	13.8	0.1	7.8	2.4	1.2	22.9	91.7
Transport	3.2	0.4	0.4	0.2	3.6	3.8	0.2	0.4	0.0	1.2	0.3	10.7	2.9	0.1	0.9	5.1	0.5	-	1.3	0.1	0.3	1.1	0.1	28.9	0.3	9.9	5.9	8.7	9.3	80.2

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.7 Thailand

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	3.8	0.9	3.5	0.4	4.4	2.5	0.3	1.1	0.4	2.0	0.1	4.8	0.9	0.3	2.2	22.2	2.1	5.0	3.4	0.3	0.6	3.3	1.4	3.1	0.8	-	2.6	5.8	21.8	69.4
Textile	2.0	3.1	1.6	1.0	5.1	4.3	2.4	2.6	0.2	4.4	0.3	2.2	1.9	0.2	2.7	9.0	1.6	2.3	3.9	0.3	0.3	1.1	0.6	2.4	0.7	-	1.3	6.1	36.2	72.4
Wood	1.5	1.0	1.0	1.7	32.5	2.1	1.0	0.6	0.5	1.1	0.2	2.6	2.0	0.1	1.2	10.1	8.6	10.7	1.3	0.3	0.1	0.5	0.3	0.5	0.3	-	3.7	3.4	11.1	87.9
Paper	6.3	4.3	0.3	0.1	12.7	0.8	1.2	0.3	0.1	1.3	0.1	7.3	1.7	0.0	0.4	17.3	9.2	10.6	1.0	0.1	0.6	3.8	0.2	6.9	0.1	-	7.2	1.0	5.2	44.9
Petroleum	17.6	0.0	3.5	0.0	36.2	1.7	-	0.0	-	0.4	-	8.4	1.2	-	0.0	0.1	3.5	17.6	0.2	-	0.0	2.6	-	0.4	-	-	4.9	0.2	1.7	67.4
Chemical	4.6	1.2	0.3	0.3	28.0	1.1	0.0	1.0	0.1	0.4	0.2	9.5	7.0	0.0	1.4	9.8	2.6	10.6	1.2	0.0	1.2	4.3	0.4	6.0	0.1	-	3.8	1.1	3.8	68.6
Rubber	5.5	2.4	1.0	0.2	12.7	3.8	0.2	0.9	0.4	2.2	0.2	4.9	1.9	0.1	1.5	15.6	1.3	7.5	2.0	0.1	0.8	2.9	0.5	2.6	0.3	-	1.6	3.3	23.4	75.3
Non-Metal	6.4	1.0	0.9	0.8	3.5	2.0	0.2	1.9	0.8	2.5	0.1	3.4	2.7	0.2	2.0	33.9	3.3	4.8	0.8	0.4	1.1	2.6	0.2	6.3	0.7	-	1.9	3.6	12.5	58.5
Metal	22.4	0.6	0.7	14.9	2.8	1.2	0.1	0.4	0.0	0.6	0.1	4.0	4.1	0.1	1.5	15.4	1.4	6.1	1.0	0.1	0.5	1.8	0.2	5.8	0.1	-	2.1	1.4	10.6	74.3
General	7.8	2.3	0.6	0.2	4.0	3.6	0.1	2.5	1.2	1.8	0.7	7.6	3.7	0.2	2.8	21.1	1.8	6.0	1.3	0.2	1.0	2.2	0.6	11.3	0.8	-	2.7	2.2	9.6	72.6
Electrical	1.4	0.9	0.6	0.4	22.9	2.9	0.3	0.5	0.7	0.9	0.1	1.1	1.8	1.3	0.5	12.9	2.3	6.8	6.3	0.0	0.2	1.3	0.2	7.7	0.5	-	2.1	1.4	21.9	79.1
Optical	1.0	0.6	0.8	7.7	6.9	4.9	0.8	1.0	0.2	3.3	0.0	1.4	0.7	0.3	1.4	31.3	1.1	2.5	4.9	0.1	0.1	1.6	0.2	5.4	1.2	-	0.7	2.8	17.3	85.7
Transport	22.0	0.9	0.5	0.9	0.9	1.6	0.2	0.7	0.2	1.4	1.0	13.5	2.9	0.1	1.2	9.5	1.0	9.9	1.1	0.3	1.4	7.0	1.3	8.9	0.4	-	0.7	4.1	6.1	64.9

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.8 Indonesia

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	1.0	0.8	0.2	0.0	15.6	3.3	0.2	1.6	0.1	0.6	0.4	-	26.6	0.0	2.8	4.8	1.4	8.9	11.9	0.0	0.5	1.2	1.1	5.2	0.1	1.2	0.6	0.7	9.1	75.3
Textile	1.2	4.3	1.7	0.2	2.5	8.1	0.5	1.6	0.1	2.0	0.3	-	0.6	0.2	3.5	6.2	3.3	2.7	3.0	0.1	0.2	0.8	0.6	2.0	0.3	1.1	0.8	5.7	46.3	81.0
Wood	6.7	3.3	0.7	0.0	6.9	6.3	0.6	0.9	0.2	2.6	0.2	-	0.4	0.2	2.0	30.0	6.5	1.4	6.1	0.4	0.5	0.1	0.2	1.8	0.3	0.3	5.1	3.9	12.4	83.0
Paper	5.3	1.4	1.7	0.0	23.4	0.5	0.1	0.9	0.1	0.8	0.9	-	4.4	0.1	2.6	13.1	8.6	9.0	0.9	0.0	0.9	2.5	0.5	4.2	0.1	3.0	4.0	1.2	9.8	68.7
Petroleum	0.3	0.0	-	-	9.6	0.0	-	-	0.0	0.0	0.0	-	4.1	-	-	52.1	17.2	4.0	0.0	-	0.0	0.1	0.0	8.4	-	3.0	1.0	0.0	0.0	99.9
Chemical	2.4	1.5	0.3	0.2	15.0	1.4	0.1	2.1	0.1	0.4	0.1	-	8.0	0.0	1.6	8.5	7.8	10.1	4.1	0.1	0.3	3.7	0.3	8.4	0.1	8.4	5.3	0.7	8.8	77.2
Rubber	3.7	2.0	0.9	0.1	4.5	4.3	0.2	1.2	0.2	1.4	0.4	-	0.6	0.2	2.5	25.7	1.4	4.9	2.1	0.1	0.6	3.0	0.4	7.4	0.3	3.9	2.1	3.9	22.2	79.8
Non-Metal	10.2	1.4	1.1	0.1	3.4	1.7	0.1	2.2	0.2	2.4	0.4	-	4.0	0.1	1.7	14.6	8.0	10.0	1.0	0.2	1.7	4.0	0.6	4.3	0.4	5.3	3.6	3.3	13.8	64.8
Metal	4.8	0.3	0.3	1.7	4.4	0.4	0.0	0.1	0.1	0.1	0.0	-	0.6	0.0	0.2	29.3	4.3	10.8	1.0	0.0	0.1	1.9	0.0	27.1	0.0	6.0	2.3	0.3	3.8	90.9
General	4.2	0.6	0.3	0.1	4.2	2.9	0.0	0.1	0.8	0.5	0.3	-	1.9	0.0	0.8	20.2	1.9	5.8	8.3	0.0	0.3	2.7	0.2	22.0	0.1	8.1	1.1	1.3	11.3	87.5
Electrical	2.6	2.0	0.5	0.1	5.2	2.6	0.1	0.7	0.2	2.5	0.2	-	1.3	0.1	0.7	15.5	2.7	4.1	2.9	0.0	0.5	2.4	0.3	33.6	0.3	3.1	0.9	2.0	13.1	82.0
Optical	1.0	0.1	0.5	0.1	1.0	5.7	0.1	0.1	0.1	3.7	0.0	-	1.7	0.3	0.1	6.7	0.4	2.2	0.4	0.5	0.2	1.7	0.1	60.6	0.0	1.2	0.8	1.1	9.8	91.1
Transport	4.0	0.9	0.4	0.0	4.5	1.5	0.3	0.3	0.3	0.1	0.1	-	1.6	0.0	1.0	13.0	0.3	13.1	0.5	0.2	0.1	8.0	0.1	25.0	0.3	14.5	2.1	3.5	4.4	74.5

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

2.9 Philippines

	AUS	BEL	CAN	SWZ	CHN	GER	DEN	SPN	FIN	FRA	GRC	IDN	IND	IRE	ITA	JPN	KOR	MAL	NED	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA	WOR
Food	0.9	0.4	2.1	0.2	1.8	3.0	0.1	1.6	0.2	1.0	0.1	3.9	0.2	0.1	2.2	9.2	4.9	4.0	14.6	0.1	0.2	-	0.2	2.5	0.2	6.0	1.8	2.0	36.6	88.4
Textile	0.6	0.4	2.3	0.0	0.9	1.5	0.2	1.3	0.0	2.0	0.1	0.2	0.1	0.1	1.5	5.9	1.0	4.0	1.6	0.0	0.1	-	0.2	0.4	0.0	0.4	0.9	2.5	71.8	90.1
Wood	0.4	0.6	0.2	0.0	0.8	0.2	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.4	90.0	0.1	0.1	0.2	0.0	0.0	-	0.1	0.4	0.0	0.0	0.4	0.5	5.0	98.9
Paper	2.7	0.1	0.2	0.0	2.5	0.8	0.0	0.1	0.1	2.8	0.0	1.7	14.5	0.1	0.2	11.9	4.3	8.5	10.6	0.0	0.0	-	0.0	7.6	0.4	9.4	6.7	6.3	8.2	76.3
Petroleum	1.0	-	-	-	10.9	-	-	-	-	-	-	4.2	0.2	-	-	-	0.5	57.5	0.0	-	-	-	-	6.6	-	0.0	19.0	-	0.0	70.8
Chemical	4.1	2.9	0.9	0.1	10.5	1.5	0.1	0.7	0.0	0.4	0.1	5.5	1.8	0.0	0.4	39.9	4.8	4.1	0.7	0.0	0.4	-	0.4	2.1	0.3	4.6	4.6	0.5	8.6	81.2
Rubber	4.3	0.4	0.2	0.2	3.6	3.9	0.4	0.4	7.9	1.6	0.6	3.6	0.6	0.2	3.9	21.4	1.3	5.6	1.7	0.3	0.3	-	0.1	5.0	1.1	4.9	4.6	3.0	18.8	84.3
Non-Metal	7.7	1.2	0.4	0.0	2.3	0.7	0.2	3.4	0.0	0.4	0.1	1.8	0.9	0.0	0.6	35.8	5.7	9.5	0.9	0.0	0.5	-	0.0	1.2	0.1	1.1	7.6	1.0	16.8	81.8
Metal	1.8	0.8	0.2	1.0	17.6	1.2	0.0	0.4	0.0	0.2	0.0	1.5	0.7	0.0	2.7	11.8	25.0	3.4	0.4	0.1	0.0	-	0.0	2.3	0.2	14.5	7.9	0.4	5.7	77.7
General	1.1	0.1	0.2	0.0	9.1	2.6	0.0	0.1	0.1	0.7	0.0	5.3	0.8	0.1	0.1	29.0	3.6	3.7	0.4	0.0	0.2	-	0.1	15.5	0.1	7.3	5.9	1.6	12.1	80.3
Electrical	0.4	0.6	0.5	0.1	15.3	5.8	0.0	0.1	0.1	0.5	0.0	0.5	0.3	0.1	0.2	15.8	4.9	6.0	14.3	0.0	0.0	-	0.0	8.4	0.0	1.6	5.0	0.6	18.8	84.2
Optical	1.6	32.7	1.0	0.6	2.1	2.6	0.0	0.6	0.0	1.7	0.0	1.7	0.4	0.0	0.6	14.0	1.2	0.9	2.8	0.1	0.1	-	0.0	1.5	0.0	3.3	0.8	0.8	28.9	92.6
Transport	1.1	0.2	0.2	0.0	2.1	37.5	0.0	0.1	0.0	0.6	0.0	4.2	1.8	0.2	0.3	16.9	0.3	1.7	1.0	0.0	0.0	-	0.3	1.8	0.0	18.6	1.5	2.7	6.7	88.8

Note: Average of 2007–2009 shares. The shaded cells denote 10 percent or higher. The sum of partner countries is 100, and "WOR" represents the percent share of exports to partner countries to their total exports to the world.
Source: Authors' calculation from UN Comtrade.

Appendix Table 3: Industry Weights by Export (2010, percent)

Industry	JPN	KOR	CHN	TWN	SGP	MAL	THA	IDN	PHL
Food	0.6	1.1	2.4	1.1	3.3	14.1	15.8	22.5	5.6
Textile	1.2	3.8	20.3	5.7	1.8	2.0	6.1	14.9	5.3
Wood	0.0	0.0	0.8	0.1	0.1	2.8	0.8	3.8	2.2
Paper	0.6	0.9	0.9	0.8	1.3	0.9	2.0	6.4	0.5
Petroleum	0.1	0.3	0.4	0.2	0.7	1.4	0.3	2.4	0.3
Chemical	11.3	13.1	6.2	16.4	21.0	9.5	9.8	10.3	2.4
Rubber	3.7	2.6	3.0	3.7	1.6	4.9	5.3	3.5	1.2
Non-Metal	1.5	0.5	2.1	1.2	0.4	1.3	1.8	1.4	0.5
Metal	10.2	11.2	10.3	12.4	7.5	6.1	8.8	12.2	4.8
General	17.5	10.0	10.0	8.7	12.5	5.3	9.0	3.9	1.5
Electrical	16.0	20.5	33.4	32.0	36.4	45.9	24.4	13.0	67.5
Optical	6.0	8.9	4.1	13.4	5.6	3.4	2.6	0.8	2.7
Transport	31.2	27.0	6.0	4.2	7.9	2.5	13.4	4.9	5.6

Note: The shaded figures correspond to the top five industries in nine Asian economies in terms of their exports.

Source: UN Comtrade.

Appendix Table 4: Availability of Industry-Specific Price Data

ISIC.R3	Industry Classification	AUS	BEL	CAN	SWZ	CHN	GER	DEN	GRC	SPN	FRA	FIN	IDN	IND	IRL	ITA
15	Food and Beverage	●	▲	●	●	○	○	●	▲	●	○	○	○	●	○	○
16	Tobabcoo	○	○			○	○		○	○	○	X		○		
17	Textiles	○	○	○		▲	○		○	○	○	●	○	○	○	
18	Wearing Appeal, Fur	○	X	○	●	○	○	●	○	○	○	●	○	X	○	○
19	Leather, Footwear		○	○		○	○		○	○	○	●		○	○	
20	Wood products (excl. furniture)	○	○	○	●	○	○		○	○	○	●	○	○	○	○
21	Paper and Paper products	○	○	○	●	○	○	●	○	○	○	●	○	○	○	○
22	Printing and Publishing	○	X	○		○	X		○	○	○	●		○	○	○
23	Coke, Refined Petroleum product	○	○	○	●	○	○	○	○	○	○	X	○	X	X	○
24	Chemicals and Chemical products	○	○	○	●	▲	○		○	●	○	○	○	○	○	○
25	Rubber and Plastics products	○	○	○	●	▲	○	●	○	○	○	●	○	○	○	○
26	Non-metallic Mineral products	○	○	○	●	○	▲	○	○	○	○	●	○	○	○	○
27	Basic Metals	○	○	○	●	▲	○	●	○	○	○	●	○	○	○	○
28	Fabricated Metal products	○	○	○		○	X		○	○	X	●	X	X	○	○
29	Machinery and Equipment n.e.c.	○	○	○	●	▲	○	●	○	○	○	●	○	○	○	○
30	Office,Accounting and Computing Machinery	●	○	○	X	○	▲		○	○	▲		X	X	○	◇
31	Electrical Machinery and Apparatus n.e.c.	●	○	○	○		○	○	○	○	○	○		●	○	○
32	Communication Equipment and Apparatus	○	○	▲	○	○	▲		○	●	○		○	●	X	◇
33	Optical Instruments	○	○	▲	○	○	▲	X		●	▲			●	X	◇
34	Motor Vehicles, Trailers and Semi-trailers	○	○	○	●	○	○	●	○	○	○	●	○	○	○	○
35	Other Transport Equipment						○	●	○	○	○	●				
Industry Weight		○	X	○	X	X	X	X	X	○	X	X	X	○	X	X
Price Index		PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	WPI	WPI	PPI	PPI

ISIC.R3	Industry Classification	JPN	KOR	MYS	NLD	NOR	NZL	PHL	RUS	SGP	SWE	THA	TWN	UK	USA
15	Food and Beverage	○	○	○	○	○	○	○	○	○	○	○	▲	▲	○
16	Tobabcoo	○	○							○				○	
17	Textiles	○	○	○		○	○		○	○	○	○	○	○	○
18	Wearing Appeal, Fur	●	○	○	○			○	○	●		○	○	○	○
19	Leather, Footwear		○	○					○	○		○		○	○
20	Wood products (excl. furniture)	○	○	○	○	○	●		○	○	○	○	○	○	○
21	Paper and Paper products	○	○	○	○	○	●	○	○	○	○	○	○	○	○
22	Printing and Publishing	●	○	○		○	●		○	X		○		○	○
23	Coke, Refined Petroleum product	○	○	○	○	○	●	○	○	○	○	○	○	○	○
24	Chemicals and Chemical products	○	○	○	●	●	●		○	○	○	○	○	○	○
25	Rubber and Plastics products	○	○	○	○	○	●	▲	○	●	○	○	○	○	○
26	Non-metallic Mineral products	●	○	○	○	○	●	○	○	○	○	○	○	○	○
27	Basic Metals	●	○	○	○	○	●	○	○	●	○	○	○	○	○
28	Fabricated Metal products	X	X	○		○	●			X	○	○	○	○	○
29	Machinery and Equipment n.e.c.	○	○	○	○	○	●	○	○	●	○	○	○	○	○
30	Office,Accounting and Computing Machinery	○	◇	○	○	X			○	○	○		○	○	○
31	Electrical Machinery and Apparatus n.e.c.	○	○	○	○			X		○	○	○		○	
32	Communication Equipment and Apparatus	○	○	○	X	X				○	X		○	▲	○
33	Optical Instruments	○	○	○	○	X		X		●	○			▲	
34	Motor Vehicles, Trailers and Semi-trailers	○	○	○	○	○	●	○	○	○	○	○	○	○	○
35	Other Transport Equipment								○						
Industry Weight		○	○	X	○	○	X	X	X	○	X	X	X	X	X
Price Index		CGPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	PPI	WPI	PPI	PPI

Note: All countries publish the industry-specific price data that follow their own classification, which does not correspond to the ISIC, except for Malaysia and Thailand, the data of which are based on the ISIC. ○ means that the data are available but they do not exactly correspond to the ISIC. ● means that more detailed data are available, and the industry weight data are also available. ▲ means that more detailed data are available, but the industry weight data are not available. x means that the data are not available.

Appendix Table 5: Data Sources for Industry-Specific Price Data

Country	Datasource	Link
Australia	Australian Bureau of Statistics	http://www.abs.gov.au/
Belgium	CEIC	
Canada	Statistics Canada	http://www5.statcan.gc.ca
Switzerland	CEIC	
China	1. CEIC	
	2. *China Monthly Statistic*	
	3. *China Statistical Yearbook*	
Germany	GENESIS-Online Database	https://www-genesis.destatis.de
Denmark	CEIC	
Spain	National Statistics Institute	http://www.ine.es
Finland	CEIC	
France	National Institute of Statistics and Economic Studies	http://www.bdm.insee.fr
Greece	CEIC	
Indonesia	1. BPS, *Indikator Ekonomi* (*Economic Indicators*)	
	2. CEIC	
India	Office of Economic Adviser to Government of India	http://eaindustry.nic.in/
Ireland	CEIC	
Italy	CEIC	
Japan	Bank of Japan	http://www.boj.or.jp/
Korea	The Bank of Korea	http://eng.bok.or.kr/eng/engMain.action
Malaysia	CEIC	
Netherlands	Statistics Netherlands Statline Database	http://statline.cbs.nl/StatWeb/?LA=en
Norway	Statistics Norway	http://statbank.ssb.no
New Zealand	CEIC	
Philippines	1. Republic of Philippines National Statistics Office	http://www.census.gov.ph
	2. *Philippine Yearbook*	
Russia	CEIC	
Singapore	CEIC	
	Statistics Singapore	http://www.singstat.gov.sg/
Sweden	CEIC	
Thailand	CEIC	
Taiwan	CEIC(include output data)	
UK	CEIC	
USA	FEDSTATS	
	U.S. Bureau of Labor Statistics (BLS)	http://www.bls.gov/ppi/#data

Appendix Table 6: Data Sources for Aggregation Weights Based on Production

Country	Variable	Year	Datasource	Link
Japan	Indices of Industrial Production	June 2014	Ministry of Economy, Trade and Industry, Japan	http://www.meti.go.jp/english/statistics/tyo/iip/index.html
Korea	Total Output Price Index	2010	Bank of Korea, Korea	http://www.bok.or.kr/eng/engMain.action
China	Industrial Gross Output	2010	National Bureau of Statistics, SYB2013, Chinese Input-Output Table	http://www.stats.gov.cn/tjsj/ndsj/2013/indexeh.htm
Taiwan	Industrial Gross Output	2006	OECD Input-Output Table	http://www.oecd.org/trade/input-outputtables.htm
Singapore	Domestic Supply Price Indices	January 2014	Department of Statistics, Singapore	http://www.singstat.gov.sg/
Malaysia	Producer Price Index	December 2013	Department of Statistics, Malaysia	http://statistics.gov.my/portal/index.php
Thailand	Producer Price Index	February 2014	Ministry of Commerce, Thailand	http://www2.moc.go.th/main.php?filename=index_design4_en
Indonesia	Percent Distribution of GDP	2010	Statistics Indonesia, Indonesia	www.bps.go.id/eng/index.php
Philippines	Wholesale Price Index	2013	National Statistics Office, Philippines	http://www.census.gov.ph/

Appendix Table 7: Other Data Sources

Export data	UN Comtrade Database
CPI Data	CEIC Database
PPI Data	CEIC Database