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Market Share and Exchange Rate Pass-through: Competition among exporters of the same nationality

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Abstract

Our dataset is unique and allows us to control for market share among competing exporters with the same nationality. Using a sample from January 1988 to December 2005 on exports of five Japanese major ports to six destination countries, we examine the effect of market share (with respect to competitors from the same country) on exchange rate pass-through (ERPT). We provide empirical evidence that market share among the same nationality on exchange rate pass-through matters and is consistent with the findings of Feenstra et al. (1996), which show a non-linear relationship between market share and exchange rate pass-through. The result remains robust when the market share of the country is also included in the regression. Quantifying the economic significance of the market share effect, our evidence shows that the shifts in the ERPT of Japanese exports are more pronounced in Asian countries whereas the ERPT has been relatively stable over the last two decades for the United States. Our evidence implies that Japanese exports do not account for the observed recent decline in the ERPT of U.S. imports whereas Japanese exports' ERPT declined more substantially in China.

Keywords: Exchange rate pass-through; Local ports; Market share.
JEL Classification codes: F12; F14.

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1. Introduction

Empirical studies with a focus on the determinants of shifts in ERPT suggest market share as one explanation, among others. Bernhofen and Xu (2000) provide evidence that an increase in market share of the exporting country lowers ERPT for petrochemical product imports in the U.S. Bergin and Feenstra (2009) also provide evidence that the rise of the Chinese import share in the US market is an important contribution to the declining ERPT of US import prices. On the other hand, however, there is also evidence that a larger market share may increase ERPT for differentiated products with less substitutability or market frictions (see Feenstra et al. 1996, Alessandria 2004, and Atkeson and Burnstein 2008).

In this paper we aim to contribute to the existing studies in the following aspects. First, our dataset is unique, allowing us to investigate exports of local ports within a country. There is little empirical study for ERPT at the local port level. The advantage of using port level data is that it provides an empirical basis for possible heterogeneity among exporters in the same country. Second, we investigate how far we can push the effect of market share on ERPT. Existing studies focus on the market share of one country with respect to the destination market or against the share of another exporting country. In this study we implement the market share of exporters from a region in Japan. By comparing exporters from a single exporting country as in this study, we can focus on the pure effect of market share on ERPT because we control for many possible idiosyncratic shocks if we are to compare exporters from different countries. Third, we investigate whether the relationship between market share and ERPT may be non-linear. Theoretical and empirical models suggest that both positive and negative relationships are possible between market share and ERPT. We investigate the 80 commodities for these relationships.

This paper also complements earlier empirical work using Japanese exports at the most disaggregated product level. Takagi and Yoshida (2001) and Parsons and Sato (2008) estimate the exchange rate pass-through of selected HS 9-digit commodities for Japanese (national) exports. Yoshida (2010) further decomposes national exports into regional exports and estimates the exchange rate pass-through of HS 9-digit products for Japanese local ports. However, Yoshida (2010) does not provide the evidence with regard to why the ERPTs differ among Japanese local ports. As in Yoshida (2010), an advantage of using exports at local ports is that we can capture possible heterogeneous behavior of exporters across regions within a country.[1]

More specifically, using exports at local port level, we can possibly distinguish different firms or even different models by the same manufactures. By taking automobile makers as an example, Japanese automakers often manufacture several models at one

[1] Aw et al. (2001) provide evidence that the heterogeneity of exporting firms accounts more than the heterogeneity of destinations or commodities for exchange rate pass-through differentials.

location but usually not the same model in two different locations. Toyota produces the Lexus model only in Fukuoka prefecture, the north of the southwestern island in Japan, and the Century model only in Shizuoka prefecture, near the central part of Japan, whereas many other models are produced around Toyota city in Aichi prefecture. Mazda on the other hand manufactures her models in both Yamaguchi and Hiroshima prefectures.

The dataset in this study is also different from Yoshida's (2010) in the following important aspects. During the process of selecting commodities in this study, we directly chose the largest 80 commodities at the HS 9-digit level, while Yoshida (2010) chose all HS 9-digit commodities belonging in the largest 50 HS 4-digit group. The latter selection process suffers from the problem of including commodities with small trading values or no trade at all, while the data coverage in terms of the number of commodities is larger than the one in this study. The selected commodities in this study suffer the least from missing data during the sample period. In this study, all five major port exports the selected 80 commodities that were sent to each of six destination countries, although some trade data may occasionally be missing for periods of several months.

We find empirical evidence that market shares within the same country is more important than market share of nation against other exporting countries as in previous literature. More specifically, we find that market shares of Japanese local ports as an interaction term with exchange rate are statistically significant for more than half of the importer-commodity pairs, irrespective of linear or non-linear specification forms. In addition, with limited evidence restricting the sample to Taiwan import data, we also find evidence in favor for market share of local ports within Japan over markets share of Japan in an importing country. To quantify the economic significance of these findings, we reconstruct the aggregate ERPT of Japanese exports from decomposed port data. Interestingly, our evidence indicates that the shifts in ERPT of Japanese exports are more pronounced in Asian countries whereas they are relatively stable over the last two decades for the U.S. Regarding to debate over the recent decline in the US import ERPT, our evidence indicates that Japanese exports do not account for the recent decline in the ERPT of U.S. imports and any observed changes are of small magnitude.

In the remainder of this paper, we briefly review the effect of market share on ERPT in both theoretical models and empirical studies in the next section. We describe the data structure and present an estimation model in section 3. We provide evidence of market share effects on exporters' pricing behaviors in section 4 and additional robustness checks in section 5. We quantify the economic significance of market share effect in section 6 and the final section summarizes our findings.

2. Market share on exchange-rate pass-through: Theoretical models and empirical evidence

Seminal work by Dornbusch (1987) clearly demonstrates in a Cournot competition model that a larger market share by foreign firms reduces ERPT. Bernhofen and Xu (2000) and Bergin and Feenstra (2009) also develop theoretical models in which the size of the market share affects the degree of ERPT, closely following the approach by Dornbusch (1987). Bernhofen and Xu (2000) apply a homogeneous oligopoly model to 29 petrochemical product exports by Germany and Japan to the US market. Their model suggests that a larger market share by an exporter decreases ERPT. Bergin and Feenstra (2009) set up a model in which exporters with a fixed exchange rate compete with other exporters in the US market. Their empirical evidence supports the hypothesis that a rise in the share of Chinese imports contributed to the recent decline in exchange rate pass-through in US imports. These works all assume a negative relationship between market share and exchange rate pass-through.

On the other hand, an opposite impact of market share for exchange rate pass-through is derived in various theoretical models; for examples, see Feenstra et al. (1996), Alessandria (2004), and Atkeson and Burstein (2008), among others.[2] Feenstra et al. (1996) examine a Bertrand differentiated product model in which several exporters (including domestic suppliers) compete in a market. With some restrictions on the demand curve, the ERPT becomes 0.5 when market share for an exporter becomes very small, approaching zero. On the other hand, the ERPT becomes one when the entire market share is taken over by exporters from one country. The intuitive argument is that exporters can only adjust their prices partly with respect to cost changes induced by exchange rate change because exporters from other countries do not experience the same cost changes. However, all firms experience the same cost shocks and adjust prices fully when exporters from the same country dominate a market.

Alessandria (2004) assumes two types of firms, domestic firms and foreign firms, supplying to the domestic market and imposing a search cost on consumers to explore a price set by another firm. Firms from the same country set the same price, since these firms experience the same country-specific cost shocks. After incurring a search cost, a consumer can learn the price set by only one type of firm, with the probability equal to the market share of the firm's type. By this assumption, possible alternative price sets by different types of firms can only be revealed to the consumer with a probability equal to the market share. Therefore, the effective cost for consumers of finding different types of firms increases with respect to the market share of the current partner. A numerical example in Alessandria (2004) provides 80% pass-through for firms with a very small share and 100% pass-through for firms with a very large share.

Atkeson and Burstein (2008) assume that there are only a relatively small number of

[2] Froot and Klemperer (1989) and Kasa (1992) incorporate inter-temporal friction; switching costs for consumers and the adjustment costs for firms, respectively, in dynamic models.

firms in each individual sector. In each sector, goods are assumed to be imperfect substitutes. With an additional assumption of heterogeneous shock to individual firms, they demonstrate the heterogeneous response of individual firms to cost changes. Their model implies that ERPT increases with respect to an increase in market share.

Regarding the relationship between market share and exchange rate pass-through, we need to understand that predictions are quite sensitive to market characteristics. For the homogeneous product market, exchange rate pass-through declines as the market share of foreign exporters increases. However, this relationship can be reversed if products among exporters are imperfect substitutes with other market frictions such as the cost of switching brands.

Given the sensitivity of theoretical predictions about the relationship between market share and exchange rate pass-through, we need to note some caveats regarding the empirical specification of market share in an estimation model. Some works, for example, Bernhofen and Xu (2000) and Mallick and Marques (2008a), introduce market share simply as control variables, while other studies use an interaction term between exchange rate and market share. Reflecting the non-linear relationship obtained from theoretical models, Feenstra et al. (1996) and Martín and Rodríguez (2004) also introduce squared market share in empirical models. In a similar sense, Mallick and Marques (2008b) estimate a regression equation for the estimated ERPT coefficients on market share.

3. Empirical model

In this section, we present a simple model for the export price equation to estimate the exchange rate pass-through in a panel data model. We extend the empirical framework of the two-way fixed effect panel model used in Knetter (1989), Takagi and Yoshida (2001), and Yoshida (2010).

Consider an exporting firm manufacturing product k and located in region j within a country.[3] After profit maximization, the exporter sets price (P_{ijkt}) in importer's currency for export to foreign country i on the basis of the demand conditions (D_{ijkt}), marginal cost (MC_{ijkt}) and the exchange rate (S_{it}), the value of importer's currency in terms of exporter's currency, at time t. By restricting products to a narrowly defined industry, we assume that across-product variation in marginal cost is negligible and marginal cost can be represented by time-variant regional specific marginal cost (MC_{jt}). The demand conditions are assumed to be divided into three components: region-destination specific demand condition (D_{ij}), product-destination specific demand condition (D_{ik}), and time-variant destination specific demand condition (D_{it}). An export pricing equation with these specifications is:

[3] In this section we abuse the notation k to represent both regions and individual exporters.

$$P_{ijkt} = f(D_{ij}, D_{ik}, D_{it}, MC_{jt}, S_{it}) \quad (1)$$

By holding importing country *i* and a narrowly defined industry *k* fixed, the export price equation in log linear form is

$$\ln P_{jt} = \alpha_j + \lambda_t + \beta \ln MC_{jt} + \gamma_j \ln S_t + \varepsilon_{jt} \quad (2)$$

where the regional dummies α_j and time effect λ_t are assumed to reflect the demand conditions.[4] The export price P_{jt} for a HS 9-digit product from a regional port *j* is set in the importer's currency at time *t*. The exchange rate S_t is the value of the importer's currency (i.e., Japanese yen) in terms of the exporting country's currency. So, γ_j represents exchange rate pass-through elasticity and is equal to one for *complete* pass-through and zero for no pass-through; ε_{jt} is a disturbance term.

If each exporter in different regions produces a variety of product in a manner assumed in a monopolistic competition model with constant elasticity of substitution for demand, price differences across regions become zero in equilibrium; i.e., the estimated coefficients of regional dummies α_j should be equal. We can further expect that the export price of each firm with respect to exchange rate fluctuations responds in the same manner; i.e., regional specific exchange rate coefficients γ_j should be equal. On the other hand, regional dummies and exchange rate coefficients are expected to be different if, for example, each firm in different regions produces different quality products, as in the vertically differentiated product model in Flam and Helpman (1987).

3-1. Data

This paper investigates the exchange rate pass-through of Japanese exports at the level of the local ports, using trade datasets at the level of custom jurisdiction provided by the Ministry of Finance of Japan.[5] Due to the extremely large number of data, datasets from

[4] We should note that subscript *i* is deleted because the importing country is fixed in each regression.

[5] A total of 209 customs offices, all under the Ministry of Finance, are situated near ports and airports engaged in international trade. The export declaration information required by the Customs Organization includes the Japanese *ports* of export, the country of destination, the

each customs jurisdiction office were dispersed to over three hundred files per year. We reconstructed the single dataset from the original dispersed files.

3-1-a. Export unit price, exchange rate, and marginal cost

We use the monthly unit prices at the HS 9-digit level from January 1988 to December 2005 for goods exported from five major Japanese ports, Tokyo, Yokohama, Nagoya, Osaka, and Kobe, to six major importers of Japanese exports, China, Korea, Taiwan, Hong Kong, USA, and Germany. Eighty HS 9-digit product groups, presented in the Appendix, are selected in this study. Details of the selection process are explained in the following section, 3-1-b.

The monthly average exchange rate is expressed as the value of the foreign currency in terms of the Japanese yen and is obtained from *International Financial Statistics*, IMF. The unit prices are calculated as the value of the export divided by the number of units. When the number of units is not defined, the metric weight is used instead. Note that the export price is originally expressed in Japanese yen. We redenominated the export price in the importers' currency. Therefore, our definition of exchange rate pass-through elasticity takes on a value of one if the pass-through is *complete* and a value of zero if there is no pass-through at all.

It is noteworthy that the use of unit value export price as a proxy for actual export price is not without its problems. Lipsey et al. (1991) point out inaccuracies of the unit values as measures of the prices of individual manufactured goods, especially when there is a significant quality change in the product. Some authors are sensitive to this unit value bias, and Athukorala and Menon (1994), for example, use genuine price indices for Japanese export prices. Export prices used in Athukorala and Menon (1994) are not available either at our disaggregation at the HS 9-digit product level or at the local port level used in our study.

A proxy for marginal cost variable MC_{jt} in equation (2) needs to be time-variant at the monthly frequency and region-specific at the same time. We decided to use regional retail gasoline prices as a proxy because it reflects the movement of energy input as well as domestic transportation costs. Regional retail gas prices of regular quality are provided by the Oil Information Center. At a lower frequency, a more relevant variable for region-specific marginal cost is available. We also use the annual male regional wage in the manufacturing industry as an additional proxy for MC_{jt}. Wage data are obtained from the *Basic Survey on Wage Structure*, Ministry of Health, Labor and Welfare.

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value of the shipments expressed in Japanese yen, the date of export, and the 9-digit classification code of the exported goods, among other information.

3-1-b. Data selection criteria

Disaggregated product trade data have one disadvantage: many of the datasets contain no data points in the categories of lightly traded products. In order to avoid selecting products with very few data points, we chose our samples of exporting regions, importing countries, and HS 9-digit product groups to be as large as possible using the following selection criteria. When selecting the exporting regions, we chose the five local ports with the highest trade activity. The combined exports from Tokyo, Yokohama, Nagoya, Osaka, and Kobe ports account for about 40 to 60 percent of Japanese exports throughout the sample period. Although the fraction of goods exported from these ports declines gradually during the period of study, the combined exports from these ports still represent a large portion of total Japanese exports.

As for the importing countries, we chose the six countries that engaged in the largest trades with Japan between 1988 and 2005. These countries are the US, China, Taiwan, Korea, Hong Kong, and Germany. We intentionally set our selection criteria so that at least one European country would be included in our sample. The Japanese goods exported to these six countries makes up about 60 percent of the total Japanese exports.

The Appendix lists the 80 most exported (in terms of values) HS 9-digit products that satisfy the following two minimum observation criteria.[6] The first criterion requires the total number of observations for a product to be equal to or greater than 75 percent of the entire observation. The second criterion requires the number of observations for each port to be at least 30 percent of the entire sample observation.[7]

Yoshida (2010) decomposes national exports into regional exports and estimates the exchange rate pass-through of HS 9-digit products for Japanese local ports. Yoshida (2010) obtained evidence that export prices are set at different levels across local ports and that they correspond differently with respect to fluctuations of exchange rates.[8]

3-2. Preliminary test for heterogeneity of ERPT among local ports

We frequently encounter cases in which the number of observations is extremely small for some triplets of (i, j, k) when disaggregated at the HS 9-digit level. In order to overcome this problem in Yoshida (2010), all HS 9-digit products are pooled for each selected HS 4-digit industry regression equation. Then, ERPT coefficients are estimated at the HS 4-digit level while fixed effects are controlled for at the HS 9-digit level. In this

[6] The 80 most traded HS 9-digit code products account for 19 percent of total trade for the selected ports and importing countries.

[7] These criteria are 4,862 observations for the entire 6,480 (5 ports, 6 importers and 216 months) observations for each commodity and 65 months for the entire 216 months for each pair of port and importer.

[8] Using regional consumer prices in Japan and Korea, from a different perspective, Baba (2007) finds evidence of price dispersions across regions within a country.

paper, on the other hand, we selected HS 9-digit products with nearly full observations. In order to minimize the number of exchange rate pass-through coefficients needing to be estimated, we fix an importing country and an HS 9-digit product for each regression equation, leaving only the differences between local exporting ports as possible causes for possible heterogeneity of pass-through coefficients.

For the given pair of an importing country and an HS 9-digit product, we have the following export price equation (3):

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta \ln MC_{jt} + \gamma_j \ln S_t + \varepsilon_{jt}. \quad (3)$$

where α_j is the dummy for a region, and (monthly) seasonal dummies α_m are added to control for seasonality.

As a test of the heterogeneity of the exchange rate pass-through among local exporting ports, we investigate the null hypothesis of $H_0: \gamma_j = \gamma_{j'}$ for all $j, j' \in J$, the set of five ports, in equation (3). We estimate the restricted coefficient regression in which all γ_j are equal and conduct an F-test using the residual sum of the squares from the unrestricted equation (3) and the restricted equation (3').

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta \ln MC_{jt} + \gamma \ln S_t + \varepsilon_{jt} \quad (3')$$

[Insert Table 1]

Table 1 summarizes the tests of homogeneous ERPT among local ports. Even after controlling for possible product heterogeneity with a category by using the most disaggregated product level, export prices of local ports respond differently to exchange rate fluctuations for most products. Homogeneity of ERPT among local port exports to Korea and Taiwan is rejected for more than 90 percent of products, at the one percent significance level. It is interesting to note that rejection of homogeneous ERPT is slightly less for China and Hong Kong. This pervasiveness of heterogeneity of ERPT among local ports is consistent and complementary to the findings in Yoshida (2010).

The exchange rate pass-through is affected by price-setting behaviors of exporting firms in response to exchange rate fluctuations. For example, an exporting firm can react differently from other firms to a change in exchange rate if faced with different demand elasticity. A rejection of the null hypothesis can then be interpreted, for example, as supporting evidence of vertically differentiated products, in which an exporter can exercise

some market power.

3-3. Estimation models with market share

We introduce market share of local port export in Japanese total export to an importing country while previous studies use market share of exporting country in an importing country. Noting national exports is composed of regional exports, we can define export of country *m* to an importing country *n* as the following.

$$EX_n^m = \sum_{j=1}^{J} EX_n^m(j)$$

The share of port export in national export (for an importing country *n*) is then defined as equation (4a) while the share of exporting country in an importing country *n* is then defined as equation (4b). Note that *J* is the number of ports in exporting country *m* and *W* is the number of exporting countries.

$$Share_n^m(j) = \frac{EX_n^m(j)}{EX_n^m} = \frac{EX_n^m(j)}{\sum_{j=1}^{J} EX_n^m(j)} \tag{4a}$$

$$Share_n^m = \frac{EX_n^m}{\sum_{m=1}^{W} EX_n^m} \tag{4b}$$

After confirming heterogeneity of ERPT among local ports, we further investigate the possible causes of this heterogeneity. In this paper, we focus on the effect of the market share of each local port on their responsiveness of export prices to the exchange rate. Extending equation (3) with the introduction of market share variables, we estimate the following equation (5). Note that we follow the specification of Moreno Martín and Rodríquez Rodríguez (2004), with an interaction term between the market share defined as (4a) and the exchange rate:

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta \ln MC_{jt} + \gamma^0 \ln S_t + \gamma^1 Share_{jt} \times \ln S_t + \varepsilon_{jt} \tag{5}$$

where $Share_{jt}$ is defined as export value of region *i* divided by total export value of all regions in Japan at time t for fixed importing country and commodity. We should note that the ERPT, $\gamma^0 + \gamma^1 Share_{jt}$, is both port-specific and time-varying.

Reflecting on a possible non-linear relationship between market share and ERPT (Feenstra et al., 1996, Alessandria, 2004, and Atkeson and Burstein, 2008), we also include a squared value of market share as an interaction term with the exchange rate as in equation (6). We should note that ERPT elasticity is calculated by the terms $\gamma^0 + \gamma^1 Share_{jt} + \gamma^2 Share_{jt}^2$.

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta \ln MC_{jt} + \gamma^0 \ln S_t + \gamma^1 Share_{jt} \times \ln S_t + \gamma^2 Share_{jt}^2 \times \ln S_t + \varepsilon_{jt} \quad (6)$$

4. Estimation results

4-1. Exchange rate pass-through equation

We estimate equation (5) separately for each commodity and each destination country. The estimated results are presented in Tables 2-a through 2-f. To see whether the coefficients of ER fall within the expected range of values between zero and one, we conduct one-sided tests of whether the coefficients are greater than zero (or less than unity) with statistical significance at the 1%, 5% and 10% levels. Table 3 indicates that most of the estimated ERPT coefficients fall in the expected range between zero and unity with standard statistical significance levels.[9]

For the interaction term between market share and exchange rate, the estimated coefficients of market share are statistically significant at the one percent level for 55 percent of all product-destination samples.[10] However, signs of estimated coefficients of market share show a mix of both positive and negative signs. This is consistent with our review of the literature in section 2, in which we show that the sign of the market share effect on exchange rate pass-through rests on market characteristics. Table 4 summarizes proportions of commodities showing positive (or negative) relationship between ERPT and market share. By restricting market share effect to be linear, the number of commodities with positive relationship overwhelms those of negative relationship, except Korea.

[Insert Table 2-a through 2-f]
[Insert Table 3 and 4]

Combined with evidence of statistically significant coefficients of interaction terms, these mixed signs are consistent with non-linear predictions of theoretical models in Feenstra et al. (1996) and Alessandria (2004). Positive estimates of commodities may have captured the decreasing part of the non-linear relationship between market share and exchange rate pass-through, while negative estimates for other commodities trace the increasing part. We proceed to include an interaction term with the exchange rate and squared term for market share as in equation (6). The estimated results are presented in Table 5-a through 5-f.

[9] The worst case is China and the U.S., for which 66 (83%) of 80 commodities fall within the range between zero and unity, while all commodities except for one case fall within the expected range for Korea.

[10] At a significance level of 10 percent, 69 percent of 480 ERPT coefficients are statistically significant.

Table 6 summarizes proportions of commodities showing a positive (or negative) market share effect on ERPT. With a specification of a non-linear effect, we need to introduce the definition of positive (or negative) for the sake of comparison with previous results. We measure ERPT at zero market share and at full market share and subtract the former from the latter:

$$\begin{aligned}\text{ERPT(full market share)} - \text{ERPT(zero market share)} &= \\ &= \left\{\gamma^0 + \gamma^1(1) + \gamma^2(1)^2\right\} - \left\{\gamma^0 + \gamma^1(0) + \gamma^2(0)^2\right\} \\ &= \left\{\gamma^0 + \gamma^1 + \gamma^2\right\} - \left\{\gamma^0\right\} \\ &= \left\{\gamma^1 + \gamma^2\right\}\end{aligned}$$

If these values are positive, we define it as positive market share effect on ERPT.

In our calculation of ERPT, we only use the estimated coefficients significant at the five percent level. With this definition, the proportions of both directions are about the same in Table 6. We should note that there is no inconsistency between Tables 4 and 6 even the indicated signs are opposite for a specific product-importer. For example, the downward shape of ERPT with respect to market share may be captured in the linear specification with market share ranging, say from the lowest 0.1 to the highest 0.3. In calculation of the market share effect, however; the extrapolation of ERPT at a market share of one (beyond the highest 0.3) could be larger than the extrapolation of ERPT at zero market share (below the lowest 0.1) in the non-linear specification.

[Insert Table 5-a through 5-f]

Theoretical prediction is ambiguous on the convexity of exchange rate pass-through with market share, while Feenstra et al. (1996) found a convex shape of exchange rate pass-through with regard to the size of the market share for the automobile sector. In terms of the convexity of ERPT, 26.3 percent of estimates are statistically significant at the one percent level and concave, while 16.0 percent of estimates are statistically significant and convex.

[Insert Table 6]

5. Robustness check

5-1. Port share versus country share

Monthly trade data at HS 6-digit for Taiwanese import is obtained from the *Directorate General of Customs*, Ministry of Finance, ROC. Then, we constructed the share of Japanese products in Taiwanese imports at HS 6-digit level. For each HS 9-digit product, we define $JPNShare_t$ as the ratio of imports of Taiwan from Japan to imports of Taiwan from the world[11]. We added to equation (5) an interaction term with this $JPNShare_t$ variable and

[11] When the last three digits of HS 9-digit codes in Japan are triple zeros, a product at

exchange rate variable.

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta \ln MC_{jt} + \gamma^0 \ln S_t + \gamma^1 Share_{jt} \times \ln S_t + \gamma^2 JPNShare_t \times \ln S_t + \varepsilon_{jt} \quad (5')$$

From estimating equation (5'), there are only 17 industries in which a coefficient of $JPNShare_t$ is statistically significant at the ten percent significance level, whereas the coefficient of $Share_{jt}$ is significant for 38 industries. Noting that this is only limited exercise for only Taiwan import, however, this result supports our approach in this paper. In addition to country share used in previous studies, we focus on port share of Japanese export as a possible explanation to time varying nature of exchange rate pass-through.

[Insert Table 7]

5-2. Market share and marginal costs

Following Martín and Rodríguez (2004), we also test for the possible effect of market share on pass-through of marginal cost changes to export prices in equation (7):

$$\ln P_{jt} = \alpha_j + \alpha_m + \lambda_t + \beta^0 \ln MC_{jt} + \beta^1 Share_{jt} \times \ln MC_{jt} + \beta^2 Share_{jt}^2 \times \ln MC_{jt} + \gamma \ln S_t + \varepsilon_{jt} \quad (7)$$

We also estimated equation (7) with a non-linear specification of market share with respect to marginal costs, monthly regional gas price and annual regional male wage for the manufacturing industry. Unreported tables provide estimates for Korea about the relationship of gas price and male wage, respectively, with respect to market share.[12] For gas price (male wage) as a proxy for marginal cost, 15.8% (29.4%) of estimates are shown to be declining with respect to an increase in market share, while 11.9% (23.3%) are increasing. In terms of convexity with respect to gas price (male wage), 5.8% (11.7%) of estimates are statistically significant at the one percent level and convex, while 15.0% (30.6%) of estimates are statistically significant and concave. The evidence is consistent with an idea that both exchange rate and marginal costs enter the export pricing equation in similar functional form.

6. Quantifying the economic significance of market share on ERPT

Recent studies pay particular attention to the phenomenon that ERPT has declined in

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Japanese HS 9-digit can be treated just as HS 6-digit product. Even when the last three digits are not triple zeros, the first six digits of HS 9-digit code is matched with Taiwanese HS 6-digit code. For this latter case, a caution is needed to interpret the results because it is only approximation.

[12] The estimation results for other countries are available upon request.

recent years in industrialized countries. For example, Otani et al. (2003) investigated ERPT for Japanese import prices while Bouakez and Rebei (2008) looked at ERPT for Canadian import prices. Campa and Goldberg (2005) estimate ERPT for import prices in OECD countries. Vigfusson et al. (2009) tackle the issue from the perspective of exporting countries. These studies all indicate that ERPT declined in recent years. In this section we examine to which direction changes in market shares drove ERPT in the last two decades.

6-1. Convergence of market shares among competing local regions

For the intermediate share of market shares, Feenstra et al. (1996) and Alessandria (2004) show that the relationship between market share and ERPT may demonstrate non-linearity. These theories have important implications for the industry average ERPT for changes in market shares among competing local exporters. If a single or a few exporters (or regions) expand their share and come to take over almost the entire market, the market shares of incumbent exporters move to either extreme. If the market under study possesses a U-shaped (convex) relationship between market share and individual ERPT, the average ERPT for the market should increase by the well-known property of convex functions. On the other hand, if exporters obtain similar shares in the long-term from possible unequal shares at the initial period, the average ERPT for the market should decline as in Figure 1. We shall examine whether market shares among exporters became closer in the last decades in the followings.

[Insert Figure 1 through 5]

Given theoretical support for the possible impact of market share on ERPT, it is an empirical question to assess how market shares of exporters have evolved in the last decades. Figures 2 through 5 are shown as examples of market share changes among local export ports for electrical switches. Market shares for exports to Germany and China are shown to converge, while dispersions of market share for exports to Korea and the USA remain relatively unchanged. In order to examine whether market shares among exporters diverge or converge during the sample period, we compared the size of standard deviations of market shares in the first year and the last year.[13] Annual averages are taken over monthly standard deviations of market shares of local ports for each year. Table 8 shows the differences in standard deviations between the beginning and the end of sample periods. The result is striking in that the convergence (or divergence) of market shares differs substantially among destination markets. For China, the differences in the two years are negative values for all 80 commodities except for one, indicating convergence of market shares among exporters, while nearly half of the commodities show divergence of market shares for exports to Germany. For the rest of the destination countries, the results show more support for

[13] We chose the year 2004 instead of 2005 because three commodities do not have observations in 2005 due to the change made in HS classifications.

convergence of market shares among exporters: 83% for Korea, 68% for Taiwan, 73% for Hong Kong, and 65% for the U.S.

[Insert Table 8]

We should note one caveat in interpreting the result of this subsection. In the process of selecting commodities, we impose the criterion that trade values be non-zero for a large portion of the sample. This selection methodology possibly cuts off those commodities for which observed behaviors show the disappearance of trade for some ports at the last portion of the sample as well as commodities without trade for some ports at the early periods of the sample. However, we believe that this selection problem is less severe for the largest traded commodities we use in our sample.

6-2. Construction of time-varying average ERPT

Thus far, we have obtained evidence that the effect of market share on ERPT can be non-linear and can go in both directions. Even with estimates for decreasing ERPT with respect to an increase in market share, i.e., negative γ^1, however, we can still say nothing about whether ERPT declined. If, for example, the shares of the five ports are decreasing in recent years and the shape of ERPT with market shares is a *decreasing* function, we should observe an *increase* in ERPT. To account for the recent changes in ERPT, we need to combine both the estimated coefficients and dynamics of the market shares. We therefore calculate a weighted average of ERPT for a commodity by the following equation:

$$\overline{ERPT}_t \equiv \frac{1}{\omega_t}\sum_{j=1}^{5} Share_{jt}\{ERPT_{jt}\} = \frac{1}{\omega_t}\sum_{j=1}^{5} Share_{jt}\{\gamma^0 + \gamma^1 Share_{jt} + \gamma^2 Share_{jt}^2\} \qquad (8)$$

where $\omega_t = \sum_{j=1}^{5} Share_{jt}$, the sum of shares of the five ports. We should note that the shares of the five major ports, ω_t, do not sum up to unity in most cases. In the calculation of the average ERPT, only statistically significant coefficients of γ^1 and γ^2 are used. We interpreted this as evidence that ERPT elasticity is time-invariant (at γ^0) throughout the sample period if neither γ^1 nor γ^2 is statistically significant at the ten percent level. With this definition, ERPTs are time-invariant for 26% of all commodity-importer pairs. In other words, 74% of all commodity-importer pairs show time-varying ERPT properties.

[Insert Figure 6 and 7 and table 9 here]

By simply comparing ERPT at the initial time and ERPT at the end, commodities can be classified as either increasing or decreasing ERPT. Figure 6 and 7 present time-varying average ERPT coefficients for machinery parts (HS846693.000) and bearing parts (HS848299.000) exported to Korea, respectively. These products are chosen to show the typical cases for increasing (decreasing) ERPT. With threshold values of 5, 10, 15, and 20

percentage points, the numbers of commodities are presented for each category by importing countries in Table 9.[14]

6-3. Policy implications

The number of commodities showing time-varying ERPT properties dramatically falls even with a small threshold value. 30% (19%) of all commodity-importer pairs show more than 5 (10) percentage point changes in ERPT during the sample period. By looking at importing countries individually, the following three points stand out. First, the portion of time-varying ERPT is very small for the U.S. and Germany. Commodities showing the time-varying ERPT property are only 5.1% for the U.S. and 11.3% for 10 percentage point thresholds. In terms of U.S. imports, the ERPT of Japanese exports has been relatively stable over the last 18 years despite the findings of declining ERPT of the U.S. imports in the previous studies. Second, for Asian countries, the changes of ERPT between January 1988 and December 2005 are substantial for the large number of products. Commodities showing more than 10 percentage point changes in ERPT are 27.6% for Korea, 23.8% for China, 28.8% for Taiwan, and less modestly 17.6% for Hong Kong. Third, there are more cases of ERPT declines than ERPT increases for China, whereas more cases of ERPT increases are observed for Taiwan and Hong Kong.

The forces driving these substantial changes in ERPT are the changes in market shares of Japanese exporters. What are the logical explanations in the observed changes in market shares among the Japanese exporters? One straightforward explanation is changes in market shares caused by re-ranking of exporters due to the result of competition. Another (and more plausible for Asian importers) explanation is the foreign direct investments, i.e., shifting production plants from Japan to Asian countries. As a result of shifting production in Asian countries, the shutdown of plants in a Japanese region causes a drastic decline in the export market share. Given the extent of the outward foreign direct investment of Japanese multinationals toward China, the observed decline in the ERPT of Japanese exports to China cannot be unrelated to market share changes occurred in the process of constructing the global production network of Japanese multinationals[15].

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[14] Here we focus on economic significance rather than statistical significance.

[15] Closely related, It et al. (2012) point to the evidence that the export prices of Japanese multinationals are likely to show low ERPT. The foreign exchange risk management of Japanese multinationals involve risk-taking behavior at home and for this reason transfer prices between headquarters in Japan and local subsidiaries in Asia are likely to be invoiced in the local Asian currency. Similarly in Bernard et al. (2010a, b), a large portion of international trade of the US are shown to be intra-firm trade. Regarding the effects of intra-firm trade on ERPT, Hellerstein and Villas-Boas (2010) find a positive relationship between an industry's share of intra-firm imports and its pass-through of US import prices.

7. Conclusions

Using the sample from January 1988 to December 2005 for exports of five Japanese major ports to six destination countries, we examine the effect of market share (with respect to competitors from the same country) on exchange rate pass-through. Our dataset is unique in that we can control for market shares among competing exporters with the same nationality. Close examination of the largest 80 HS 9-digit export commodities reveals the tendency of the market shares of local port exports to converge. We also provide some empirical evidence that the effect of market shares is consistent with Feenstra et al. (1996) and other studies that show non-linearity relationship between the market share and exchange rate pass-through. However, our evidence also indicates that the relationship between market share and exchange rate or marginal costs sensitively relies on market characteristics. We obtained all possible shapes of the relationships between ERPT and market share.

With regard to recent studies on declining ERPT in the U.S., our evidence shows that the ERPTs of Japanese exports have been relatively stable over the last two decades and any observed changes are of small magnitude. In this sense our evidence indicates that Japanese exports do not account for the recent decline in ERPT of US imports. However, substantial changes in ERPT are observed for the large number of products in China, Hong Kong, and Taiwan. We suspect that the recent surge of outward foreign direct investments toward these Asian countries may explain these changes in ERPT, but further research in this line is warranted.

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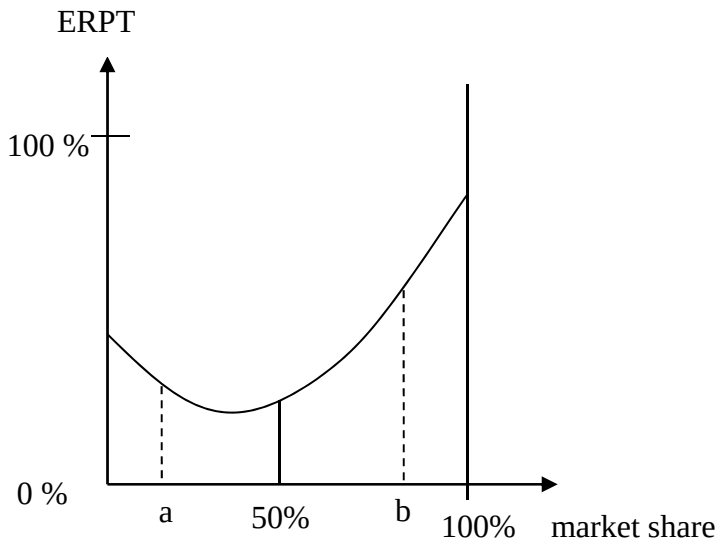
Appendix: Selected 80 HS 9-digit products

HS 9-digt	product description	Total N	Min N	Share
370790.000	Chemical preps f photographic uses, put up in measurd portions, nes	6150	133	0.61
392062.000	Film and sheet etc, non-cellular etc, of polyethylene terephthalates	6052	124	0.16
392099.000	Film and sheet etc, non-cellular etc, of plastics nes	5367	65	0.09
392690.000	Articles of plastics or of other materials of Nos 39.01 to 39.14 nes	6464	207	0.21
401693.000	Gaskets, washers and other seals of vulcanised rubber	6380	184	0.11
401699.000	Articles of vulcanised rubber nes, other than hard rubber	6446	198	0.14
482390.900	Paper and paper articles, nes	6084	134	0.04
491110.000	Trade advertising material, commercial catalogue and the like	5671	99	0.02
591190.000	Textile products and articles for technical uses, nes	5447	76	0.03
731511.900	Chain, roller, iron or steel	5753	85	0.07
731815.190	Bolts o screws nes, with o without their nuts o washers, iron o steel	6068	105	0.17
731815.900	Bolts o screws nes, with o without their nuts o washers, iron o steel	6048	147	0.06
731816.900	Nuts, iron or steel, nes	5818	129	0.09
731822.000	Washers, iron or steel, nes	5176	95	0.03
732020.000	Springs, helical, iron or steel	6180	145	0.05
732690.000	Articles, iron or steel, nes	5953	139	0.14
820559.000	Tools for masons, watchmakers, miners and hand tools nes	5649	99	0.02
820890.000	Knives & blades for leather, paper, tobacco machines & other industri	5801	109	0.02
840991.100	Parts for spark-ignition type engines nes	6095	96	1.11
841330.000	Fuel, lubricating or cooling medium pumps for int comb piston engines	6064	65	0.22
841360.100	Rotary positive displacement pumps nes	5962	122	0.08
841391.000	Parts of pumps for liquid whether or not fitted with a measurg device	6204	148	0.12
841459.000	Fans nes	6290	174	0.14
841590.000	Parts of air conditioning machines	5406	84	0.18
842123.000	oil or petrol-filters for internal combustion engines	5541	81	0.04
842129.000	Filtering or purifying machinery and apparatus for liquids nes	5156	80	0.05
842199.000	Parts for filterg or purifyg mchy & apparatus for liquids or gases, n	6225	130	0.10
846693.000	Parts & accessories nes for use on machines of headg No 84.56 to 84.6	5769	97	0.10
846711.000	Tools for working in the hand, pneumatic rotary type	5292	88	0.07
847330.000	Parts & accessories of automatic data processg machines & units there	6208	136	2.72
847989.900	Machines & mechanical appliances nes having individual functions	6391	138	1.98
847990.000	Parts of machines & mechanical appliances nes havg individual functio	6312	180	0.23
848110.000	Valves, pressure reducing	5475	80	0.03
848120.000	Valves for oleohydraulic or pneumatic transmissions	6096	105	0.14
848130.900	Valves, check	5408	84	0.03
848180.190	Taps, cocks, valves and similar appliances, nes	6269	178	0.24
848190.000	Parts of taps, cocks, valves or similar appliances	5671	82	0.08
848210.000	Bearings, ball	6068	171	0.39
848250.000	Bearings, cylindrical roller, nes	5490	88	0.05
848299.000	Bearing parts, nes	5169	78	0.15
848310.000	Transmission shafts and cranks, including cam shafts and crank shafts	6438	198	0.25
848330.200	Bearg housings, not incorporatg ball/roller bearings; plain shaft bea	6400	187	0.11
848340.200	Gears & gearing, ball screws, gear boxes, speed changers/torque conve	6428	195	0.17
848350.000	Flywheels and pulleys, including pulley blocks	6060	122	0.08
848360.000	Clutches and shaft couplings (including universal joints)	5986	127	0.04
848410.000	Gaskets of metal sheeting combined with other material	5769	96	0.07
848590.000	Machinery parts, non-electrical, nes	6065	124	0.08
850110.191	Electric motors of an output not exceeding 37.5 W	5979	134	0.12
850151.000	AC motors, multi-phase, of an output not exceeding 750 W	5761	82	0.04
850300.000	Parts of electric motors, generators, generatg sets & rotary converte	5937	111	0.22
850431.910	Transformers electric power handling capacity not exceeding 1 KVA, ne	5484	135	0.06
850440.110	Static converters, nes	6142	158	0.11
850440.900	Static converters, nes	6095	148	0.16
850450.000	Inductors, electric	5947	144	0.06
850730.000	Nickel-cadmium electric accumulators	5680	93	0.24
852290.900	Parts and accessories of apparatus of heading Nos 85.19 to 85.21, nes	5916	91	0.53
852990.900	Parts suitable f use solely/princ w the app of headings 85.25 to 85.2	6301	145	0.59
853222.000	Electrical capacitors, fixed, aluminium electrolytic, nes	6215	159	0.34
853223.000	Electrical capacitors, fixed, ceramic dielectric, single layer, nes	5357	78	0.04
853321.000	Electrical resistors fixd for a power handlg capacity not exceedg 20	5924	120	0.11
853340.000	Variable resistors, including rheostats and potentiometers, nes	6086	163	0.09
853400.000	Printed circuits	6103	136	0.22
853641.000	Electrical relays for a voltage not exceeding 60 volts	5997	141	0.16
853649.000	Electrical relays for a voltage exced 60 V but not exceedg 1, 000 vol	5511	66	0.03
853650.900	Electrical switches for a voltage not exceeding 1, 000 volts, nes	6479	215	0.34
853669.000	Electrical plugs and sockets, for a voltage not exceeding 1, 000 volt	5348	85	0.04
853710.000	Boards, panels, includg numerical control panels, for a voltage </=10	6448	202	0.64
853890.900	Parts for use with the apparatus of headg no. 85.35, 85.36 or 85.37,	6238	96	0.27
854110.920	Diodes, other than photosensitive or light emitting diodes	5329	81	0.05
854121.910	Transistors, oth than photosensit, w a dissipation rate < 1 W	5600	108	0.06
854129.910	Transistors, other than photosensitive transistors, nes	5383	109	0.04
854140.990	Photosensitive semiconduct device, photovoltaic cells & light emit di	5700	134	0.16
854390.000	Parts of electrical machines & apparatus havg individual functions, n	5040	68	0.05
854451.910	Electr conductors, for a voltage >80V but </=1, 000 V fittd w connect	6115	152	0.04
870899.900	Motor vehicle parts nes	6214	118	1.63
900912.000	Electrostatic photo-copying apparatus, indirect process type	4862	67	1.27
901380.000	optical devices, appliances and instruments, nes, of this Chapter	5272	81	0.17
903180.190	Measuring or checking instruments, appliances and machines, nes	6175	105	0.27
903190.100	Parts & accessories for measuring or checking inst, appl & machines,	5223	74	0.04
961210.000	Typewriter or similar ribbons, prepared for giving impressions	5600	93	0.11

Note: Production descriptions are at the level of HS 6-digit from OECD. Total N indicates the number of observations and Min N indicates the smallest number of observations for region-importer pairs. Share represents, in percentage, share of export values between 1988 and 2005 in total exports, by restricting for five ports and six importing countries.

Figure 1. The possible trace of ERPT-market share relation



Note: The empirical definition of ERPT in this study refers to complete pass-through (100%) for ERPT coefficient equal to one and zero pass-through (0%) for ERPT coefficient equal to zero. If the market shares of two firms (or regions) converges to equal share from a and b, average ERPT declines due to the U-shape.

Figure 2. Market shares of local ports for electrical switches (HS853650900) to Korea

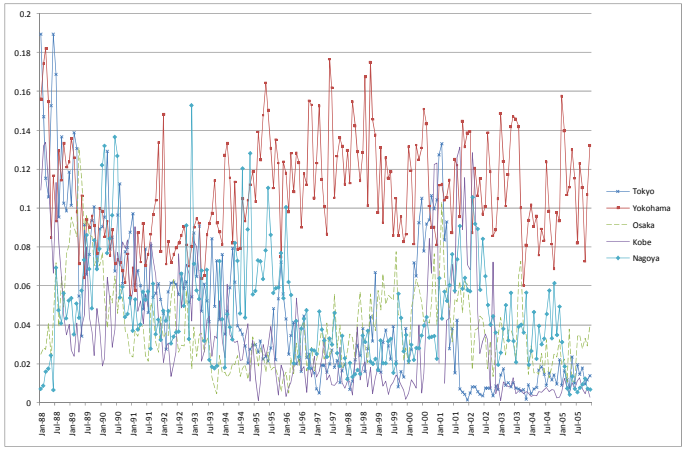


Figure 3. Market shares of local ports for electrical switches (HS853650900) to Germany

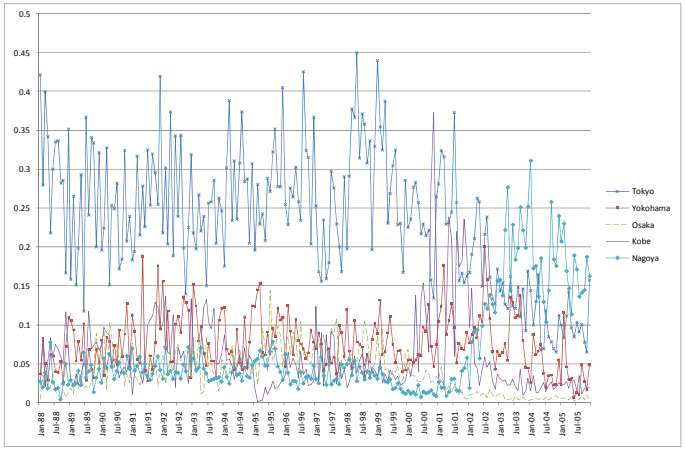


Figure 4. Market shares of local ports for electrical switches (HS853650900) to China

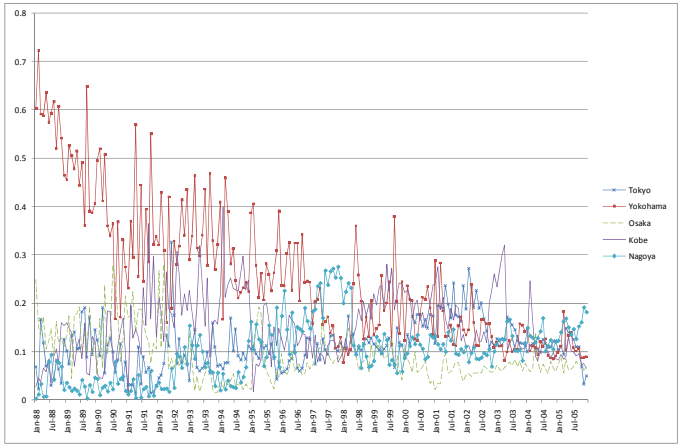


Figure 5. Market shares of local ports for electrical switches (HS853650900) to USA

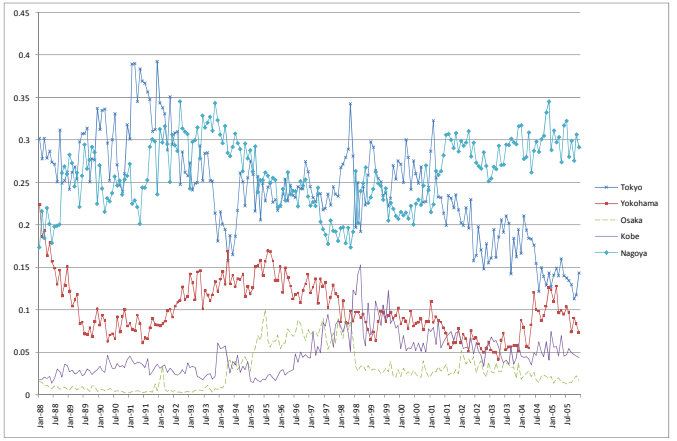


Figure 6. Average ERPT for machinery parts (HS846693.000) to Korea

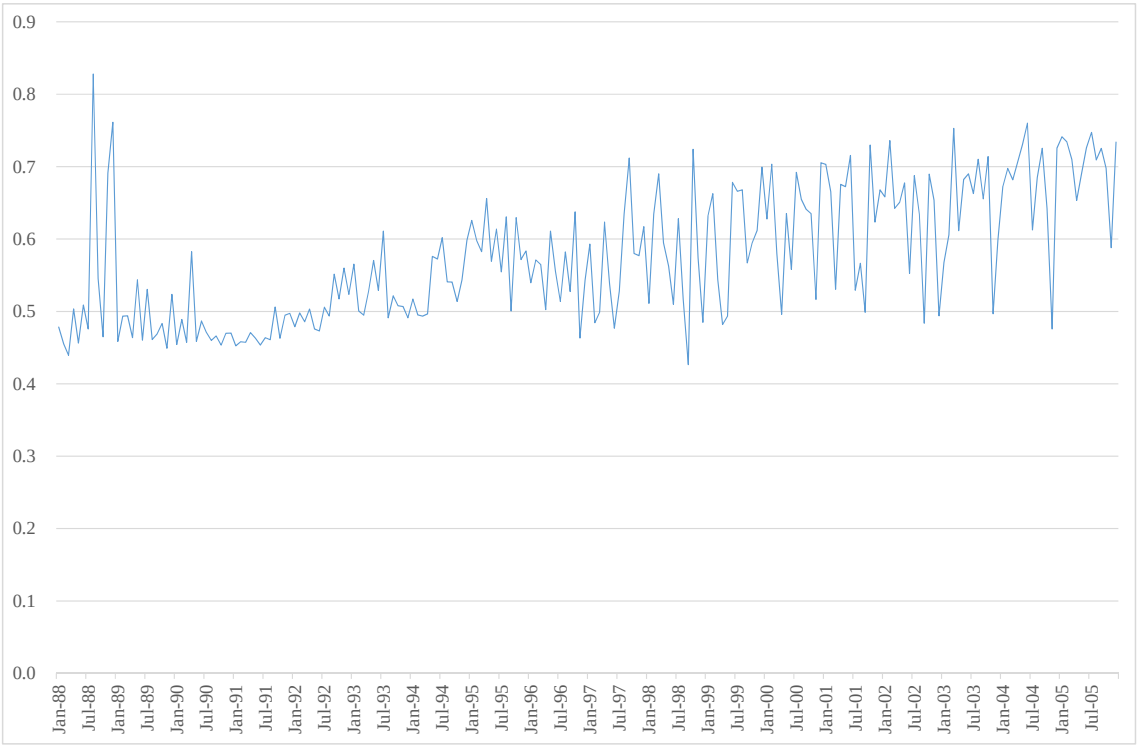


Figure 7. Average ERPT for bearing parts (HS848299.000) to Korea

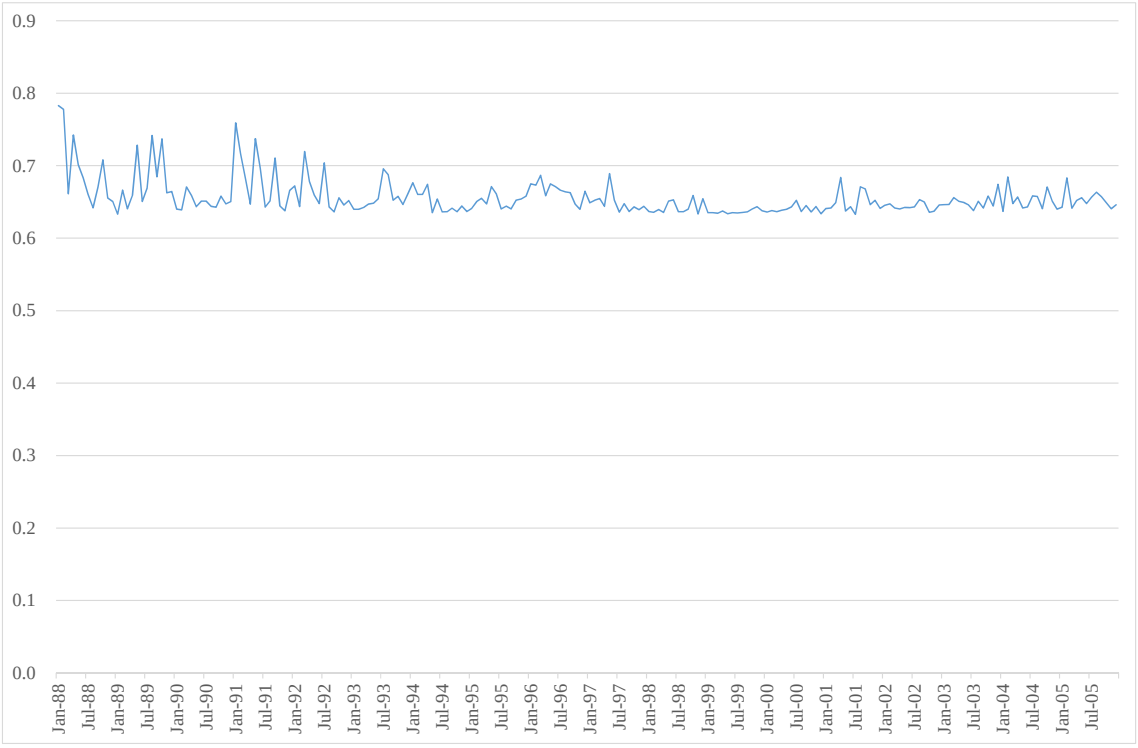


Table 1. Test of homogeneity of ERPT across Japanese ports

Importing countries	significance level		
	10%	5%	1%
Korea	96.3	96.3	91.3
China	87.5	85.0	77.5
Taiwan	97.5	93.8	92.5
Hong Kong	85.0	76.3	71.3
Germany	95.0	91.3	82.5
USA	93.8	90.0	87.5

Note: Figures are the share of commodities with rejection of the null of homogeneous ERPT across ports

Table 2-a. Market share and exchange rate pass-through (Korea)

	HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01]	370790.000	0.851	0.839	0.048	-1.545	4.787	0.68	992	47 ***	0.64
[02]	392062.000	1.355	1.420	-0.494	-0.050	-12.043 ***	0.32	1030	0.53	1.29
[03]	392099.000	1.001	1.030	0.613	-1.461	-12.259 ***	0.53	982	78.8 ***	1.14
[04]	392690.000	0.967	0.973	-0.080	-1.373 *	5.157	0.31	1080	4.54 **	1.34
[05]	401693.000	0.953	0.983	-0.327	1.001	5.412 ***	0.47	1073	2.48	1.52
[06]	401699.000	0.978	1.033	-0.881 *	0.179	-1.970	0.28	1080	0.25	1.31
[07]	482390.900	1.517	1.547	-0.252 *	0.414	5.792 ***	0.17	1022	8.51 ***	1.49
[08]	491110.000	1.326	1.327	0.090	0.344	-2.718	0.15	742	2.65	1.98
[09]	591190.000	0.399	0.447	-0.508 **	-0.600	4.031	0.41	859	35.8 ***	1.21
[10]	731511.900	1.013	1.020	-0.042	1.328 ***	0.132	0.35	983	126 ***	1.35
[11]	731815.190	0.407	0.510	-0.534 ***	0.860	3.918	0.17	910	24.2 ***	1.53
[12]	731815.900	0.904	0.801	0.592 **	-2.913 *	-0.819	0.31	958	14.4 ***	1.35
[13]	731816.900	1.089	1.189	-0.711 ***	-0.041	7.568	0.19	894	32 ***	1.53
[14]	731822.000	0.859	0.902	-0.256	2.270	-9.365	0.27	754	11.9 ***	1.06
[15]	732020.000	1.659 #	1.697 ##	-0.661	1.836 *	2.959	0.25	1024	42.6 ***	1.01
[16]	732690.000	1.439	1.414	0.331 ***	-0.806	-0.158	0.95	991	4.45 **	1.68
[17]	820559.000	1.299	1.382	-0.465 ***	0.298	11.041 ***	0.42	891	20.6 ***	1.83
[18]	820890.000	1.124	1.146	-0.468 **	0.711	20.399 ***	0.28	949	46.4 ***	1.72
[19]	840991.100	1.281	1.346	-0.759 ***	-0.875	-5.550	0.32	936	25.7 ***	1.14
[20]	841330.000	0.717	0.709	0.046	0.837 **	6.283 **	0.43	897	0.24	1.35
[21]	841360.100	0.984	0.990	-0.150	0.313	-2.718	0.62	1076	70.4 ***	1.40
[22]	841391.000	0.834	0.842	-0.105	0.388	-3.601	0.53	1018	15.6 ***	1.35
[23]	841459.000	1.280 ##	1.263 ##	0.068	-0.397	5.194	0.26	1049	17.5 ***	1.64
[24]	841590.000	0.797	0.794	-0.054	-1.637	2.463	0.34	674	2.24	1.34
[25]	842123.000	0.457	0.408	0.100	0.188	2.214	0.32	759	8.06 ***	1.86
[26]	842129.000	0.673	0.711	-0.113	-0.344	-4.401	0.17	959	2.71 *	1.77
[27]	842199.000	1.278	1.287	-0.068	-0.791	0.092	0.13	1027	0.06	1.64
[28]	846693.000	0.628	0.591	-0.766 ***	2.448 **	-3.618	0.24	1029	3.92 **	1.85
[29]	846711.000	1.071	1.028	0.204	-0.031	-4.594	0.64	962	50.2 ***	1.68
[30]	847330.000	0.482	0.474	0.155	5.065 *	-13.546 **	0.31	1032	88.9 ***	1.22
[31]	847989.900	0.923	0.857	0.869 ***	-0.229	1.451	0.40	1080	0.88	1.62
[32]	847990.000	0.923	0.924	-0.010	0.137	-0.072	0.28	1077	13.7 ***	1.70
[33]	848110.000	1.211	1.194	0.086	0.541 *	-3.264	0.43	985	0	1.72
[34]	848120.000	0.781	0.779	-0.125	-0.266	-3.608	0.49	1064	10.1 ***	1.16
[35]	848130.900	1.528 #	1.515 #	0.290 **	0.946	-1.378	0.47	1003	54.8 ***	1.27
[36]	848180.190	0.972	0.983	-0.160	-0.919 **	5.964 ***	0.34	1077	0.02	1.34
[37]	848190.000	1.280	1.224	0.172	0.009	0.441	0.32	1024	13.2 ***	1.39
[38]	848210.000	0.704	0.760	-0.304	1.362	-2.856	0.67	1017	137 ***	0.72
[39]	848250.000	0.674	0.723	-0.273 **	1.110 **	2.284	0.68	921	171 ***	1.92
[40]	848299.000	0.700	0.710	-0.051	0.689	12.577 ***	0.62	877	69.5 ***	1.29
[41]	848310.000	0.217	0.329	-0.789 ***	-0.235	-0.186	0.33	1078	16.4 ***	1.10
[42]	848330.200	1.176	1.136	0.263	1.117 ***	0.569	0.27	1078	1.47	1.39
[43]	848340.200	0.544	0.583	-0.876 ***	0.228	3.262	0.35	1080	7.72 ***	1.27
[44]	848350.000	0.473	0.620	-0.428 *	-0.336	7.028	0.50	974	38.1 ***	1.40
[45]	848360.000	0.017	0.141	-0.900 **	0.594	5.131 *	0.39	1037	19.9 ***	1.47
[46]	848410.000	1.019	1.259	-0.712 ***	1.708 ***	-4.308	0.21	834	19.9 ***	1.49
[47]	848590.000	0.858	0.835	0.693	-0.695	7.580	0.34	1033	2	1.42
[48]	850110.191	1.249	1.183	0.386 *	1.682 *	3.760	0.35	980	14.9 ***	1.23
[49]	850151.000	1.002	1.011	-0.098	-0.905 *	-3.163	0.45	1053	5.87 **	1.70
[50]	850300.000	1.534 ##	1.541 ##	-0.100	0.070	2.102	0.35	992	71.3 ***	1.66
[51]	850431.910	1.301	1.408	-0.646 **	-4.987 ***	-4.115	0.51	907	81.4 ***	1.14
[52]	850440.110	1.419 ##	1.430 ##	-0.188	1.017	-0.993	0.46	988	2.22	1.66
[53]	850440.900	0.488	0.540	-0.230 ***	-1.042	-2.817	0.23	1005	0.01	1.53
[54]	850450.000	0.609	0.509	0.704	-2.594	-4.734	0.45	1042	1.77	1.22
[55]	850730.000	0.669	0.691	-0.173	1.523 ***	-2.011	0.35	866	1.35	1.58
[56]	852290.900	1.391	1.455 #	-1.005 ***	-2.554 *	4.588	0.54	878	84.4 ***	1.18
[57]	852990.900	1.522 ##	1.528 ##	0.303	-2.277	-27.937 ***	0.52	1004	42.4 ***	0.96
[58]	853222.000	0.878	0.966	-0.730	0.004	-9.376 ***	0.36	1007	18.7 ***	1.12
[59]	853223.000	1.003	1.058	-0.524 **	1.606	-29.255 ***	0.56	791	19.4 ***	1.00
[60]	853321.000	1.654 ##	1.692 ##	-3.814 ***	0.644	18.882 ***	0.37	972	12.2 ***	0.84
[61]	853340.000	0.740	0.777	-1.521 **	-1.442 **	-3.823	0.47	1027	28.5 ***	1.19
[62]	853400.000	1.486 #	1.343	0.791 **	-1.776	-4.218	0.51	995	0.17	1.15
[63]	853641.000	0.766	0.784	-0.978	-0.463	-1.186	0.21	964	23 ***	1.19
[64]	853649.000	1.012	0.790	1.044 ***	0.228	3.652	0.34	880	11.2 ***	1.34
[65]	853650.900	0.099	0.069	1.916	-0.349	0.642	0.41	1079	46.5 ***	1.05
[66]	853669.000	0.416	0.247	0.932 ***	-0.656	-9.618 ***	0.48	811	11.9 ***	1.53
[67]	853710.000	0.796	0.786	0.258 ***	-1.184 ***	1.100	0.32	1079	1.43	1.71
[68]	853890.900	0.648	0.641	0.393	1.079	15.458 ***	0.24	1068	5.75 **	1.23
[69]	854110.920	2.531 ###	2.129	-16.074 ***	-1.004	6.573	0.27	933	51.3 ***	1.01
[70]	854121.910	1.319	1.095	-2.291 ***	1.217 ***	-12.787 **	0.42	965	14.1 ***	1.32
[71]	854129.910	0.370	0.252	4.075 ***	4.396	-0.830	0.12	903	18.8 ***	1.01
[72]	854140.990	2.226 ##	2.271 ###	2.456 ***	3.405	19.667 **	0.30	958	3.45 *	1.07
[73]	854390.000	0.894	1.362	-1.485 ***	-2.398	-20.499 **	0.28	854	0.01	1.64
[74]	854451.910	0.847	0.810	0.392	-1.565 *	9.865 ***	0.41	986	41.8 ***	1.79
[75]	870899.900	1.148	1.149	-0.014	0.215	3.696 *	0.26	1016	3.21 *	1.14
[76]	900912.000	0.591	0.385	0.576 ***	0.797	8.847	0.45	708	96.2 ***	1.36
[77]	901380.000	1.967 #	1.862 #	0.692 ***	-1.098	12.102	0.43	871	10.1 ***	1.32
[78]	903180.190	0.693	0.737	-0.243	0.325	6.297	0.18	1073	18 ***	2.02
[79]	903190.100	1.241	1.242	0.089	-3.707 ***	5.552 **	0.14	879	0.69	1.71
[80]	961210.000	1.552	1.609	-0.253	-1.072	-14.687	0.35	829	0.97	1.46

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 2-b. Market share and exchange rate pass-through (China)

HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01] 370790.000	0.426	0.249	0.367 ***	-1.852 **	-5.941 **	0.30	862	2.86 *	1.27
[02] 392062.000	0.019	-0.215	0.609 **	1.652 *	-20.974 ***	0.34	992	61.2 ***	1.51
[03] 392099.000	-0.515	-0.621	0.191 ***	-0.373	3.440	0.11	843	2.79 *	1.44
[04] 392690.000	0.488	0.469	0.181 *	1.753 **	2.996	0.21	1066	13.1 ***	1.76
[05] 401693.000	0.672	0.675	0.295 **	2.308 ***	1.261	0.24	1028	0.25	1.44
[06] 401699.000	-0.208	-0.251	0.332 **	1.453 ***	-3.183	0.27	1054	1.11	1.67
[07] 482390.900	0.918	0.897	0.079	1.211	-3.865	0.16	1001	1.18	1.13
[08] 491110.000	0.612	0.586	0.121	0.248	4.031	0.12	859	13.6 ***	1.71
[09] 591190.000	0.898	0.871	0.095	2.017	1.543	0.37	906	0.64	1.69
[10] 731511.900	-0.608 +	-0.700 +	0.147 **	2.661 **	7.258 **	0.35	805	9.23 ***	1.64
[11] 731815.190	1.033	1.003	0.141	1.540 ***	-3.881 ***	0.22	1004	13.6 ***	1.60
[12] 731815.900	-0.031	-0.137	0.296 **	0.109	0.785	0.16	924	9.59 ***	1.47
[13] 731816.900	0.905	0.890	0.031	-0.024	-3.171	0.29	866	3.78 *	1.34
[14] 731822.000	0.752	0.713	0.119	4.191 ***	0.026	0.30	858	17.7 ***	1.40
[15] 732020.000	1.080	1.084	-0.018	-1.477 **	-6.232	0.53	1034	4.56 **	0.88
[16] 732690.000	0.811	0.812	-0.042	1.093	7.449	0.96	958	48.9 ***	1.73
[17] 820559.000	-0.102	-0.168	0.076	-0.547	9.432	0.24	832	3.76 *	2.02
[18] 820890.000	0.814	0.814	-0.001	2.280	2.661	0.15	914	0.2	1.55
[19] 840991.100	0.512	0.385	0.373 ***	-0.795	-3.695	0.38	905	23.3 ***	1.32
[20] 841330.000	0.883	0.894	-0.023	1.382 ***	3.152	0.30	924	0.01	1.50
[21] 841360.100	0.240	0.235	0.025	1.067	0.887	0.19	939	3.88 **	1.66
[22] 841391.000	0.047	-0.013	0.280 **	-1.073	-4.812	0.49	970	0	1.35
[23] 841459.000	0.495	0.499	0.080	0.516	2.511	0.27	998	9.25 ***	1.76
[24] 841590.000	0.233	0.216	0.083 *	1.466 *	0.861	0.22	884	1.2	1.56
[25] 842123.000	0.662	0.661	-0.021	0.728	-4.663 *	0.35	793	10.6 ***	1.70
[26] 842129.000	0.963	0.955	0.022	1.272	-4.032	0.15	855	0.78	1.94
[27] 842199.000	1.483	1.447	0.096	1.756 ***	9.146 ***	0.30	985	8.5 ***	1.66
[28] 846693.000	-0.313 ++	-0.310 ++	0.100	0.980	-5.875 *	0.28	909	1	1.72
[29] 846711.000	1.444 ##	1.417 ##	0.034	0.461	-4.767 *	0.23	688	0	2.06
[30] 847330.000	1.338	1.325	0.418 ***	-1.020	12.585 ***	0.24	897	27.4 ***	1.43
[31] 847989.900	1.343 ###	1.388 ###	-0.206 *	0.522	-0.166	0.52	1074	41.6 ***	1.75
[32] 847990.000	-0.012	-0.029	0.138 *	1.396 *	-1.253	0.27	1029	3.65 *	1.87
[33] 848110.000	0.359	0.367	-0.026	0.711	-4.915 *	0.18	853	0.35	1.72
[34] 848120.000	0.949	0.867	0.235 **	1.518 ***	2.799	0.32	977	27.1 ***	1.72
[35] 848130.900	1.299	1.259	0.071 **	1.653 ***	3.235	0.22	829	0.86	1.77
[36] 848180.190	1.252 ###	1.235 ###	0.417 ***	1.253 ***	-3.980 *	0.32	1046	0.02	1.65
[37] 848190.000	0.903	0.903	-0.005	1.141	1.556	0.37	867	58.3 ***	1.47
[38] 848210.000	0.278	0.142	0.290 ***	-0.207	3.386	0.59	980	37.5 ***	1.47
[39] 848250.000	0.215	0.193	0.156 **	2.368	-1.548	0.50	814	17.6 ***	1.46
[40] 848299.000	1.957	1.946	-0.098	-1.100	12.064 *	0.31	713	8.56 ***	1.42
[41] 848310.000	1.243 ###	1.156 #	0.381 **	1.385 ***	-2.689	0.41	1066	1.46	1.08
[42] 848330.200	0.148	0.068	0.355	0.638	-2.657	0.34	1057	19 ***	1.21
[43] 848340.200	1.076	0.984	0.259 **	1.071 ***	-0.937	0.41	1059	2.18	1.39
[44] 848350.000	0.026	-0.034	0.184 *	0.846	0.264	0.30	996	3.31 *	1.41
[45] 848360.000	0.434	0.429	0.059	-1.646 ***	-1.200	0.16	941	3.44 *	1.38
[46] 848410.000	1.502	1.472	0.062	0.617	3.988	0.25	875	0.06	1.63
[47] 848590.000	1.237	1.253	-0.253 *	0.684	-5.403 *	0.18	1023	3.82 *	1.42
[48] 850110.191	0.307	0.302	0.008	-3.026 **	-6.649	0.21	874	2.13	1.14
[49] 850151.000	1.309	1.271	0.201 *	1.246 **	-3.908	0.10	868	0.2	1.38
[50] 850300.000	0.968	1.005	-0.218	0.873	0.802	0.28	1044	8.37 ***	1.06
[51] 850431.910	0.051	0.056	0.153	-1.304 *	4.484 **	0.26	900	6.74 ***	1.29
[52] 850440.110	0.734	0.772	-0.178	0.445	-5.839	0.26	965	15.6 ***	1.53
[53] 850440.900	0.922	0.885	0.126 ***	1.728 ***	-7.189 ***	0.26	961	7.12 ***	1.78
[54] 850450.000	1.126	1.106	0.324	-0.151	2.415	0.11	966	15 ***	1.10
[55] 850730.000	0.912	0.805	0.331 ***	2.841 ***	5.402	0.33	780	8.28 ***	1.46
[56] 852290.900	0.706	0.510	0.699 ***	-3.030 ***	22.585 ***	0.52	933	35.5 ***	0.96
[57] 852990.900	1.261	1.357	-0.358 **	0.494	7.226 ***	0.39	994	6.33 **	1.03
[58] 853222.000	0.586	0.511	0.242 *	-0.594	3.346	0.38	1004	102 ***	1.28
[59] 853223.000	0.983	1.011	-0.098	2.242 *	8.535	0.56	1008	0	1.05
[60] 853321.000	0.647	0.584	0.183	0.615	-1.430	0.30	1009	9.68 ***	1.08
[61] 853340.000	1.703 ##	1.683 ##	0.120	1.265	-7.901 ***	0.39	1015	0.1	1.14
[62] 853400.000	0.627	0.672	-0.531	0.133	1.070	0.26	1059	45.7 ***	0.64
[63] 853641.000	0.343	0.382	-0.121 *	1.727	-3.417 *	0.34	942	2.33	1.15
[64] 853649.000	1.112	1.154	-0.097	1.063	-6.671 **	0.20	897	7.74 ***	1.08
[65] 853650.900	0.654	0.809	-0.657 ***	-0.283	-0.447	0.53	1080	2.99 *	1.28
[66] 853669.000	1.208	1.208	-0.137	-0.001	7.758 ***	0.30	911	0.85	1.34
[67] 853710.000	0.887	0.901	-0.038	1.182	-4.914 **	0.30	1059	0.16	1.87
[68] 853890.900	-0.036	-0.039	0.041	0.355	3.537 **	0.11	1023	91.8 ***	2.03
[69] 854110.920	-0.091	-0.188	0.231 ***	0.408	2.535	0.17	886	33.3 ***	1.77
[70] 854121.910	0.026	0.049	-0.193	0.779 **	7.377 ***	0.19	989	12.2 ***	1.42
[71] 854129.910	0.513	0.331	0.363 ***	-1.015	5.304 ***	0.13	895	62.5 ***	1.68
[72] 854140.990	0.266	0.341	-0.207	-0.157	-6.332	0.32	910	0.71	1.08
[73] 854390.000	2.699 ###	2.520 ###	0.283 *	2.662	-8.415	0.10	737	5.11 **	1.51
[74] 854451.910	1.163	1.111	0.161	-2.175 ***	-3.108 **	0.22	990	8.36 ***	1.37
[75] 870899.900	0.669	0.634	0.163 **	3.349 ***	-2.055	0.36	887	16.6 ***	1.25
[76] 900912.000	-0.687	-0.349	-0.362 ***	1.944	10.783 ***	0.43	676	1.12	1.56
[77] 901380.000	0.318	0.292	-0.253 ***	0.727	-9.562	0.37	856	0.84	0.89
[78] 903180.190	1.181	1.139	0.182 **	-1.025	4.845 *	0.21	1030	1.35	1.91
[79] 903190.100	0.998	0.970	0.110	0.766	3.954	0.19	882	0.01	1.89
[80] 961210.000	1.463	1.507	0.167	1.978	-12.131	0.53	744	2.34	1.15

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 2-c.Market share and exchange rate pass-through (Taiwan)

HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW	HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01] 370790.000	0.883	0.953	-0.742 ***	-0.899	22.428 ***	0.51	1063	4.31 **	0.91	[41] 848310.000	1.148	1.173	-0.143	-0.134	0.879	0.26	1062	61.2 ***	1.42
[02] 392062.000	-0.578 +	-0.793 ++	0.698 ***	-0.803	-1.355	0.27	1017	79.1 ***	1.22	[42] 848330.200	0.680	0.701	-0.128	-0.675	-1.095	0.08	1061	8.81 ***	1.81
[03] 392099.000	-0.011	-0.040	-0.497	0.113	-24.878 ***	0.39	984	0.17	1.45	[43] 848340.200	0.586	0.571	0.120	-0.267	-5.653 **	0.23	1080	9.52 ***	1.39
[04] 392690.000	1.476 ###	1.506 ###	-0.199	-0.496	2.909	0.24	1080	0.79	1.53	[44] 848350.000	1.344	1.391	-0.210	-0.317	-0.094	0.18	972	16.6 ***	1.56
[05] 401693.000	0.859	0.785	0.447 *	1.335 ***	0.268	0.31	1077	0	1.63	[45] 848360.000	0.776	0.696	0.958 ***	-0.830	0.243	0.13	1059	0.37	1.90
[06] 401699.000	1.137	1.060	0.543	-0.649	4.139 ***	0.27	1080	0.09	1.63	[46] 848410.000	1.113	1.049	0.314	0.624	0.796	0.36	1001	4.46 **	1.59
[07] 482390.900	0.748	0.720	0.142	-0.011	7.977 ***	0.16	1063	3.65 *	1.70	[47] 848590.000	0.567	0.544	0.397	0.997	2.365	0.28	1029	0.06	1.44
[08] 491110.000	1.549 ##	1.553 ##	-0.124	-1.785	1.351	0.15	949	30 ***	1.80	[48] 850110.191	0.563	0.623	-0.673 ***	1.317	-4.895	0.14	985	0.04	1.52
[09] 591190.000	1.344 #	1.296	0.251	1.010	6.240	0.17	982	2.75 *	1.69	[49] 850151.000	0.563	0.585	-0.300	0.329	-3.191	0.24	1057	4.4 **	1.48
[10] 731511.900	1.062	0.998	0.330	0.179	3.206	0.31	1067	24.6 ***	1.39	[50] 850300.000	0.632	0.760	-0.627 *	-0.160	-0.449	0.31	1038	0.52	1.12
[11] 731815.190	1.146	1.065	0.941 **	-1.108 **	-2.008	0.30	1070	42.7 ***	1.37	[51] 850431.910	0.852	0.703	0.701 ***	-1.132 *	5.259	0.14	946	7.76 ***	1.57
[12] 731815.900	1.505	1.359	1.350 **	0.733	-9.046 *	0.11	1020	39.4 ***	1.57	[52] 850440.110	0.696	0.699	-0.100	-1.576 **	-1.931	0.31	1025	0.56	1.62
[13] 731816.900	0.871	0.777	0.975 ***	-0.134	4.331	0.28	1051	6.52 **	1.62	[53] 850440.900	0.932	0.920	0.064	-0.323	-0.830	0.16	1063	0.95	1.73
[14] 731822.000	0.775	0.393	2.058 ***	-0.407	-0.378	0.37	891	0.06	1.65	[54] 850450.000	-0.111	-0.076	-0.792	-0.051	-6.123	0.33	995	8.03 ***	1.08
[15] 732020.000	0.540	0.249	1.185 ***	1.390	0.045	0.19	1038	30.4 ***	1.31	[55] 850730.000	1.120	1.084	0.193 **	0.134	2.972 ***	0.32	973	12.3 ***	1.77
[16] 732690.000	1.045	1.054	-0.122	-1.509 **	-2.361	0.95	1037	7.65 ***	1.73	[56] 852290.900	0.382	0.273	0.692 *	-0.258	5.953	0.40	1018	33.6 ***	1.34
[17] 820559.000	0.964	0.899	0.685 *	1.551 ***	8.171 *	0.24	997	32.3 ***	1.77	[57] 852990.900	0.623	0.753	-2.339 ***	0.266	-13.929 **	0.44	1072	11.8 ***	1.24
[18] 820890.000	0.356	0.414	-0.458	1.157 **	2.638	0.32	1037	12.7 ***	1.83	[58] 853222.000	-0.399	-0.491	0.684	-0.840	-1.040	0.73	1076	36.9 ***	1.25
[19] 840991.100	1.498	1.345	0.778 **	0.252	-1.739	0.72	1080	32.5 ***	0.90	[59] 853223.000	-0.089	-0.115	0.771	-0.461	-4.280	0.43	862	0.02	0.98
[20] 841330.000	0.608	0.861	-1.072 ***	2.097 ***	-5.885 **	0.65	1074	23.4 ***	1.43	[60] 853321.000	0.792	0.981	-1.370	2.387 **	-3.429	0.18	969	24.6 ***	1.14
[21] 841360.100	0.983	1.019	-0.202	0.987	1.391	0.18	1074	2.59	1.32	[61] 853340.000	0.536	0.503	1.033	-0.190	8.676 **	0.32	1026	43.6 ***	1.12
[22] 841391.000	0.119	0.059	0.368	-0.079	-0.040	0.32	1068	15.2 ***	1.68	[62] 853400.000	1.099	1.269	-2.113 ***	-0.795	-2.522	0.53	1010	2.96 *	1.35
[23] 841459.000	0.635	0.722	-0.748 **	0.352	-1.910	0.13	1073	52.3 ***	1.61	[63] 853641.000	0.894	1.069	-1.513 ***	-0.424	-1.003	0.25	1058	5.51 **	1.27
[24] 841590.000	0.433	0.436	-0.016	0.971	-7.468 ***	0.28	1023	1.88	1.54	[64] 853649.000	0.384	0.317	0.901 ***	-0.466	-12.361 ***	0.27	1022	13.5 ***	1.40
[25] 842123.000	1.177	1.078	0.566	-0.432	-11.257 **	0.42	972	2.67	1.62	[65] 853650.900	0.717	0.724	-0.072	1.101 ***	-1.805	0.47	1080	0.92	1.33
[26] 842129.000	0.708	0.662	0.147	-1.299 ***	-1.842	0.08	1004	0.39	1.67	[66] 853669.000	0.076	0.040	0.573 ***	-2.366 **	6.136 **	0.17	980	10 ***	1.67
[27] 842199.000	0.740	0.799	-0.455 *	0.228	-1.797	0.33	1077	26.8 ***	1.92	[67] 853710.000	0.597	0.635	-0.162	0.089	1.190 ***	0.20	1080	0.21	1.82
[28] 846693.000	1.252	1.241	0.060	2.400 *	12.630 ***	0.23	1028	5.98 **	1.62	[68] 853890.900	0.277	0.407	-1.103	-0.034	-9.185	0.46	1078	0.42	0.90
[29] 846711.000	0.311	0.271	0.605 ***	0.565	-4.328	0.62	997	0.25	1.92	[69] 854110.920	-0.314	-0.592	3.588 ***	-1.000	-15.207 *	0.28	905	5.81 **	1.27
[30] 847330.000	1.434	1.483	-3.513 ***	2.774	6.005	0.21	1058	13.3 ***	0.58	[70] 854121.910	-0.313	-0.412	2.027 ***	-0.968	3.654	0.20	897	0.57	1.38
[31] 847989.900	0.713	0.795	-1.194 ***	-0.586	-1.702	0.57	1080	21 ***	1.71	[71] 854129.910	0.209	0.143	4.820 ***	1.763	5.143	0.16	889	45.8 ***	1.66
[32] 847990.000	0.360	0.292	0.461	-0.313	-0.154	0.33	1071	32.6 ***	1.57	[72] 854140.990	-0.262	-0.177	-1.943	-0.645	14.089	0.35	943	77.8 ***	0.90
[33] 848110.000	1.028	1.051	-0.141	-0.816	0.081	0.42	1068	0	1.69	[73] 854390.000	1.206	1.106	1.393 ***	-1.297	6.841 *	0.13	763	8.49 ***	1.49
[34] 848120.000	0.526	0.472	0.294	0.071	-0.885	0.26	1055	0.17	1.57	[74] 854451.910	-0.193	-0.251	0.511 *	0.140	-3.031	0.20	1039	15.4 ***	1.63
[35] 848130.900	0.633	0.556	0.542 *	0.423	-1.537	0.37	1040	3.44 *	1.55	[75] 870899.900	1.349 #	1.366 ##	-0.088	0.235	0.643	0.44	1079	103 ***	1.36
[36] 848180.190	0.681	0.665	0.099	0.896	-1.008	0.28	1079	7.41 ***	1.59	[76] 900912.000	1.200	1.212	-0.058	-1.468	-8.442 **	0.57	884	16.9 ***	1.19
[37] 848190.000	0.543	0.556	-0.085	0.786	0.660	0.42	1055	1.28	1.78	[77] 901380.000	1.271	1.543 #	-3.503 ***	0.052	5.906	0.38	863	14.3 ***	1.62
[38] 848210.000	1.161	0.972	1.076 *	0.284	3.757 ***	0.64	1020	28.1 ***	1.30	[78] 903180.190	1.032	1.040	0.124	-0.835	7.471 *	0.12	1075	1.17	1.87
[39] 848250.000	0.438	0.303	0.906 *	2.174 **	6.625 **	0.50	997	36.4 ***	1.25	[79] 903190.100	0.472	0.490	-0.128	-0.579	5.558 ***	0.13	866	6.08 **	1.97
[40] 848299.000	1.934 #	2.075 ##	-0.866 ***	0.383	0.662	0.55	987	14.2 ***	1.53	[80] 961210.000	0.889	1.027	-0.896	1.126	-20.095 **	0.35	954	0	1.46

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 2-d. Market share and exchange rate pass-through (Hong Kong)

	HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01]	370790.000	0.713	0.723	-0.059	-0.662	6.137 ***	0.40	1077	0.68	1.12
[02]	392062.000	0.488	0.453	0.227 *	-2.129	-8.659 ***	0.42	1026	0.1	0.92
[03]	392099.000	0.349	0.310	0.150 **	3.509 ***	-9.040 ***	0.18	955	6.13 **	1.46
[04]	392690.000	0.117	0.163	-0.400 ***	1.114	-0.154	0.33	1079	8.37 ***	1.68
[05]	401693.000	0.419	0.392	0.418 ***	-0.574 **	5.769	0.15	1071	14.8 ***	1.65
[06]	401699.000	0.009	-0.015	0.123	0.621	-3.440 **	0.17	1078	0.8	1.21
[07]	482390.900	0.686	0.661	0.189	1.607 **	-4.262	0.18	1045	1.5	1.25
[08]	491110.000	0.745	0.787	-0.272	-0.409	6.196 ***	0.15	1040	3.77 *	1.93
[09]	591190.000	0.323	0.318	0.033	-0.599	16.055	0.11	957	6.04 **	1.30
[10]	731511.900	0.691	0.635	0.212 ***	0.811	5.730 ***	0.35	987	9.11 ***	1.72
[11]	731815.190	1.841 ###	1.847 ###	0.170 **	0.278	6.053 *	0.23	1029	0.16	1.58
[12]	731815.900	0.985	0.964	0.146	1.725 ***	-15.155 **	0.45	1071	0.03	1.01
[13]	731816.900	0.364	0.358	0.089	1.056	-14.579 ***	0.36	979	24.7 ***	1.54
[14]	731822.000	0.835	0.836	-0.038	1.762 **	-18.059 ***	0.30	978	11.2 ***	1.49
[15]	732020.000	-0.050	-0.049	-0.007	1.451 **	-3.076	0.23	1077	1.29	1.31
[16]	732690.000	-0.047	0.025	-0.258	0.966 *	-2.434	0.95	1038	2.64	1.71
[17]	820559.000	0.256	0.234	0.064	1.169	20.180 ***	0.43	1005	21.2 ***	1.61
[18]	820890.000	1.285	1.248	0.540 ***	2.238 **	-3.803	0.15	1062	13.5 ***	1.75
[19]	840991.100	1.063	0.964	0.487 **	0.017	-2.845	0.37	1073	0.9	1.32
[20]	841330.000	0.988	0.987	0.008	0.421	-3.273	0.31	1044	0.11	1.66
[21]	841360.100	0.155	0.071	0.372 ***	-0.133	-1.110	0.44	948	18.2 ***	1.95
[22]	841391.000	0.632	0.647	-0.124 **	0.154	-7.211 *	0.32	1037	1.18	1.53
[23]	841459.000	0.706	0.786	-0.276 ***	-0.111	6.119 ***	0.47	1076	17.3 ***	1.35
[24]	841590.000	1.863 #	1.881 #	-0.042	-1.239	0.139	0.16	993	49.1 ***	1.35
[25]	842123.000	0.620	0.574	0.229 **	-0.773 **	0.138	0.55	1003	2.13	1.65
[26]	842129.000	0.208	0.215	-0.044	3.710 ***	-3.052	0.19	744	2.91 *	1.62
[27]	842199.000	1.025	0.948	0.312	0.020	-3.063 ***	0.42	1069	0.69	1.72
[28]	846693.000	2.812 #	2.679 #	0.502 *	1.540 ***	-8.935	0.07	807	4.61 **	1.83
[29]	846711.000	1.426	1.252	0.544 **	0.947 *	-0.526	0.21	790	41.4 ***	1.64
[30]	847330.000	1.554	1.636	-1.110 ***	-1.245	-0.783	0.17	1061	40.4 ***	0.61
[31]	847989.900	0.522	0.526	-0.042	0.277	-2.350	0.31	1080	10.4 ***	1.75
[32]	847990.000	0.579	0.569	-0.322	0.532	-2.285	0.19	1039	13.5 ***	1.64
[33]	848110.000	1.581 ###	1.556 ###	0.162	-1.170 **	4.241 ***	0.30	903	4.4 **	1.79
[34]	848120.000	1.131	1.140	-0.022	0.627	-3.154 ***	0.18	947	3.48 *	1.71
[35]	848130.900	1.450	1.423	0.074	-2.200	3.186	0.26	870	14.4 ***	1.55
[36]	848180.190	0.666	0.672	0.168	1.461 *	0.733	0.14	1010	1.28	1.57
[37]	848190.000	0.519	0.516	0.007	0.243	9.058	0.13	825	0.16	1.48
[38]	848210.000	1.329	1.189	0.667 **	-0.351	-3.400	0.64	1017	75.8 ***	1.34
[39]	848250.000	0.885	0.801	0.370 ***	1.288	-0.823	0.46	878	54.1 ***	1.30
[40]	848299.000	0.907	0.897	0.112	1.311 **	-1.943	0.23	639	4.93 **	1.74
[41]	848310.000	0.910	0.896	0.081	1.397 **	6.557 *	0.23	1080	3.64 *	1.21
[42]	848330.200	0.600	0.651	-0.221 **	-0.289	6.927 **	0.28	1080	0.12	1.51
[43]	848340.200	0.171	0.125	0.223 ***	2.199 ***	-4.912 *	0.23	1079	4.71 **	1.42
[44]	848350.000	1.416 ##	1.433 ###	-0.291 **	-0.434	3.265	0.51	1079	24.5 ***	1.73
[45]	848360.000	0.871	0.867	0.084	0.093	-6.785 ***	0.31	960	2.05	1.84
[46]	848410.000	1.306 ###	1.283 ##	0.296 ***	0.548	-9.375 ***	0.33	1024	5.97 **	1.61
[47]	848590.000	0.534	0.536	-0.035	1.443	-3.353	0.24	1019	0.11	1.18
[48]	850110.191	0.671	0.661	-0.262 ***	-1.494 **	-8.074 ***	0.35	1042	0.33	1.31
[49]	850151.000	0.835	0.835	-0.087	-1.544 ***	1.059	0.35	958	7.17 ***	1.62
[50]	850300.000	1.013	1.147	-0.810	-0.988	14.794 ***	0.38	1024	2.57	1.14
[51]	850431.910	0.664	0.595	-0.670 ***	-0.090	-13.729 ***	0.38	968	0.51	1.17
[52]	850440.110	1.089	1.159	-0.336	-0.348	-11.971 *	0.27	1041	39.6 ***	1.44
[53]	850440.900	0.669	0.667	0.024	-0.078	4.744	0.13	1005	0.41	1.49
[54]	850450.000	0.656	0.680	-0.090	-0.227	-2.030	0.20	980	4.38 **	0.97
[55]	850730.000	1.380 ##	1.300 #	0.448 ***	-0.970	8.745 **	0.46	992	2.74 *	1.20
[56]	852290.900	0.941	0.739	0.719	-4.082 *	3.557	0.19	1039	66.5 ***	0.79
[57]	852990.900	-0.118	-0.171	-0.708 ***	1.580	9.408	0.25	1072	0	0.91
[58]	853222.000	0.588	0.553	0.314	-1.901 ***	8.729 *	0.64	1074	51 ***	0.89
[59]	853223.000	0.600	0.595	0.026	1.443	0.756	0.51	1009	19.1 ***	0.82
[60]	853321.000	1.096	1.111	-0.574	-0.952 *	7.680	0.20	1021	0.35	1.15
[61]	853340.000	0.365	0.214	0.734 *	1.600 **	6.506 *	0.29	1013	16.5 ***	1.02
[62]	853400.000	0.109	0.110	0.023	0.774	7.281	0.55	1053	0.82	0.80
[63]	853641.000	0.472	0.456	-0.238	1.541 *	-13.510 **	0.16	1017	56.1 ***	1.19
[64]	853649.000	0.539	0.521	0.224 *	-1.011	-14.870 ***	0.18	1049	19.2 ***	1.40
[65]	853650.900	0.880	0.957	-1.056 **	-0.369	3.481	0.47	1080	5.83 **	1.10
[66]	853669.000	0.912	0.924	-0.265 ***	0.041	3.338	0.15	919	2.56	1.15
[67]	853710.000	1.062	1.054	-0.151	-1.115	2.477	0.20	1075	52.2 ***	1.30
[68]	853890.900	0.710	0.780	-0.526 ***	0.810	0.053	0.54	1077	19.5 ***	0.70
[69]	854110.920	1.484	1.478	0.093	-1.185	3.968	0.13	1022	0.12	1.39
[70]	854121.910	0.970	0.895	0.533 *	-1.826 **	11.250 ***	0.21	1031	4.5 **	1.29
[71]	854129.910	1.621	1.568	0.342	1.656 ***	-5.297 **	0.28	967	15.8 ***	1.40
[72]	854140.990	0.318	0.407	-0.733 **	0.564	-5.771	0.20	1047	8.25 ***	0.87
[73]	854390.000	1.496	1.579 #	-0.278	0.662	-9.171 ***	0.12	859	3 *	1.29
[74]	854451.910	0.536	0.545	-0.036	0.489	15.409 **	0.17	1064	3.69 *	1.25
[75]	870899.900	1.412 ##	1.452 ##	-0.373 ***	0.478	-3.809	0.53	1077	6.63 ***	0.99
[76]	900912.000	0.748	0.730	0.154	-2.536 **	-3.142	0.55	927	94 ***	1.11
[77]	901380.000	1.460	1.603 ##	-0.929 ***	0.569	-0.230	0.48	938	2.43	1.47
[78]	903180.190	0.514	0.526	-0.174 **	-1.033 *	6.208	0.11	1030	0.1	1.83
[79]	903190.100	-0.739 +	-0.787 +	-0.184	2.316 ***	-2.958	0.05	800	3.42 *	1.67
[80]	961210.000	0.392	0.387	-0.042	-0.584	2.383	0.33	1012	22.6 ***	1.18

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 2-e. Market share and exchange rate pass-through (Germany)

	HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01]	370790.000	0.561	0.521	0.189 **	-0.356	9.324	0.32	1077	12.8 ***	0.71
[02]	392062.000	0.166	0.128	0.169	1.187	-1.374	0.54	929	41.6 ***	0.99
[03]	392099.000	1.376	1.497 #	-0.237	-2.173 ***	-1.777	0.52	644	64.1 ***	1.59
[04]	392690.000	0.300	0.328	-0.079	-1.085	12.543 *	0.20	1079	12.1 ***	1.29
[05]	401693.000	0.821	0.787	0.217 ***	0.571	-5.325	0.14	1051	8.77 ***	1.31
[06]	401699.000	-0.083	-0.083	0.067	0.336	2.147	0.62	1074	1.61	1.16
[07]	482390.900	0.597	0.623	-0.111 **	1.422	9.945 ***	0.39	876	33 ***	1.46
[08]	491110.000	0.576	0.598	-0.307 **	-0.980 *	2.330	0.18	1005	7.85 ***	1.80
[09]	591190.000	0.653	0.673	0.026	-1.443	-7.519	0.05	736	4.83 **	1.64
[10]	731511.900	1.297	1.297	0.094 ***	0.935 ***	-3.760 ***	0.23	833	12.8 ***	1.77
[11]	731815.190	0.472	0.457	0.191 **	0.432	-6.172	0.15	975	17.1 ***	1.42
[12]	731815.900	1.014	1.009	0.026	-1.037	1.190	0.21	995	14.6 ***	1.64
[13]	731816.900	0.744	0.733	0.246 **	-1.773 **	-1.742	0.57	948	48.6 ***	1.33
[14]	731822.000	2.819 ###	2.885 ###	0.112	-2.514 *	-6.016	0.15	615	9.23 ***	1.34
[15]	732020.000	1.035	1.037	-0.017	3.075 **	1.467	0.41	931	5.13 **	1.53
[16]	732690.000	0.558	0.519	0.101 *	-0.296	9.025 **	0.93	849	4.73 **	1.54
[17]	820559.000	0.394	0.394	-0.002	-0.543	3.378	0.28	849	20.6 ***	1.78
[18]	820890.000	-0.772	-0.774	0.049	-0.018	12.849	0.57	769	63.7 ***	1.30
[19]	840991.100	0.402	0.351	-0.222 ***	-0.216	6.447	0.62	1021	2	1.25
[20]	841330.000	0.906	0.899	0.050	-1.023	-4.290 **	0.59	1045	0.86	1.53
[21]	841360.100	0.602	0.566	0.247	1.195	4.451	0.24	937	29.2 ***	1.08
[22]	841391.000	0.349	0.388	-0.138	-1.132	-14.576 **	0.29	1031	17.1 ***	1.32
[23]	841459.000	1.060	1.031	0.070 **	-0.063	7.899 **	0.25	1016	0.03	1.33
[24]	841590.000	1.455 #	1.437 #	0.052	-0.379	1.122	0.35	866	63.4 ***	1.45
[25]	842123.000	0.303	0.328	0.241 ***	1.016	1.156	0.20	939	0	1.41
[26]	842129.000	-0.516	-0.549	0.079	3.376 *	-6.274 ***	0.25	654	8.23 ***	1.60
[27]	842199.000	0.649	0.654	0.030	1.688 *	-11.235 *	0.26	988	11.4 ***	1.53
[28]	846693.000	0.887	0.855	0.495 ***	-1.776 **	4.360	0.29	924	1.68	1.76
[29]	846711.000	0.423	0.425	0.022	1.307	10.796 **	0.48	852	92 ***	0.99
[30]	847330.000	1.325	1.326	-0.006	0.358	0.623	0.33	1080	71.8 ***	0.83
[31]	847989.900	1.099	1.123	-0.203	1.529 **	14.794 **	0.16	997	5.48 **	1.50
[32]	847990.000	0.470	0.502	-0.133	1.770	11.178 *	0.13	1022	31.9 ***	1.34
[33]	848110.000	1.187	1.171	0.036	-0.770	-7.710 **	0.71	716	45.7 ***	1.39
[34]	848120.000	0.458	0.447	0.026	-1.706 ***	-5.793	0.66	990	10.6 ***	0.93
[35]	848130.900	1.455	1.452	0.143	-3.055 **	-10.141 ***	0.40	670	45.2 ***	1.49
[36]	848180.190	0.618	0.523	0.217 ***	0.134	2.461	0.20	978	44.2 ***	1.37
[37]	848190.000	0.292	0.301	0.187 ***	1.386	-8.454 **	0.23	821	14.2 ***	1.42
[38]	848210.000	0.747	0.688	0.162 **	0.438	0.852	0.68	1014	227 ***	1.29
[39]	848250.000	0.316	0.272	0.173	0.477	-2.671	0.32	877	91.3 ***	1.12
[40]	848299.000	0.017	0.037	-0.112	2.234 *	3.085	0.28	873	82.1 ***	0.92
[41]	848310.000	0.233	0.283	0.618 ***	0.821	1.602	0.69	1072	28.3 ***	1.39
[42]	848330.200	1.581	1.567	-0.076	1.527 **	-1.271	0.18	1044	10.7 ***	1.17
[43]	848340.200	2.607 #	2.585 #	0.363 ***	-0.912	-11.858	0.27	1050	0.71	1.18
[44]	848350.000	0.252	0.287	-0.055	0.998	-5.530 ***	0.20	959	43.4 ***	1.50
[45]	848360.000	0.473	0.436	0.305 ***	-0.745	4.966	0.33	911	4.28 **	1.16
[46]	848410.000	0.712	0.692	0.060	-2.007	-0.311	0.25	959	7.08 ***	1.66
[47]	848590.000	0.982	0.978	0.150 *	0.620	-2.832	0.23	919	38.7 ***	1.48
[48]	850110.191	0.523	0.504	0.081	-1.384 *	-0.586	0.23	1027	15.9 ***	1.32
[49]	850151.000	-0.111	-0.081	0.143 **	-0.277	7.529 ***	0.26	762	0.59	1.69
[50]	850300.000	0.609	0.524	0.264 ***	0.700	-1.898	0.43	805	2.38	1.09
[51]	850431.910	0.350	0.345	-0.131 **	0.409	13.730	0.33	771	4.28 **	1.36
[52]	850440.110	-0.046	-0.061	0.055	-0.050	0.197	0.24	1043	0.43	1.55
[53]	850440.900	0.568	0.479	0.158 ***	-1.042 **	0.794	0.14	987	38.1 ***	1.41
[54]	850450.000	0.617	0.723	-0.266 **	-1.644 ***	-0.495	0.18	914	26.1 ***	0.93
[55]	850730.000	0.107	0.137	0.213 ***	-0.144	11.771 **	0.58	1007	41.3 ***	0.93
[56]	852290.900	0.248	0.253	-0.071	2.156 **	-6.963 ***	0.65	976	10.8 ***	0.88
[57]	852990.900	1.313	1.356	-0.630 ***	3.785 ***	18.157 **	0.21	1079	3.39 *	0.79
[58]	853222.000	0.963	0.946	0.145	1.080	-4.144 ***	0.44	974	0.01	1.07
[59]	853223.000	0.293	0.166	0.468 ***	-0.495	12.993 ***	0.58	697	26.9 ***	0.89
[60]	853321.000	0.537	0.544	-0.008	-0.243	-5.130	0.22	888	27.5 ***	1.33
[61]	853340.000	0.876	0.805	0.139	-0.441	12.341 **	0.29	926	79.5 ***	1.02
[62]	853400.000	0.243	0.573	-0.480 **	-1.693	9.459 ***	0.54	923	14 ***	1.31
[63]	853641.000	0.818	0.819	-0.002	0.814	-4.349	0.25	947	17.6 ***	0.83
[64]	853649.000	-0.254	-0.279	0.074	-1.336	-0.346	0.08	636	47.8 ***	1.33
[65]	853650.900	0.476	0.564	-0.260	0.650 *	6.650 **	0.46	1080	1.01	1.02
[66]	853669.000	1.097	1.146	-0.282	1.459 **	16.164 ***	0.22	723	33.3 ***	1.45
[67]	853710.000	0.125	0.123	-0.016	0.923 **	5.610 ***	0.34	1075	4.91 **	1.24
[68]	853890.900	0.316	0.365	-0.132 **	0.572	0.782	0.09	950	5.35 **	1.24
[69]	854110.920	2.043 ##	1.888	0.333 *	-4.048	10.754	0.22	603	28.1 ***	1.25
[70]	854121.910	0.122	-0.162	0.579 ***	-3.131 ***	5.172	0.45	745	22.4 ***	1.55
[71]	854129.910	-1.534	-1.508	-0.801	0.107	7.442	0.27	682	25.6 ***	1.13
[72]	854140.990	0.743	0.758	-0.242	-1.166	3.114	0.53	870	25.5 ***	1.08
[73]	854390.000	0.789	0.729	0.094	0.365	0.554	0.31	803	4.09 **	1.48
[74]	854451.910	0.470	0.450	0.137 *	-0.247	4.581	0.20	977	17.8 ***	1.57
[75]	870899.900	0.687	0.689	-0.033	0.134	-13.361 ***	0.49	1075	0.22	1.14
[76]	900912.000	0.269	0.279	-0.025 **	-0.064	-5.159 ***	0.30	806	3.23 *	1.77
[77]	901380.000	1.666 ##	1.530	-0.971 ***	1.493 **	-16.916 ***	0.51	762	8.79 ***	1.44
[78]	903180.190	1.236	1.189	0.116 *	-0.200	-8.836 ***	0.11	918	18.5 ***	1.59
[79]	903190.100	0.252	0.198	0.132	-1.623	13.025 **	0.26	745	7.54 ***	1.47
[80]	961210.000	-0.190	-0.188	0.006	5.495 **	4.559 **	0.41	986	59 ***	1.11

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 2-f. Market share and exchange rate pass-through (USA)

	HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW		HS9	ER(only)	ER	Share*ER	Gas	Wage	Adj R^2	NOB	LM	DW
[01]	370790.000	0.766	0.738	0.151 *	-0.939 **	9.132 *	0.42	1079	44.8 ***	0.54	[41]	848310.000	0.228	0.223	0.029	0.123	-3.296	0.85	1080	5.25 **	0.59
[02]	392062.000	-0.178 +	-0.165 +	0.144	-1.197	-0.949	0.40	1058	66.9 ***	1.32	[42]	848330.200	0.830	0.837	-0.046	-0.729	-3.148	0.43	1080	125 ***	1.08
[03]	392099.000	1.293	1.323	-0.243 **	-0.905	-2.898	0.17	959	0.41	1.29	[43]	848340.200	0.015	-0.020	0.203 *	0.321 *	-2.243	0.46	1080	33.3 ***	0.74
[04]	392690.000	0.764	0.770	0.117	-0.988 ***	7.897 *	0.29	1080	0.13	0.93	[44]	848350.000	0.829	0.827	0.018	0.820 **	5.063	0.42	1080	13.2 ***	0.59
[05]	401693.000	0.600	0.565	0.351 ***	-1.404 ***	3.747 ***	0.37	1080	19.1 ***	1.20	[45]	848360.000	0.074	0.031	0.463 ***	0.602	-2.241 *	0.39	1078	34.8 ***	1.28
[06]	401699.000	0.169	0.053	0.459 ***	-0.498	11.195 ***	0.44	1080	7.06 ***	0.85	[46]	848410.000	0.337	0.332	0.023	0.393	-1.521	0.32	1076	0.24	1.37
[07]	482390.900	0.305	0.296	-0.343 ***	2.567 ***	0.951	0.48	1077	6.59 **	1.40	[47]	848590.000	-0.078	-0.067	-0.034	0.293	0.016	0.31	1042	17 ***	1.24
[08]	491110.000	0.972	0.961	-0.262	-0.305	5.935 *	0.13	1076	31.3 ***	1.72	[48]	850110.191	0.382	0.399	-0.251 **	-1.126	-2.544	0.36	1071	90.3 ***	0.87
[09]	591190.000	0.704	0.691	0.049 **	1.659 **	6.109	0.21	1007	2.54	1.36	[49]	850151.000	0.541	0.507	0.274 ***	1.099	-6.813 **	0.56	1063	6.82 ***	1.39
[10]	731511.900	0.192	0.163	0.171 **	0.858 ***	-2.460	0.56	1078	24 ***	1.09	[50]	850300.000	0.174	0.204	0.632 **	0.215	5.962	0.25	1034	0	0.85
[11]	731815.190	0.377	0.380	-0.022	1.086 ***	-4.767 ***	0.80	1080	16.1 ***	0.68	[51]	850431.910	1.161	1.153	0.023	-0.927	3.339	0.24	992	21.1 ***	1.38
[12]	731815.900	0.351	0.340	0.101 ***	-0.229	-5.734 **	0.74	1080	4.53 **	0.98	[52]	850440.110	0.512	0.571	-0.307 *	-1.137	1.384	0.50	1080	6.24 **	0.89
[13]	731816.900	0.126	0.115	0.183 **	-0.056	-1.741	0.81	1080	0.12	0.65	[53]	850440.900	0.538	0.507	0.298 ***	-0.341	8.361 ***	0.46	1074	1.83	1.11
[14]	731822.000	-0.172	-0.202	0.298 **	1.139 **	4.830	0.79	1080	15.7 ***	0.87	[54]	850450.000	0.052	0.175	-0.549 **	-1.465 ***	0.193	0.38	1050	14.4 ***	1.12
[15]	732020.000	0.960	0.960	-0.001	-0.873	10.236 **	0.40	1076	1.4	0.66	[55]	850730.000	-0.211	-0.259	0.223 ***	1.201 ***	2.970 ***	0.47	1062	48.5 ***	1.50
[16]	732690.000	0.145	0.123	0.223	0.899 **	0.029	0.98	1080	22.8 ***	1.23	[56]	852290.900	0.201	0.201	-0.103 *	-0.253	0.998	0.58	1072	109 ***	1.11
[17]	820559.000	0.109	0.125	-0.109	3.132 **	10.087 *	0.30	1075	0.45	1.54	[57]	852990.900	0.067	0.061	-0.686 ***	-2.437 *	-3.814	0.47	1080	8.82 ***	0.72
[18]	820890.000	-0.019	0.112	-0.487 ***	0.229	12.234 ***	0.40	1070	15.6 ***	1.54	[58]	853222.000	-0.225	-0.233	0.021	0.263	-2.776 **	0.68	1080	109 ***	0.88
[19]	840991.100	0.258	0.290	-0.132	1.010 ***	-5.740 ***	0.73	1080	1.76	0.43	[59]	853223.000	0.674	0.668	0.012	0.597	6.294	0.67	990	83.1 ***	0.65
[20]	841330.000	0.705	0.717	-0.117 ***	-0.027	-4.261 ***	0.86	1080	0.03	0.47	[60]	853321.000	0.603	0.614	-0.054	0.808	-5.671 ***	0.52	1065	0.19	1.22
[21]	841360.100	-0.045	-0.051	0.172 *	0.728	-1.738	0.36	988	12.7 ***	1.34	[61]	853340.000	0.326	0.365	-0.129 ***	-0.188	0.643	0.54	1079	8.57 ***	1.02
[22]	841391.000	-0.340 +	-0.325 +	-0.068 *	0.639	8.468	0.34	1080	9.68 ***	0.70	[62]	853400.000	0.634	0.686	-0.977 ***	-3.718 ***	9.259 **	0.15	1063	59.2 ***	0.83
[23]	841459.000	-0.023	-0.054	0.215 **	-0.148	2.376 ***	0.58	1078	10.8 ***	0.70	[63]	853641.000	0.485	0.623	-0.426 ***	1.249 ***	-1.640	0.49	1069	14 ***	0.92
[24]	841590.000	0.164	0.144	0.174 ***	1.319	-2.338	0.40	966	76.6 ***	1.28	[64]	853649.000	0.307	0.303	0.014	-1.033 *	-3.215	0.22	1027	17.3 ***	1.35
[25]	842123.000	0.403	0.401	0.341 ***	0.099	-4.674 ***	0.45	1075	54 ***	0.87	[65]	853650.900	0.173	0.165	0.053	1.635 *	-1.668	0.67	1080	6.29 **	0.69
[26]	842129.000	-0.330	-0.319	-0.012	-1.610 *	9.780	0.30	940	18.3 ***	1.49	[66]	853669.000	0.423	0.383	-0.884 ***	0.556	8.065	0.43	1004	15.4 ***	0.65
[27]	842199.000	0.234	0.226	0.074	1.853 ***	5.794 ***	0.51	1079	0.05	1.13	[67]	853710.000	0.519	0.507	0.076 *	-1.548 **	1.008	0.31	1080	39.6 ***	1.37
[28]	846693.000	0.187	0.156	0.240 *	-1.764 **	5.831	0.33	1072	36.7 ***	1.39	[68]	853890.900	0.472	0.475	-0.350 ***	0.900	1.752	0.19	1042	3.39 *	0.94
[29]	846711.000	0.526	0.501	0.091 **	0.260	-2.485 ***	0.72	1003	103 ***	1.52	[69]	854110.920	0.318	0.050	0.992 ***	-2.711	27.889 *	0.23	980	79 ***	0.88
[30]	847330.000	0.485	0.476	0.055	0.983 **	-14.620 **	0.52	1080	20 ***	0.65	[70]	854121.910	-0.171	-0.336 +	0.473 **	-0.915 **	0.896	0.33	973	0.05	0.90
[31]	847989.900	0.398	0.414	-0.114	-0.693 **	4.626	0.30	1080	33.1 ***	1.58	[71]	854129.910	0.003	-0.087	0.510 **	-1.842	6.888	0.41	1047	47.8 ***	1.00
[32]	847990.000	0.304	0.299	0.023	-1.093	4.588	0.17	1074	4.43 **	1.32	[72]	854140.990	0.281	0.282	-0.358	0.593	-54.034 ***	0.30	972	43.1 ***	0.80
[33]	848110.000	0.164	0.189	-0.100	-0.276	8.240 **	0.21	950	12 ***	1.00	[73]	854390.000	0.958	0.952	0.012	-6.162 ***	12.369	0.17	1024	5.63 **	1.19
[34]	848120.000	0.534	0.593	-0.289 ***	-0.131	-2.248	0.18	1063	0.48	1.07	[74]	854451.910	0.541	0.516	-0.215 ***	-0.610	-4.336	0.23	1059	0.8	1.34
[35]	848130.900	0.095	0.089	0.088	1.305	6.061	0.26	996	6.05 **	0.74	[75]	870899.900	0.239	0.246	-0.031	-0.263 *	2.659	0.66	1080	120 ***	0.54
[36]	848180.190	0.408	0.322	0.434 ***	-0.053	2.151	0.36	1079	6.69 ***	1.33	[76]	900912.000	0.194	0.226	-0.037 ***	-0.606	-2.330 **	0.35	861	10.8 ***	1.54
[37]	848190.000	0.814	0.783	0.165 **	1.000	5.183	0.39	1079	0.75	0.86	[77]	901380.000	0.103	0.864	-1.988 ***	-2.597	4.042	0.40	982	2.24	1.13
[38]	848210.000	0.052	-0.010	0.272 ***	0.028	-2.463	0.60	1020	38 ***	0.86	[78]	903180.190	0.877	0.864	0.105 **	-1.636 **	4.215 ***	0.16	1049	0.02	1.80
[39]	848250.000	0.138	0.141	-0.018	-0.621	-0.145	0.60	1003	57.1 ***	0.91	[79]	903190.100	-0.337	-0.349	0.368 ***	-1.927 **	11.038	0.09	1051	11.4 ***	1.62
[40]	848299.000	0.105	0.087	0.063	0.466	-7.980	0.54	1080	81.3 ***	0.65	[80]	961210.000	0.744	0.772	0.244 ***	0.987	-14.461 **	0.66	1075	59.7 ***	0.78

Note: ER(only) and ER are estimated in equation (3) and (5), resectively. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 3. Summary of estimated exchange rate pass-through with linear specification of market share

	excessive ERPT test						perverse ERPT test					
	$H_0 : \gamma^0 \leq 1$			$H_0 : \gamma^0 + \gamma^1 \leq 1$			$H_0 : \gamma^0 \geq 0$			$H_0 : \gamma^0 + \gamma^1 \geq 0$		
Importing countries	10%	5%	1%	10%	5%	1%	10%	5%	1%	10%	5%	1%
Korea	12.5	8.8	1.3	12.5	10.0	2.5	0.0	0.0	0.0	5.0	2.5	0.0
China	7.5	6.3	3.8	10.0	6.3	3.8	2.5	1.3	0.0	0.0	0.0	0.0
Taiwan	6.3	5.0	1.3	10.0	5.0	1.3	1.3	1.3	0.0	1.3	1.3	1.3
Hong Kong	12.5	7.5	3.8	11.3	5.0	5.0	1.3	0.0	0.0	2.5	1.3	0.0
Germany	5.0	1.3	1.3	5.0	3.8	1.3	0.0	0.0	0.0	1.3	0.0	0.0
USA	0.0	0.0	0.0	0.0	0.0	0.0	3.8	0.0	0.0	5.0	3.8	2.5
Total	7.3	4.8	1.9	8.1	5.0	2.3	1.5	0.4	0.0	2.5	1.5	0.6

Note: The figures are percentage of commodities for which the null hypothesis is rejected at corresponding significance level. The null hypothesis for the excessive ERPT test is that ERPT is greater than or equal to one whereas the null hypothesis for the perverse ERPT test is that ERPT is less or equal to zero. Each test is conducted under two extremes of market share values; zero and one.

Table 4. Market share effect on ERPT (linear specification)

Importing countries	positive			negative		
	10%	5%	1%	10%	5%	1%
Korea	16.3	15.0	11.3	30.0	26.3	17.5
China	38.8	30.0	13.8	8.8	5.0	3.8
Taiwan	30.0	21.3	16.3	16.3	13.8	12.5
Hong Kong	23.8	17.5	10.0	20.0	20.0	12.5
Germany	31.3	25.0	17.5	12.5	12.5	3.8
USA	37.5	31.3	17.5	23.8	20.0	16.3
Total	29.6	23.3	14.4	18.5	16.3	11.0

Note: The figures are percentage of commodities with indicated change of ERPT with respect to an increase in market share at corresponding statistically significance level. This effect corresponds with the estimated sign of γ^1 in equation (5).

Table 5-a. Non-linear market share and exchange rate pass-through (Korea)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.839	0.048	0.837	0.291	-0.422	0.68	992	44.3 ***	0.64	[41] 848310.000	0.329	-0.789 ***	0.344	-3.594 ***	6.983 ***	0.41	1078	50.2 ***	1.26
[02] 392062.000	1.420	-0.494	1.431	-0.646	0.331	0.32	1030	0.63	1.29	[42] 848330.200	1.136	0.263	1.226	-0.820	2.556 *	0.28	1078	2.51	1.42
[03] 392099.000	1.030	0.613	1.007	1.176 **	-1.055	0.53	982	66.6 ***	1.17	[43] 848340.200	0.583	-0.876 ***	0.672	-2.255 ***	3.276 ***	0.37	1080	14 ***	1.26
[04] 392690.000	0.973	-0.080	0.922	0.989	-2.694	0.31	1080	4.56 **	1.39	[44] 848350.000	0.620	-0.428 *	0.767	-1.479 **	1.579 **	0.51	974	40.4 ***	1.44
[05] 401693.000	0.983	-0.327	0.994	-0.686	0.896	0.47	1073	2.77 *	1.52	[45] 848360.000	0.141	-0.900 **	0.298	-2.417 ***	3.083 ***	0.42	1037	34.7 ***	1.53
[06] 401699.000	1.033	-0.881 *	1.031	-2.675 ***	3.956 ***	0.31	1080	16.7 ***	1.30	[46] 848410.000	1.259	-0.712 ***	1.349	-1.410 **	1.635	0.21	834	21.4 ***	1.49
[07] 482390.900	1.547	-0.252 *	1.481	-0.824 *	1.068	0.17	1022	16.6 ***	1.48	[47] 848590.000	0.835	0.693	0.853	0.254	1.355	0.34	1033	2.52	1.41
[08] 491110.000	1.327	0.090	1.447	-0.699	1.428	0.16	742	5.2 **	1.98	[48] 850110.191	1.183	0.386 *	1.064	1.309 **	-2.533 **	0.36	980	12.4 ***	1.24
[09] 591190.000	0.447	-0.508 **	0.496	-1.140	1.074	0.42	859	37.1 ***	1.21	[49] 850151.000	1.011	-0.098	1.040	-0.780	1.696	0.45	1053	9.11 ***	1.69
[10] 731511.900	1.020	-0.042	1.011	-0.302 *	0.430 *	0.36	983	131 ***	1.35	[50] 850300.000	1.541 ##	-0.100	1.591 ##	-0.732	1.164 ***	0.35	992	73.2 ***	1.65
[11] 731815.190	0.510	-0.534 ***	0.471	-1.448 **	1.293 *	0.18	910	23.9 ***	1.53	[51] 850431.910	1.408	-0.646 **	1.429	-0.903 **	0.450	0.51	907	81.3 ***	1.13
[12] 731815.900	0.801	0.592 **	0.799	0.437	0.371	0.31	958	14.3 ***	1.35	[52] 850440.110	1.430 ##	-0.188	1.432 ##	-0.167	-0.046	0.46	988	2.24	1.66
[13] 731816.900	1.189	-0.711 ***	1.183	-0.848	0.245	0.19	894	33.2 ***	1.53	[53] 850440.900	0.540	-0.230 ***	0.534	-0.490	0.375	0.23	1005	0.01	1.53
[14] 731822.000	0.902	-0.256	0.883	-1.368	1.691	0.28	754	7.02 ***	1.08	[54] 850450.000	0.509	0.704	0.498	-0.107	2.762	0.45	1042	2.28	1.21
[15] 732020.000	1.697 ##	-0.661	1.696 ##	-1.603 *	2.130	0.25	1024	47.9 ***	1.00	[55] 850730.000	0.691	-0.173	0.706	-0.614	0.961	0.35	866	1.97	1.57
[16] 732690.000	1.414	0.331 ***	1.428	0.208	0.206	0.95	991	4.43 **	1.68	[56] 852290.900	1.455 #	-1.005 ***	1.454	-0.987	-0.058	0.54	878	84.4 ***	1.18
[17] 820559.000	1.382	-0.465 ***	1.483 #	-1.496 ***	2.027 *	0.43	891	24.8 ***	1.84	[57] 852990.900	1.528 ##	0.303	1.527 ##	0.358	-0.235	0.52	1004	42.4 ***	0.96
[18] 820890.000	1.146	-0.468 **	1.182	-3.475 ***	8.217 ***	0.30	949	46.9 ***	1.76	[58] 853222.000	0.966	-0.730	0.986	-1.457	3.918	0.36	1007	18.9 ***	1.12
[19] 840991.100	1.346	-0.759 ***	1.423	-1.295 ***	0.814 *	0.32	936	23.4 ***	1.16	[59] 853223.000	1.058	-0.524 **	1.181	-1.246 **	1.841 *	0.56	791	19.2 ***	1.00
[20] 841330.000	0.709	0.046	0.720	-0.401	0.828	0.44	897	0.73	1.37	[60] 853321.000	1.692 ##	-3.814 ***	1.701 ##	-7.370 ***	27.175 ***	0.38	972	14.2 ***	0.83
[21] 841360.100	0.990	-0.150	0.994	-0.764 ***	1.273 ***	0.63	1076	71.6 ***	1.44	[61] 853340.000	0.777	-1.521 **	0.813	-2.983 *	8.168	0.47	1027	30.3 ***	1.19
[22] 841391.000	0.842	-0.105	0.848	-0.202	0.145	0.53	1018	15.6 ***	1.35	[62] 853400.000	1.343	0.791 **	1.403	2.191 ***	-3.967 ***	0.52	995	0.05	1.15
[23] 841459.000	1.263 ##	0.068	1.272 ##	-0.345 *	0.563 **	0.27	1049	18.6 ***	1.64	[63] 853641.000	0.784	-0.978	0.789	-4.402	30.094	0.22	964	30.5 ***	1.21
[24] 841590.000	0.794	-0.054	0.783	0.019	-0.103	0.34	674	2.11	1.34	[64] 853649.000	0.790	1.044 ***	0.789	1.079	-0.063	0.34	880	10.9 ***	1.34
[25] 842123.000	0.408	0.100	0.423	0.027	0.107	0.32	759	8.02 ***	1.86	[65] 853650.900	0.069	1.916	0.113	4.722 ***	-19.719 ***	0.42	1079	38.6 ***	1.04
[26] 842129.000	0.711	-0.113	0.774	-0.676 **	0.899 **	0.18	959	5.49 **	1.78	[66] 853669.000	0.247	0.932 ***	0.340	0.063	2.219	0.48	811	13.2 ***	1.55
[27] 842199.000	1.287	-0.068	1.363	-0.691 ***	1.118 ***	0.14	1027	0.3	1.64	[67] 853710.000	0.786	0.258 ***	0.784	0.391 ***	-0.263	0.32	1079	1.58	1.71
[28] 846693.000	0.591	-0.766 ***	0.801	-2.041 ***	2.754 ***	0.25	1029	6.35 **	1.88	[68] 853890.900	0.641	0.393	0.675	-0.058	1.347	0.24	1068	7.5 ***	1.24
[29] 846711.000	1.028	0.204	0.976	-0.405	0.989 *	0.65	962	56.6 ***	1.65	[69] 854110.920	2.129	-16.074 ***	2.513 ###	-38.442 ***	235.667 ***	0.31	933	46.1 ***	1.09
[30] 847330.000	0.474	0.155	0.598	-1.802	5.926 **	0.32	1032	95.2 ***	1.27	[70] 854121.910	1.095	-2.291 ***	1.165	-4.077 ***	4.533 ***	0.43	965	19.6 ***	1.33
[31] 847989.900	0.857	0.869 ***	0.848	2.081 ***	-3.652 ***	0.42	1080	1.79	1.65	[71] 854129.910	0.252	4.075 ***	0.254	3.991 ***	0.476	0.12	903	18.9 ***	1.01
[32] 847990.000	0.924	-0.010	0.901	0.267	-0.701	0.28	1077	14.2 ***	1.70	[72] 854140.990	2.271 ###	2.456 ***	2.255 ###	1.302	7.057	0.30	958	3.6 *	1.07
[33] 848110.000	1.194	0.086	1.219	-0.188	0.449 *	0.43	985	0.04	1.72	[73] 854390.000	1.362	-1.485 ***	1.349	-3.517 ***	4.391 ***	0.30	854	1.05	1.67
[34] 848120.000	0.779	-0.125	0.868	-1.165	2.437	0.51	1064	10.4 ***	1.22	[74] 854451.910	0.810	0.392	0.819	-0.444 *	1.488 **	0.41	986	41.4 ***	1.79
[35] 848130.900	1.515 #	0.290 **	1.462 #	0.797	-0.800	0.48	1003	52.5 ***	1.29	[75] 870899.900	1.149	-0.014	1.146	0.026	-0.095	0.26	1016	3.21 *	1.14
[36] 848180.190	0.983	-0.160	1.006	-0.485 *	0.661	0.35	1077	0.27	1.34	[76] 900912.000	0.385	0.576 ***	0.466	1.720 ***	-1.399 ***	0.49	708	87.3 ***	1.46
[37] 848190.000	1.224	0.172	1.216	0.234	-0.119	0.32	1024	13.1 ***	1.39	[77] 901380.000	1.862 #	0.692 ***	1.663	2.050 ***	-2.243 ***	0.44	871	8.7 ***	1.32
[38] 848210.000	0.760	-0.304	0.749	-0.066	-0.532	0.67	1017	137 ***	0.72	[78] 903180.190	0.737	-0.243	0.736	-0.240	-0.004	0.18	1073	17.9 ***	2.02
[39] 848250.000	0.723	-0.273 **	0.816	-0.830 **	0.864 *	0.68	921	174 ***	1.95	[79] 903190.100	1.242	0.089	1.230	0.206	-0.289	0.14	879	0.62	1.71
[40] 848299.000	0.710	-0.051	0.734	-0.611	0.888	0.62	877	74.5 ***	1.30	[80] 961210.000	1.609	-0.253	1.623	-0.432	0.362	0.35	829	1.03	1.46

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 5-b. Non-linear market share and exchange rate pass-through (China)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.249	0.367	0.303	0.642 ***	-0.342 ***	0.31	862	2.59	1.29	[41] 848310.000	1.156 #	0.381	1.149	0.694 ***	-0.733 *	0.41	1066	1.94	1.08
[02] 392062.000	-0.215	0.609	-0.250	1.018 *	-0.603	0.34	992	61.5 ***	1.51	[42] 848330.200	0.068	0.355	0.016	1.516 **	-2.067 **	0.38	1057	6.49 **	1.28
[03] 392099.000	-0.621	0.191	-0.615	-0.038	0.265	0.12	843	2.71 *	1.45	[43] 848340.200	0.984	0.259	0.915	0.572	-0.615	0.41	1059	2.42	1.38
[04] 392690.000	0.469	0.181	0.471	0.146	0.064	0.21	1066	13.2 ***	1.76	[44] 848350.000	-0.034	0.184	-0.034	0.182	0.003	0.30	996	3.3 *	1.41
[05] 401693.000	0.675	0.295	0.650	0.418	-0.217	0.24	1028	0.16	1.44	[45] 848360.000	0.429	0.059	0.426	-0.139	0.291 **	0.17	941	4.22 **	1.38
[06] 401699.000	-0.251	0.332	-0.283	1.079 ***	-1.587 ***	0.29	1054	1.86	1.69	[46] 848410.000	1.472	0.062	1.431	0.487 ***	-0.610 ***	0.26	875	0.09	1.63
[07] 482390.900	0.897	0.079	0.901	0.526 *	-0.718 *	0.16	1001	2.85 *	1.15	[47] 848590.000	1.253	-0.253 +	1.261	-0.153	-0.172	0.18	1023	3.8 *	1.43
[08] 491110.000	0.586	0.121	0.589	0.161	-0.062	0.12	859	13.1 ***	1.71	[48] 850110.191	0.302	0.008	0.412	-0.596 ***	0.824 ***	0.23	874	1.22	1.13
[09] 591190.000	0.871	0.095	0.874	0.253 *	-0.207 *	0.37	906	0.73	1.68	[49] 850151.000	1.271	0.201	1.273	0.192	0.012	0.10	868	0.21	1.38
[10] 731511.900	-0.700 +	0.147	-0.719	0.254	-0.140	0.35	805	9.53 ***	1.65	[50] 850300.000	1.005	-0.218	1.005	-1.039	1.430	0.30	1044	19.1 ***	1.07
[11] 731815.190	1.003	0.141	0.964	0.308	-0.252	0.22	1004	13 ***	1.60	[51] 850431.910	0.056	0.153	0.056	0.144	0.012	0.26	900	6.68 ***	1.29
[12] 731815.900	-0.137	0.296	-0.186	0.527 *	-0.290	0.17	924	7.35 ***	1.46	[52] 850440.110	0.772	-0.178	0.763	-0.240	0.094	0.26	965	15.7 ***	1.53
[13] 731816.900	0.890	0.031	0.867	0.229	-0.244	0.29	866	3.22 *	1.34	[53] 850440.900	0.885	0.126	0.895	0.395 *	-0.354	0.26	961	6.02 **	1.78
[14] 731822.000	0.713	0.119	0.663	0.323	-0.237	0.30	858	18.1 ***	1.41	[54] 850450.000	1.106	0.324	1.132	0.063	0.387	0.11	966	10.7 ***	1.09
[15] 732020.000	1.084	-0.018	1.064	0.091	-0.168	0.53	1034	4.68 **	0.88	[55] 850730.000	0.805	0.331	0.763	0.700 ***	-0.453 *	0.34	780	10.3 ***	1.48
[16] 732690.000	0.812	-0.042	0.781	-0.505 *	0.637 *	0.96	958	50.2 ***	1.73	[56] 852290.900	0.510	0.699	0.492	-0.032	0.951 **	0.52	933	22.2 ***	0.97
[17] 820559.000	-0.168	0.076	-0.157	0.261	-0.273	0.24	832	3.19 *	2.01	[57] 852990.900	1.357	-0.358 ++	1.366	-0.220	-0.251	0.39	994	5.89 **	1.03
[18] 820890.000	0.814	-0.001	0.790	0.786	-1.157 **	0.16	914	0.13	1.57	[58] 853222.000	0.511	0.242	0.472	0.484	-0.413	0.38	1004	102 ***	1.28
[19] 840991.100	0.385	0.373	0.355	0.711 ***	-0.500	0.39	905	25.7 ***	1.32	[59] 853223.000	1.011	-0.098	1.009	-0.224	0.257	0.56	1008	0.01	1.06
[20] 841330.000	0.894	-0.023	0.903	0.111	-0.219	0.30	924	0.06	1.49	[60] 853321.000	0.584	0.183	0.420	0.928 ***	-1.257 ***	0.33	1009	9.63 ***	1.16
[21] 841360.100	0.235	0.025	0.247	0.253	-0.329	0.19	939	5.67 **	1.66	[61] 853340.000	1.683 ##	0.120	1.694 **	0.345	-0.344	0.39	1015	0.22	1.15
[22] 841391.000	-0.013	0.280	-0.100	0.817 **	-0.763 *	0.49	970	0.1	1.37	[62] 853400.000	0.672	-0.531	0.777	-2.227 *	3.287 **	0.32	1059	107 ***	0.79
[23] 841459.000	0.499	0.080	0.472	0.390 ***	-0.414 ***	0.28	998	5.2 **	1.76	[63] 853641.000	0.382	-0.121 +	0.409	-0.300 *	0.264	0.34	942	1.98	1.16
[24] 841590.000	0.216	0.083	0.175	0.262	-0.230	0.22	884	1.6	1.56	[64] 853649.000	1.154	-0.097	1.147	-0.037	-0.073	0.20	897	7.58 ***	1.08
[25] 842123.000	0.661	-0.021	0.596	0.182	-0.265	0.35	793	9.35 ***	1.71	[65] 853650.900	0.809	-0.657 +++	0.803	-0.950 ***	0.574	0.54	1080	3.07 *	1.29
[26] 842129.000	0.955	0.022	0.956	0.018	0.004	0.15	855	0.78	1.94	[66] 853669.000	1.208	-0.137	1.201	-0.468	0.594	0.30	911	3.51 *	1.35
[27] 842199.000	1.447	0.096	1.441	0.162	-0.093	0.30	985	8.36 ***	1.66	[67] 853710.000	0.901	-0.038	0.810	0.280 **	-0.411 ***	0.31	1059	0	1.86
[28] 846693.000	-0.310 ++	0.100	-0.266	-0.141	0.313	0.28	909	0.63	1.72	[68] 853890.900	-0.039	0.041	0.031	-0.383	0.611 **	0.12	1023	74.4 ***	2.05
[29] 846711.000	1.417 ##	0.034	1.407 **	0.084	-0.060	0.22	688	0	2.06	[69] 854110.920	-0.188	0.231	-0.186	0.403	-0.214	0.17	886	32.4 ***	1.77
[30] 847330.000	1.325	0.418	1.275	0.756 *	-0.565	0.24	897	26.9 ***	1.43	[70] 854121.910	0.049	-0.193	-0.016	0.506	-1.138 **	0.21	989	20 ***	1.46
[31] 847989.900	1.388 ###	-0.206 +	1.406 ***	-0.766 ***	0.875 ***	0.53	1074	47.1 ***	1.76	[71] 854129.910	0.331	0.363	0.332	0.525 ***	-0.198 **	0.12	895	62.5 ***	1.68
[32] 847990.000	-0.029	0.138	-0.038	-0.214	0.497 ***	0.27	1029	3.42 *	1.89	[72] 854140.990	0.341	-0.207	0.289	-1.375 ***	1.760 ***	0.35	910	1.42	1.13
[33] 848110.000	0.367	-0.026	0.394	-0.175	0.193	0.18	853	0.56	1.73	[73] 854390.000	2.520 ###	0.283	2.660 ***	0.908 ***	-0.757 ***	0.11	737	1.71	1.54
[34] 848120.000	0.867	0.235	0.793	0.571 *	-0.506	0.32	977	26.9 ***	1.73	[74] 854451.910	1.111	0.161	1.105	0.780 ***	-0.944 ***	0.23	990	5.95 **	1.40
[35] 848130.900	1.259	0.071	1.220	0.232	-0.207	0.22	829	0.77	1.76	[75] 870899.900	0.634	0.163	0.630	0.032	0.200	0.36	887	16.4 ***	1.26
[36] 848180.190	1.235 ###	0.417	1.133	0.980 **	-0.919	0.33	1046	1.07	1.71	[76] 900912.000	-0.349	-0.362 +++	-0.215	0.183	-0.595 **	0.44	676	2.08	1.58
[37] 848190.000	0.903	-0.005	0.939	-0.230	0.291	0.37	867	58.8 ***	1.46	[77] 901380.000	0.292	-0.253 +++	0.359	-1.197 ***	1.264 ***	0.39	856	0.34	0.91
[38] 848210.000	0.142	0.290	0.123	0.827 ***	-0.685 **	0.59	980	38.3 ***	1.48	[78] 903180.190	1.139	0.182	1.127	0.362	-0.267	0.21	1030	1.5	1.91
[39] 848250.000	0.193	0.156	0.202	-0.225 **	0.475 ***	0.50	814	16.9 ***	1.48	[79] 903190.100	0.970	0.110	0.969	0.124	-0.020	0.19	882	0.01	1.89
[40] 848299.000	1.946	-0.098	1.947	-0.085	-0.016	0.31	713	8.55 ***	1.42	[80] 961210.000	1.507	0.167	1.280	0.701	-0.698	0.53	744	2.65	1.16

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 5-c. Non-linear market share and exchange rate pass-through (Taiwan)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.953	-0.742 +++	0.931	-1.782	1.729	0.51	1063	6.08 **	0.91	[41] 848310.000	1.173	-0.143	1.126	0.303	-1.069	0.26	1062	62.2 ***	1.42
[02] 392062.000	-0.793 ++	0.698	-0.736	-0.242	1.169 *	0.28	1017	70.5 ***	1.24	[42] 848330.200	0.701	-0.128	0.620	1.162	-3.080	0.08	1061	9.91 ***	1.80
[03] 392099.000	-0.040	-0.497	-0.189	0.906	-2.881	0.40	984	1.24	1.45	[43] 848340.200	0.571	0.120	0.514	0.933	-2.311	0.23	1080	8.21 ***	1.39
[04] 392690.000	1.506 ###	-0.199	1.386 ***	0.949	-2.911	0.25	1080	0.81	1.54	[44] 848350.000	1.391	-0.210	1.388	-0.160	-0.093	0.18	972	16.8 ***	1.56
[05] 401693.000	0.785	0.447	0.729	1.405 ***	-2.377 ***	0.31	1077	0.33	1.64	[45] 848360.000	0.696	0.958	0.605	3.086 ***	-4.934 ***	0.16	1059	5.42 **	1.93
[06] 401699.000	1.060	0.543	0.843	3.047 ***	-7.256 ***	0.29	1080	0.21	1.64	[46] 848410.000	1.049	0.314	1.038	1.502	-2.709	0.37	1001	6.32 **	1.61
[07] 482390.900	0.720	0.142	0.706	0.337 *	-0.466	0.16	1063	3.92 **	1.69	[47] 848590.000	0.544	0.397	0.548	0.895 *	-1.322	0.28	1029	0.17	1.45
[08] 491110.000	1.553 ##	-0.124	1.596 **	-0.972	1.744	0.15	949	22.2 ***	1.81	[48] 850110.191	0.623	-0.673 +++	0.648	-0.918 *	0.650	0.14	985	0.07	1.51
[09] 591190.000	1.296	0.251	1.064	1.953 ***	-2.862 ***	0.19	982	1.57	1.67	[49] 850151.000	0.585	-0.300	0.619	-0.465	0.344	0.24	1057	4.31 **	1.48
[10] 731511.900	0.998	0.330	0.739	2.479 *	-3.992 **	0.35	1067	35.6 ***	1.38	[50] 850300.000	0.760	-0.627 +	0.867	-1.579 ***	1.618 ***	0.32	1038	0.61	1.11
[11] 731815.190	1.065	0.941	0.918	2.704 **	-3.699	0.32	1070	48.8 ***	1.36	[51] 850431.910	0.703	0.701	0.621	2.197 ***	-3.339 ***	0.16	946	9.75 ***	1.59
[12] 731815.900	1.359	1.350	1.115	3.825 ***	-7.186 ***	0.12	1020	46.6 ***	1.58	[52] 850440.110	0.699	-0.100	0.683	0.575	-1.645	0.31	1025	0.63	1.63
[13] 731816.900	0.777	0.975	0.612	3.267 ***	-4.757 ***	0.30	1051	13.2 ***	1.61	[53] 850440.900	0.920	0.064	0.929	-0.113	0.361	0.16	1063	0.5	1.73
[14] 731822.000	0.393	2.058	0.390	3.713 ***	-2.464 *	0.38	891	3.13 *	1.65	[54] 850450.000	-0.076	-0.792	0.038	-3.116 *	8.779	0.33	995	5.46 **	1.10
[15] 732020.000	0.249	1.185	0.175	1.757 ***	-1.178 ***	0.19	1038	31.6 ***	1.31	[55] 850730.000	1.084	0.193	1.142	-0.213	0.500	0.32	973	10.6 ***	1.78
[16] 732690.000	1.054	-0.122	0.952	1.194 **	-2.854 **	0.95	1037	7.87 ***	1.72	[56] 852290.900	0.273	0.692	0.298	-0.042	1.859	0.40	1018	30.1 ***	1.35
[17] 820559.000	0.899	0.685	0.826	1.937 **	-2.630 **	0.24	997	40 ***	1.79	[57] 852990.900	0.753	-2.339 +++	0.752	-2.024	-1.041	0.44	1072	11.8 ***	1.24
[18] 820890.000	0.414	-0.458	0.367	2.825 ***	-6.823 ***	0.35	1037	8.8 ***	1.83	[58] 853222.000	-0.491	0.684	-0.529	2.253 ***	-5.390 **	0.73	1076	37.4 ***	1.26
[19] 840991.100	1.345	0.778	1.181	2.354 ***	-3.474 ***	0.73	1080	32.8 ***	0.92	[59] 853223.000	-0.115	0.771	0.121	-1.394	6.801	0.43	862	0.24	0.99
[20] 841330.000	0.861	-1.072 +++	0.992	-1.855 ***	1.502	0.65	1074	21.6 ***	1.47	[60] 853321.000	0.981	-1.370	0.935	-4.598 **	13.097 ***	0.20	969	18.9 ***	1.17
[21] 841360.100	1.019	-0.202	0.999	-0.069	-0.261	0.18	1074	2.85 *	1.31	[61] 853340.000	0.503	1.033	0.351	3.456 *	-11.465 *	0.33	1026	58.3 ***	1.15
[22] 841391.000	0.059	0.368	0.056	1.164	-1.760	0.32	1068	13.4 ***	1.69	[62] 853400.000	1.269	-2.113 +++	1.251	-4.729 ***	9.443 *	0.54	1010	3.6 *	1.38
[23] 841459.000	0.722	-0.748 ++	0.766	-1.221 **	0.870 *	0.13	1073	46.9 ***	1.63	[63] 853641.000	1.069	-1.513 +++	1.105	-2.208	2.593	0.26	1058	5.28 **	1.28
[24] 841590.000	0.436	-0.016	0.339	0.792	-1.337	0.28	1023	2.38	1.55	[64] 853649.000	0.317	0.901	0.271	1.392 *	-0.877	0.27	1022	15.2 ***	1.41
[25] 842123.000	1.078	0.566	0.731	2.423 ***	-3.577 ***	0.44	972	6.43 **	1.61	[65] 853650.900	0.724	-0.072	0.658	1.233	-3.747	0.48	1080	1.33	1.36
[26] 842129.000	0.662	0.147	0.723	1.356 **	-1.758 ***	0.11	1004	0.91	1.74	[66] 853669.000	0.040	0.573	0.044	0.399	0.456	0.17	980	10 ***	1.67
[27] 842199.000	0.799	-0.455 +	0.729	1.264 **	-2.757 ***	0.35	1077	30.5 ***	1.93	[67] 853710.000	0.635	-0.162	0.647	-0.515	0.685	0.21	1080	0.25	1.82
[28] 846693.000	1.241	0.060	1.122	1.303	-2.669	0.23	1028	5.82 **	1.63	[68] 853890.900	0.407	-1.103	0.402	-1.055	-0.121	0.46	1078	0.42	0.90
[29] 846711.000	0.271	0.605	0.295	1.952 ***	-2.760 ***	0.64	997	0.09	1.89	[69] 854110.920	-0.592	3.588	-0.600	3.884 *	-1.121	0.28	905	5.97 **	1.27
[30] 847330.000	1.483	-3.513 +++	1.743	-9.789 ***	28.758 ***	0.24	1058	24.6 ***	0.62	[70] 854121.910	-0.412	2.027	-0.365	-0.495	8.750	0.21	897	0.19	1.38
[31] 847989.900	0.795	-1.194 +++	1.009	-3.142 ***	5.934 ***	0.59	1080	24.5 ***	1.79	[71] 854129.910	0.143	4.820	0.131	3.463	4.029	0.16	889	45.1 ***	1.66
[32] 847990.000	0.292	0.461	0.317	0.293	0.409	0.33	1071	32.6 ***	1.57	[72] 854140.990	-0.177	-1.943	-0.199	-1.347	-1.802	0.35	943	80.6 ***	0.90
[33] 848110.000	1.051	-0.141	1.074	1.026 **	-2.108 ***	0.43	1068	0.01	1.72	[73] 854390.000	1.106	1.393	1.106	3.347 ***	-3.516 ***	0.14	763	15.3 ***	1.50
[34] 848120.000	0.472	0.294	0.432	1.055	-1.448	0.26	1055	0.48	1.56	[74] 854451.910	-0.251	0.511	-0.320	1.652 **	-2.076 **	0.21	1039	18.5 ***	1.63
[35] 848130.900	0.556	0.542	0.375	2.246 ***	-3.233 ***	0.39	1040	8.96 ***	1.59	[75] 870899.900	1.366 ##	-0.088	1.348 *	0.073	-0.339	0.44	1079	104 ***	1.36
[36] 848180.190	0.665	0.099	0.682	-0.555 *	1.009 ***	0.29	1079	5.72 **	1.60	[76] 900912.000	1.212	-0.058	1.226	-0.354	0.416	0.57	884	18.2 ***	1.18
[37] 848190.000	0.556	-0.085	0.528	0.641	-1.219	0.42	1055	1.47	1.79	[77] 901380.000	1.543 #	-3.503 +++	1.555 **	-4.898 ***	5.129 **	0.39	863	14.8 ***	1.62
[38] 848210.000	0.972	1.076	0.813	3.252 ***	-5.428 **	0.66	1020	28.5 ***	1.39	[78] 903180.190	1.040	0.124	1.095	-0.233	0.866 *	0.12	1075	1.82	1.87
[39] 848250.000	0.303	0.906	0.131	2.570 *	-3.566	0.52	997	34.7 ***	1.29	[79] 903190.100	0.490	-0.128	0.512	0.143	-0.629	0.13	866	6.21 **	1.97
[40] 848299.000	2.075 ##	-0.866 +++	2.037 **	-0.559	-0.452	0.55	987	14 ***	1.53	[80] 961210.000	1.027	-0.896	1.023	-0.811	-0.178	0.35	954	0	1.46

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 5-d. Non-linear market share and exchange rate pass-through (Hong Kong)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.723	-0.059	0.588	0.672 ***	-1.227 ***	0.43	1077	0.12	1.07	[41] 848310.000	0.896	0.081	0.899	-0.036	0.178	0.23	1080	3.97 **	1.21
[02] 392062.000	0.453	0.227	0.614	-0.410	0.957 **	0.42	1026	0.02	0.93	[42] 848330.200	0.651	-0.221 ++	0.656	-0.270	0.115	0.28	1080	0.07	1.51
[03] 392099.000	0.310	0.150	0.328	0.068	0.138	0.18	955	5.75 **	1.47	[43] 848340.200	0.125	0.223	0.103	0.554 **	-0.743	0.23	1079	4.52 **	1.41
[04] 392690.000	0.163	-0.400 +++	0.161	-0.371	-0.052	0.33	1079	8.24 ***	1.68	[44] 848350.000	1.433 ###	-0.291 ++	1.478 ***	-0.849 **	1.236 **	0.51	1079	20.8 ***	1.75
[05] 401693.000	0.392	0.418	0.383	0.899 *	-1.283	0.15	1071	15.1 ***	1.67	[45] 848360.000	0.867	0.084	0.890	-0.020	0.169	0.31	960	2.19	1.84
[06] 401699.000	-0.015	0.123	-0.041	0.689 ***	-1.385 ***	0.19	1078	0.01	1.24	[46] 848410.000	1.283 ##	0.296	1.280 **	0.365	-0.115	0.33	1024	5.71 **	1.61
[07] 482390.900	0.661	0.189	0.658	0.213	-0.047	0.18	1045	1.52	1.25	[47] 848590.000	0.536	-0.035	0.512	0.229	-0.585	0.24	1019	0.25	1.18
[08] 491110.000	0.787	-0.272	0.765	-0.084	-0.401	0.15	1040	3.05 *	1.93	[48] 850110.191	0.661	-0.262 +++	0.770	-0.797 ***	1.188 **	0.35	1042	0.06	1.33
[09] 591190.000	0.318	0.033	0.340	0.314	-0.520 *	0.11	957	8.68 ***	1.30	[49] 850151.000	0.835	-0.087	0.863	0.125	-0.302	0.36	958	7.78 ***	1.62
[10] 731511.900	0.635	0.212	0.594	0.472 ***	-0.392 *	0.35	987	10.3 ***	1.72	[50] 850300.000	1.147	-0.810	1.083	-2.043 **	2.189 **	0.40	1024	2.88 *	1.17
[11] 731815.190	1.847 ###	0.170	1.737 ***	0.820 ***	-1.000 ***	0.25	1029	0	1.63	[51] 850431.910	0.595	-0.670 +++	0.599	-0.709	0.070	0.38	968	0.51	1.17
[12] 731815.900	0.964	0.146	0.936	0.368	-0.414	0.45	1071	0.01	1.00	[52] 850440.110	1.159	-0.336	1.144	-1.140	1.780	0.29	1041	62.2 ***	1.48
[13] 731816.900	0.358	0.089	0.344	0.667 ***	-1.006 ***	0.37	979	29.6 ***	1.54	[53] 850440.900	0.667	0.024	0.670	0.079	-0.088	0.13	1005	0.55	1.49
[14] 731822.000	0.836	-0.038	0.917	0.653	-1.504 *	0.30	978	9.43 ***	1.50	[54] 850450.000	0.680	-0.090	0.790	-1.640 *	4.093 **	0.21	980	2.7	1.00
[15] 732020.000	-0.049	-0.007	-0.054	0.158	-0.309	0.23	1077	1.3	1.31	[55] 850730.000	1.300 #	0.448	1.164	0.955 **	-0.603	0.47	992	2.67	1.23
[16] 732690.000	0.025	-0.258	0.028	-0.282	0.048	0.95	1038	2.63	1.71	[56] 852290.900	0.739	0.719	0.715	2.190 **	-2.463 **	0.21	1039	71.1 ***	0.86
[17] 820559.000	0.234	0.064	0.241	0.548	-0.871	0.43	1005	22.1 ***	1.63	[57] 852990.900	-0.171	-0.708 +++	-0.172	-0.564	-0.362	0.25	1072	0.02	0.92
[18] 820890.000	1.248	0.540	1.212	1.354 ***	-2.014 ***	0.16	1062	19.2 ***	1.75	[58] 853222.000	0.553	0.314	0.310	2.954 ***	-9.134 ***	0.67	1074	33.6 ***	1.00
[19] 840991.100	0.964	0.487	0.962	-0.133	1.408	0.38	1073	1.85	1.35	[59] 853223.000	0.595	0.026	0.646	-0.519 *	1.763 ***	0.51	1009	23.6 ***	0.82
[20] 841330.000	0.987	0.008	0.976	0.255	-0.442	0.32	1044	0.04	1.65	[60] 853321.000	1.111	-0.574	1.021	0.627	-5.011 ***	0.22	1021	6.61 **	1.20
[21] 841360.100	0.071	0.372	0.104	0.738 ***	-0.469 ***	0.45	948	20.5 ***	1.94	[61] 853340.000	0.214	0.734	0.092	2.420 ***	-5.237 ***	0.35	1013	6.93 ***	1.11
[22] 841391.000	0.647	-0.124 ++	0.609	0.261	-0.589	0.32	1037	1.02	1.54	[62] 853400.000	0.110	0.023	0.110	0.255	-0.706	0.55	1053	0.66	0.80
[23] 841459.000	0.786	-0.276 +++	0.836	-0.570 ***	0.645 *	0.47	1076	16.1 ***	1.33	[63] 853641.000	0.456	-0.238	0.431	-0.658	1.360	0.17	1017	63.6 ***	1.20
[24] 841590.000	1.881 #	-0.042	1.798 *	0.287	-0.603	0.16	993	45 ***	1.36	[64] 853649.000	0.521	0.224	0.521	0.478 **	-0.434 **	0.18	1049	20.8 ***	1.40
[25] 842123.000	0.574	0.229	0.569	0.281	-0.086	0.55	1003	2.12	1.64	[65] 853650.900	0.957	-1.056 ++	1.072	-2.468 ***	4.025 ***	0.50	1080	0.51	1.21
[26] 842129.000	0.215	-0.044	0.160	0.443	-0.644 *	0.20	744	3.42 *	1.64	[66] 853669.000	0.924	-0.265 +++	0.923	-0.221	-0.107	0.15	919	2.65	1.15
[27] 842199.000	0.948	0.312	0.931	0.422 *	-0.200	0.42	1069	0.89	1.71	[67] 853710.000	1.054	-0.151	1.064	-0.218	0.112	0.20	1075	53.7 ***	1.30
[28] 846693.000	2.679 #	0.502	2.709 *	0.160	0.661	0.07	807	4.43 **	1.84	[68] 853890.900	0.780	-0.526 +++	0.794	-0.735	0.448	0.54	1077	19.3 ***	0.70
[29] 846711.000	1.252	0.544	1.092	1.425 **	-1.326 *	0.25	790	43.3 ***	1.71	[69] 854110.920	1.478	0.093	1.496	1.563	-6.391 *	0.14	1022	0.36	1.41
[30] 847330.000	1.636	-1.110 +++	1.784 *	-3.899 ***	8.406 ***	0.21	1061	14.3 ***	0.64	[70] 854121.910	0.895	0.533	0.846	2.789 **	-10.267 **	0.23	1031	0.77	1.29
[31] 847989.900	0.526	-0.042	0.513	-0.269 *	0.475 **	0.31	1080	10.9 ***	1.75	[71] 854129.910	1.568	0.342	1.608	1.318	-3.996	0.28	967	17.9 ***	1.41
[32] 847990.000	0.569	-0.322	0.575	-0.373	0.140	0.19	1039	13.6 ***	1.64	[72] 854140.990	0.407	-0.733 ++	0.390	-2.397 ***	4.944 ***	0.23	1047	4.99 **	0.91
[33] 848110.000	1.556 ###	0.162	1.387 ***	0.590 ***	-0.700 ***	0.31	903	9.24 ***	1.81	[73] 854390.000	1.579 #	-0.278	1.571 *	-0.961	1.542	0.12	859	1.77	1.29
[34] 848120.000	1.140	-0.022	1.145	0.031	-0.073	0.17	947	3.76 *	1.71	[74] 854451.910	0.545	-0.036	0.546	-0.026	-0.021	0.17	1064	3.71 *	1.25
[35] 848130.900	1.423	0.074	1.402	0.547	-0.665	0.27	870	15.8 ***	1.54	[75] 870899.900	1.452 ##	-0.373 +++	1.450 **	-1.003 ***	1.339 **	0.54	1077	8.72 ***	1.01
[36] 848180.190	0.672	0.168	0.668	0.568 *	-0.697	0.14	1010	0.82	1.56	[76] 900912.000	0.730	0.154	0.740	0.106	0.061	0.55	927	94.3 ***	1.11
[37] 848190.000	0.516	0.007	0.498	0.305	-0.473	0.13	825	0.64	1.48	[77] 901380.000	1.603 ##	-0.929 +++	1.598 **	-1.383 **	1.136	0.48	938	3.08 *	1.46
[38] 848210.000	1.189	0.667	1.146	1.825 ***	-2.389 ***	0.66	1017	78.4 ***	1.37	[78] 903180.190	0.526	-0.174 ++	0.517	-0.398	0.446	0.11	1030	0.02	1.83
[39] 848250.000	0.801	0.370	0.714	1.134 ***	-1.201 ***	0.47	878	54.5 ***	1.31	[79] 903190.100	-0.787 +	-0.184	-0.717	-0.761 *	0.912 *	0.06	800	2.82 *	1.70
[40] 848299.000	0.897	0.112	0.895	0.485 *	-0.440 *	0.24	639	4.9 **	1.76	[80] 961210.000	0.387	-0.042	0.385	0.069	-0.219	0.33	1012	23.1 ***	1.18

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 5-e. Non-linear market share and exchange rate pass-through (Germany)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.521	0.189	0.491	0.533 ***	-0.815 ***	0.33	1077	15.7 ***	0.72	[41] 848310.000	0.283	0.618	0.268	0.878 **	-0.486	0.69	1072	34.1 ***	1.37
[02] 392062.000	0.128	0.169	0.144	0.649 *	-0.792	0.55	929	47.9 ***	1.04	[42] 848330.200	1.567	-0.076	1.265	0.626 **	-1.207 ***	0.21	1044	15.9 ***	1.22
[03] 392099.000	1.497 #	-0.237	1.493 **	-0.971 **	0.792 *	0.54	644	45.8 ***	1.62	[43] 848340.200	2.585 #	0.363	2.226 *	1.139 ***	-1.334 ***	0.30	1050	0.3	1.21
[04] 392690.000	0.328	-0.079	0.320	0.031	-0.277	0.20	1079	12.1 ***	1.29	[44] 848350.000	0.287	-0.055	0.272	0.264	-0.398	0.21	959	49.7 ***	1.51
[05] 401693.000	0.787	0.217	0.779	0.523 ***	-0.525	0.15	1051	5.8 **	1.31	[45] 848360.000	0.436	0.305	0.600	0.621 **	-0.469 *	0.34	911	1.38	1.16
[06] 401699.000	-0.083	0.067	-0.018	0.692 **	-1.366 ***	0.63	1074	11.7 ***	1.13	[46] 848410.000	0.692	0.060	0.658	0.380 *	-0.498 *	0.26	959	7.88 ***	1.68
[07] 482390.900	0.623	-0.111 ++	0.623	-0.216	0.131	0.39	876	30.7 ***	1.47	[47] 848590.000	0.978	0.150	1.007	-0.038	0.427	0.23	919	34.8 ***	1.49
[08] 491110.000	0.598	-0.307 ++	0.603	-0.351	0.091	0.18	1005	7.34 ***	1.80	[48] 850110.191	0.504	0.081	0.515	-0.042	0.218	0.23	1027	16.4 ***	1.30
[09] 591190.000	0.673	0.026	0.625	0.691 ***	-0.869 ***	0.10	736	0.6	1.64	[49] 850151.000	-0.081	0.143	-0.082	0.164	-0.026	0.26	762	0.64	1.69
[10] 731511.900	1.297	0.094	1.287	0.338 **	-0.326 **	0.24	833	16.9 ***	1.78	[50] 850300.000	0.524	0.264	0.421	0.504 ***	-0.424 *	0.44	805	4.35 **	1.10
[11] 731815.190	0.457	0.191	0.445	0.677 ***	-0.782 ***	0.17	975	21 ***	1.43	[51] 850431.910	0.345	-0.131 ++	0.392	-0.291 **	0.311	0.33	771	4.17 **	1.36
[12] 731815.900	1.009	0.026	0.990	0.137	-0.193	0.21	995	15.6 ***	1.64	[52] 850440.110	-0.061	0.055	-0.070	0.007	0.136	0.24	1043	0.44	1.55
[13] 731816.900	0.733	0.246	0.744	0.445 ***	-0.305 **	0.58	948	53.1 ***	1.32	[53] 850440.900	0.479	0.158	0.462	0.402 ***	-0.471 ***	0.15	987	45.3 ***	1.41
[14] 731822.000	2.885 ###	0.112	2.890 ***	0.065	0.060	0.15	615	8.87 ***	1.34	[54] 850450.000	0.723	-0.266 ++	0.690	0.607	-2.772 *	0.19	914	31.7 ***	0.93
[15] 732020.000	1.037	-0.017	1.062	-0.131	0.165	0.41	931	4.76 **	1.54	[55] 850730.000	0.137	0.213	0.121	0.295 **	-0.109	0.58	1007	39.8 ***	0.92
[16] 732690.000	0.519	0.101	0.474	0.222	-0.247	0.93	849	5.12 **	1.54	[56] 852290.900	0.253	-0.071	0.350	-0.395	0.561	0.66	976	13.8 ***	0.88
[17] 820559.000	0.394	-0.002	0.436	0.313 ***	-0.582 ***	0.29	849	21.9 ***	1.79	[57] 852990.900	1.356	-0.630 +++	1.364	-0.412	-0.793	0.21	1079	3.64 *	0.79
[18] 820890.000	-0.774	0.049	-0.488	-0.760	1.296 *	0.58	769	60.7 ***	1.34	[58] 853222.000	0.946	0.145	0.964	-0.136	0.377	0.44	974	0.1	1.07
[19] 840991.100	0.351	-0.222 +++	0.352	-0.431 **	0.379	0.62	1021	1.31	1.25	[59] 853223.000	0.166	0.468	0.145	0.807 ***	-1.026	0.58	697	30.2 ***	0.89
[20] 841330.000	0.899	0.050	0.929	0.106	-0.092	0.59	1045	0.7	1.53	[60] 853321.000	0.544	-0.008	0.532	-0.089	0.165	0.22	888	27.7 ***	1.33
[21] 841360.100	0.566	0.247	0.252	0.926 ***	-1.140 ***	0.30	937	32.3 ***	1.15	[61] 853340.000	0.805	0.139	0.973	-1.180	1.753	0.30	926	82.7 ***	1.06
[22] 841391.000	0.388	-0.138	0.389	-0.141	0.005	0.29	1031	17.1 ***	1.32	[62] 853400.000	0.573	-0.480 ++	0.460	-0.091	-0.749	0.55	923	19.6 ***	1.35
[23] 841459.000	1.031	0.070	1.033	0.124	-0.089	0.25	1016	0.03	1.33	[63] 853641.000	0.819	-0.002	0.817	-0.161	0.493	0.25	947	16.1 ***	0.83
[24] 841590.000	1.437 #	0.052	1.437 *	0.049	0.002	0.35	866	63.4 ***	1.45	[64] 853649.000	-0.279	0.074	-0.249	-0.247	0.672	0.08	636	43 ***	1.32
[25] 842123.000	0.328	0.241	0.392	0.497 ***	-0.486	0.21	939	0.08	1.41	[65] 853650.900	0.564	-0.260	0.583	-1.117 **	2.486 ***	0.49	1080	1.17	1.08
[26] 842129.000	-0.549	0.079	-0.544	-0.003	0.129	0.25	654	8.1 ***	1.61	[66] 853669.000	1.146	-0.282	1.227	-0.621	1.010	0.23	723	29.8 ***	1.45
[27] 842199.000	0.654	0.030	0.686	0.480 **	-1.001 **	0.27	988	13.4 ***	1.54	[67] 853710.000	0.123	-0.016	0.071	0.190	-0.470	0.34	1075	5.55 **	1.24
[28] 846693.000	0.855	0.495	0.852	0.639	-0.241	0.29	924	2.21	1.75	[68] 853890.900	0.365	-0.132 ++	0.405	0.260	-0.749	0.10	950	2.48	1.25
[29] 846711.000	0.425	0.022	0.459	-0.159	0.321	0.48	852	86.3 ***	1.01	[69] 854110.920	1.888	0.333	1.942 *	0.616	-0.600	0.22	603	29.2 ***	1.26
[30] 847330.000	1.326	-0.006	1.328	-0.086	0.295	0.33	1080	71.2 ***	0.83	[70] 854121.910	-0.162	0.579	-0.188	1.563 ***	-1.643 ***	0.46	745	28.1 ***	1.59
[31] 847989.900	1.123	-0.203	1.130	-0.288	0.199	0.16	997	6 **	1.49	[71] 854129.910	-1.508	-0.801	-1.393	0.648	-7.666	0.28	682	27.1 ***	1.15
[32] 847990.000	0.502	-0.133	0.523	-1.097	3.415	0.14	1022	25.1 ***	1.36	[72] 854140.990	0.758	-0.242	1.017	-2.943 ***	4.936 ***	0.56	870	7.06 ***	1.18
[33] 848110.000	1.171	0.036	1.126	-0.051	0.131	0.71	716	44.5 ***	1.39	[73] 854390.000	0.729	0.094	0.583	-0.601	1.037 *	0.32	803	6.62 **	1.51
[34] 848120.000	0.447	0.026	0.377	0.224	-0.367 **	0.66	990	11.6 ***	0.95	[74] 854451.910	0.450	0.137	0.281	0.510 ***	-0.674 ***	0.21	977	24.9 ***	1.57
[35] 848130.900	1.452	0.143	1.379	-0.660 **	1.033 **	0.43	670	42.8 ***	1.48	[75] 870899.900	0.689	-0.033	0.694	0.054	-0.186	0.49	1075	0.3	1.15
[36] 848180.190	0.523	0.217	0.488	0.717 ***	-0.822 **	0.23	978	53.1 ***	1.45	[76] 900912.000	0.279	-0.025 ++	0.278	-0.128 ***	0.137 **	0.30	806	2.39	1.81
[37] 848190.000	0.301	0.187	0.297	0.219	-0.045	0.23	821	14.7 ***	1.41	[77] 901380.000	1.530	-0.971 +++	1.496	-1.506 ***	2.576 **	0.51	762	7.8 ***	1.44
[38] 848210.000	0.688	0.162	0.690	0.810 ***	-1.331 ***	0.69	1014	235 ***	1.34	[78] 903180.190	1.189	0.116	1.187	0.178	-0.127	0.11	918	19.1 ***	1.58
[39] 848250.000	0.272	0.173	0.315	0.666 **	-0.943 *	0.35	877	83.9 ***	1.21	[79] 903190.100	0.198	0.132	0.112	0.814 **	-1.654 ***	0.27	745	8.57 ***	1.53
[40] 848299.000	0.037	-0.112	0.074	-0.663 *	0.866	0.29	873	82.6 ***	0.95	[80] 961210.000	-0.188	0.006	-0.211	0.081	-0.142	0.41	986	57.5 ***	1.12

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 5-f. Non-linear market share and exchange rate pass-through (USA)

HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Share^2*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.738	0.151	0.746	0.594 **	-1.280	0.44	1079	56 ***	0.56	[41] 848310.000	0.223	0.029	0.232	0.397	-0.887 **	0.85	1080	5.53 **	0.56
[02] 392062.000	-0.165 +	0.144	-0.021	0.703 ***	-1.210 ***	0.41	1058	73.8 ***	1.35	[42] 848330.200	0.837	-0.046	0.637	0.658	-1.300 *	0.44	1080	116 ***	1.10
[03] 392099.000	1.323	-0.243 ++	1.341	-0.275	0.054	0.17	959	0.38	1.29	[43] 848340.200	-0.020	0.203	-0.033	0.889 **	-1.456 **	0.47	1080	35.7 ***	0.78
[04] 392690.000	0.770	0.117	0.835	-0.135	0.614	0.30	1080	0.05	0.95	[44] 848350.000	0.827	0.018	0.650	1.062 **	-2.104 **	0.44	1080	9.18 ***	0.64
[05] 401693.000	0.565	0.351	0.585	0.124	0.614	0.37	1080	17.3 ***	1.20	[45] 848360.000	0.031	0.463	-0.126	0.797 ***	-0.734 ***	0.39	1078	33.7 ***	1.26
[06] 401699.000	0.053	0.459	0.063	-0.159	1.663	0.45	1080	7.03 ***	0.87	[46] 848410.000	0.332	0.023	0.332	0.018	0.007	0.32	1076	0.26	1.37
[07] 482390.900	0.296	-0.343 +++	0.268	-0.146	-0.323	0.48	1077	8.46 ***	1.40	[47] 848590.000	-0.067	-0.034	-0.074	-0.192	0.251	0.32	1042	16.3 ***	1.25
[08] 491110.000	0.961	-0.262	0.893	-0.051	-0.425	0.13	1076	37.4 ***	1.72	[48] 850110.191	0.399	-0.251 ++	0.400	-0.289	0.123	0.36	1071	90.8 ***	0.87
[09] 591190.000	0.691	0.049	0.722	0.188	-0.236	0.21	1007	1.86	1.36	[49] 850151.000	0.507	0.274	0.445	0.553 ***	-0.496 *	0.56	1063	8.32 ***	1.39
[10] 731511.900	0.163	0.171	0.123	0.469 ***	-0.681 **	0.58	1078	36.1 ***	1.14	[50] 850300.000	0.204	0.632	0.182	0.794 **	-0.393	0.25	1034	0.04	0.85
[11] 731815.190	0.380	-0.022	0.383	0.486 ***	-0.945 ***	0.82	1080	16.2 ***	0.77	[51] 850431.910	1.153	0.023	1.212	-0.275	0.801 *	0.24	992	18.9 ***	1.40
[12] 731815.900	0.340	0.101	0.342	0.187	-0.180	0.74	1080	4.04 **	0.98	[52] 850440.110	0.571	-0.307 +	0.572	-0.092	-0.634 *	0.50	1080	6.35 **	0.90
[13] 731816.900	0.115	0.183	0.127	0.624 **	-1.019 **	0.82	1080	0	0.72	[53] 850440.900	0.507	0.298	0.470	0.704 ***	-1.061 **	0.47	1074	0.03	1.15
[14] 731822.000	-0.202	0.298	-0.328	0.934 ***	-1.371 **	0.79	1080	7.78 ***	0.93	[54] 850450.000	0.175	-0.549 ++	0.170	-0.220	-1.465	0.38	1050	16.1 ***	1.12
[15] 732020.000	0.960	-0.001	0.962	-0.008	0.017	0.40	1076	1.41	0.66	[55] 850730.000	-0.259	0.223	-0.240	0.172 ***	0.068	0.47	1062	48.7 ***	1.50
[16] 732690.000	0.123	0.223	0.055	1.014 ***	-1.950 ***	0.98	1080	33.9 ***	1.21	[56] 852290.900	0.201	-0.103 +	0.220	0.071	-0.324	0.59	1072	110 ***	1.13
[17] 820559.000	0.125	-0.109	0.136	-0.141	0.083	0.30	1075	0.38	1.54	[57] 852990.900	0.061	-0.686 +++	0.085	-0.722 *	0.077	0.47	1080	8.88 ***	0.72
[18] 820890.000	0.112	-0.487 +++	0.095	0.292	-1.647	0.41	1070	22.7 ***	1.55	[58] 853222.000	-0.233	0.021	-0.234	0.027	-0.010	0.68	1080	109 ***	0.88
[19] 840991.100	0.290	-0.132	0.281	0.314	-0.912	0.73	1080	0.84	0.46	[59] 853223.000	0.668	0.012	0.683	0.144	-0.377	0.67	990	86.5 ***	0.65
[20] 841330.000	0.717	-0.117 +++	0.722	-0.045	-0.123	0.86	1080	0.1	0.46	[60] 853321.000	0.614	-0.054	0.617	-0.110	0.104	0.52	1065	0.15	1.22
[21] 841360.100	-0.051	0.172	-0.026	0.672 ***	-0.892 ***	0.38	988	11.5 ***	1.37	[61] 853340.000	0.365	-0.129 +++	0.361	-0.091	-0.078	0.54	1079	8.69 ***	1.02
[22] 841391.000	-0.325 +	-0.068 +	-0.329	-0.023	-0.095	0.34	1080	9.82 ***	0.70	[62] 853400.000	0.686	-0.977 +++	0.674	-1.446 ***	2.140	0.15	1063	58.8 ***	0.83
[23] 841459.000	-0.054	0.215	-0.039	0.123	0.239	0.58	1078	10.1 ***	0.71	[63] 853641.000	0.623	-0.426 +++	0.614	-1.019 ***	2.117 ***	0.51	1069	31 ***	0.95
[24] 841590.000	0.144	0.174	0.073	0.372 ***	-0.331	0.41	966	73.8 ***	1.29	[64] 853649.000	0.303	0.014	0.322	0.238	-0.430	0.23	1027	27.8 ***	1.36
[25] 842123.000	0.401	0.341	0.408	0.810 ***	-0.881 **	0.47	1075	61.8 ***	0.92	[65] 853650.900	0.165	0.053	0.140	0.605	-1.370	0.68	1080	5.53 **	0.71
[26] 842129.000	-0.319	-0.012	-0.313	0.246 *	-0.459 **	0.31	940	15.8 ***	1.50	[66] 853669.000	0.383	-0.884 +++	0.403	-1.351 **	1.621	0.43	1004	14.5 ***	0.65
[27] 842199.000	0.226	0.074	0.203	-0.201	0.763	0.52	1079	0.01	1.12	[67] 853710.000	0.507	0.076	0.505	0.155	-0.185	0.31	1080	39.4 ***	1.37
[28] 846693.000	0.156	0.240	0.150	0.018	0.373	0.34	1072	33.4 ***	1.37	[68] 853890.900	0.475	-0.350 +++	0.424	0.140	-1.542 *	0.20	1042	7.52 ***	0.95
[29] 846711.000	0.501	0.091	0.505	0.017	0.106	0.72	1003	103 ***	1.52	[69] 854110.920	0.050	0.992	0.052	0.914	0.236	0.23	980	77.6 ***	0.88
[30] 847330.000	0.476	0.055	0.451	0.352	-1.171	0.52	1080	27.8 ***	0.65	[70] 854121.910	-0.336 +	0.473	-0.336	0.315	0.496	0.33	973	0.23	0.90
[31] 847989.900	0.414	-0.114	0.456	-0.436 **	0.843 **	0.31	1080	32.4 ***	1.58	[71] 854129.910	-0.087	0.510	-0.096	1.470 **	-3.581 **	0.41	1047	56.4 ***	1.04
[32] 847990.000	0.299	0.023	0.304	0.450 ***	-0.919 ***	0.18	1074	4.48 **	1.34	[72] 854140.990	0.282	-0.358	0.264	-0.491	0.446	0.30	972	42.8 ***	0.80
[33] 848110.000	0.189	-0.100	0.187	0.054	-0.291	0.21	950	12.7 ***	1.00	[73] 854390.000	0.952	0.012	0.943	-0.186	0.525	0.17	1024	5.61 **	1.20
[34] 848120.000	0.593	-0.289 +++	0.620	-0.126	-0.359	0.18	1063	0.43	1.06	[74] 854451.910	0.516	-0.215 +++	0.495	-0.025	-0.489	0.23	1059	1.85	1.34
[35] 848130.900	0.089	0.088	0.140	0.489	-0.702	0.28	996	12.9 ***	0.75	[75] 870899.900	0.246	-0.031	0.249	0.112	-0.294	0.66	1080	120 ***	0.54
[36] 848180.190	0.322	0.434	0.248	0.754 ***	-0.576	0.36	1079	7.31 ***	1.32	[76] 900912.000	0.226	-0.037 +++	0.200	0.035	-0.096 *	0.35	861	10.3 ***	1.54
[37] 848190.000	0.783	0.165	0.775	0.230	-0.105	0.39	1079	0.93	0.86	[77] 901380.000	0.864	-1.988 +++	0.717	-3.414 ***	6.900 ***	0.43	982	1.01	1.15
[38] 848210.000	-0.010	0.272	-0.081	0.654 ***	-1.042 **	0.61	1020	37.8 ***	0.88	[78] 903180.190	0.864	0.105	0.885	0.373	-0.614	0.17	1049	0	1.80
[39] 848250.000	0.141	-0.018	-0.059	0.657 ***	-1.333 ***	0.64	1003	48.2 ***	1.12	[79] 903190.100	-0.349	0.368	-0.403	0.611 ***	-0.822 *	0.09	1051	11.9 ***	1.62
[40] 848299.000	0.087	0.063	0.094	0.119	-0.092	0.54	1080	81.9 ***	0.65	[80] 961210.000	0.772	0.244	0.762	0.088	0.333	0.66	1075	59 ***	0.78

Note: The first two coefficients are estimated in equation (5) and the next three coefficients are estimated in equation (6), resectively. Estimates for Gas and Wage are suppressed due to space constraint. One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and ++ (or by###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 6. Market share and ERPT (non-linear specification)

Importing countries	postitive	negative	Concave	Convex
Korea	27.5	15.0	7.5	22.5
China	23.8	13.8	17.5	12.5
Taiwan	11.3	31.3	28.8	7.5
Hong Kong	21.3	18.8	18.8	13.8
Germany	18.8	23.8	22.5	6.3
USA	13.8	23.8	22.5	3.8
Total	19.4	21.0	19.6	11.0

Note: Figures are percentage of commodities with indicated change of ERPT with respect to an increase in market share. Only the coefficients statistically significant at five percent level are used for calculation. Positive (negative) corresponds with positive (negative) sign of $\gamma^1 + \gamma^2$. Concave (convex) refers to negative (positive) coefficient on γ^2.

Table 7. Japanese market share versus regional market share on exchange rate pass-through (Taiwan)

HS9	ER	Share*ER	ER	Share*ER	Jshare*ER	Adj R^2	NOB	LM	DW	HS9	ER	Share*ER	ER	Share*ER	Jshare*ER	Adj R^2	NOB	LM	DW
[01] 370790.000	0.043	0.593 ***	-0.132	0.597 ***	0.410 **	0.48	1005	11.5 ***	0.91	[41] 848310.000	-0.219	0.137	-0.310	0.139	0.187	0.26	1003	6.79 ***	1.43
[02] 392062.000	1.851 ##	-0.696 ***	1.825 ###	-0.671 ***	0.007	0.35	971	0.21	1.32	[42] 848330.200	0.303	0.241	0.330	0.250	-0.257 **	0.04	1002	20.7 ***	1.82
[03] 392099.000	1.004	0.462	1.248	0.457	-0.281	0.36	936	3.88 **	1.48	[43] 848340.200	0.303	-0.105	0.106	-0.103	0.271	0.28	1020	18.8 ***	1.43
[04] 392690.000	-0.559 +++	0.178	-0.563 +++	0.178	0.046	0.15	1020	0.06	1.54	[44] 848350.000	-0.377	0.188	-0.352	0.187	-0.142	0.12	920	60.8 ***	1.62
[05] 401693.000	0.180	-0.275	0.081	-0.276	0.182	0.26	1018	18.2 ***	1.55	[45] 848360.000	0.338	-0.928 **	0.339	-0.927 **	-0.019	0.11	1001	0.83	1.89
[06] 401699.000	-0.066	-0.474	-0.091	-0.468	0.142	0.18	1020	7.82 ***	1.64	[46] 848410.000	0.020	-0.290	-0.034	-0.288	-0.059	0.18	944	2.67	1.74
[07] 482390.900	0.212	-0.084	0.181	-0.089	-0.384 **	0.04	1005	0.24	1.71	[47] 848590.000	0.579	-0.351	0.565	-0.352	0.039	0.18	978	12 ***	1.40
[08] 491110.000	-0.445	0.049	-0.431	0.048	0.107	0.12	895	11.6 ***	1.76	[48] 850110.191	0.412	0.791 ***	0.453	0.788 ***	-0.212	0.13	925	6.15 **	1.51
[09] 591190.000	-0.327	-0.119	-0.364	-0.118	0.122	0.13	929	2.62	1.68	[49] 850151.000	0.479	0.288	0.479	0.288	0.000	0.17	1001	1.98	1.47
[10] 731511.900	0.066	-0.344	0.115	-0.344	-0.113	0.17	1008	22.7 ***	1.39	[50] 850300.000	0.285	0.532 *	0.086	0.536 *	0.390 **	0.31	978	0.73	1.15
[11] 731815.190	-0.066	-0.912 *	-0.065	-0.912 *	-0.030	0.23	1014	21.5 ***	1.33	[51] 850431.910	0.261	-0.670 ***	0.251	-0.667 ***	0.616 **	0.10	888	33 ***	1.56
[12] 731815.900	-0.541	-1.434 ***	-0.485	-1.424 ***	-0.697 ***	0.15	965	44.2 ***	1.65	[52] 850440.110	0.247	0.123	0.229	0.124	0.070	0.20	968	0.45	1.62
[13] 731816.900	0.113	-0.711 **	0.161	-0.714 **	-0.197 *	0.27	991	9.53 ***	1.76	[53] 850440.900	-0.010	-0.087	-0.036	-0.087	0.106	0.10	1006	2.11	1.73
[14] 731822.000	0.445	-2.031 ***	0.476	-2.028 ***	-0.260	0.34	846	0.34	1.68	[54] 850450.000	1.105	0.713	1.078	0.713	0.134	0.28	935	9.47 ***	1.10
[15] 732020.000	0.952	-1.321 ***	0.933	-1.324 ***	-0.099	0.19	980	21.4 ***	1.36	[55] 850730.000	-0.076	-0.200 **	-0.174	-0.200 **	0.132 **	0.33	917	17.5 ***	1.81
[16] 732690.000	-0.113	0.085	-0.251	0.082	0.169	0.95	979	6.86 ***	1.72	[56] 852290.900	0.804	-0.817 **	0.594	-0.822 **	0.272	0.30	958	36.4 ***	1.35
[17] 820559.000	0.062	-0.641	0.140	-0.639	-0.151	0.17	944	57.6 ***	1.77	[57] 852990.900	0.302	2.362 ***	0.511	2.376 ***	-0.415	0.32	1012	27 ***	1.24
[18] 820890.000	0.506	0.562	0.510	0.563	-0.087	0.30	978	37.5 ***	1.82	[58] 853222.000	1.472	-0.736	1.459	-0.736	0.015	0.80	1016	31.1 ***	1.28
[19] 840991.100	-0.315	-0.730 **	-0.413	-0.729 **	0.144 ***	0.74	1020	53.4 ***	0.93	[59] 853223.000	1.009	-0.722	1.095	-0.717	-0.157	0.42	810	1.15	0.98
[20] 841330.000	0.166	1.081 ***	0.213	1.080 ***	-0.072	0.64	1015	44.5 ***	1.41	[60] 853321.000	-0.024	1.726	0.094	1.723	-0.202	0.16	912	11.2 ***	1.15
[21] 841360.100	0.008	0.315	-0.005	0.316	-0.050	0.17	1016	0.09	1.39	[61] 853340.000	0.562	-1.049	0.518	-1.047	0.100	0.24	966	30.8 ***	1.12
[22] 841391.000	0.922	-0.356	0.899	-0.359	0.081	0.36	1009	11.8 ***	1.68	[62] 853400.000	-0.244	1.990 ***	-0.204	1.987 ***	-0.087	0.47	950	2.77 *	1.38
[23] 841459.000	0.349	0.725 **	0.362	0.725 **	-0.076	0.07	1013	28.6 ***	1.63	[63] 853641.000	-0.172	1.559 ***	-0.106	1.553 ***	-0.107	0.13	998	23.6 ***	1.29
[24] 841590.000	0.601	0.087 **	0.737	0.088 **	-0.171	0.16	965	13 ***	1.57	[64] 853649.000	0.729	-0.935 ***	0.693	-0.936 ***	0.091	0.20	962	6.68 ***	1.40
[25] 842123.000	0.018	-0.868 **	0.126	-0.870 **	-0.168 **	0.44	926	30 ***	1.61	[65] 853650.900	0.289	0.078	0.218	0.077	0.201	0.39	1020	10.4 ***	1.34
[26] 842129.000	0.428	-0.114	0.428	-0.114	-0.001	0.04	952	12.6 ***	1.75	[66] 853669.000	0.989	-0.518 **	0.950	-0.508 **	-0.235 ***	0.12	920	1.48	1.69
[27] 842199.000	0.086	0.489	0.120	0.487	-0.127	0.23	1017	56 ***	1.92	[67] 853710.000	0.423	0.196	0.460	0.198	-0.090	0.04	1020	0.13	1.86
[28] 846693.000	-0.155	-0.269	-0.161	-0.268	-0.037	0.22	976	0.13	1.65	[68] 853890.900	0.589	1.485 *	0.579	1.485 *	0.045	0.34	1018	0.01	0.87
[29] 846711.000	0.759	-0.611 ***	0.824	-0.612 ***	-0.101 *	0.61	942	0.04	1.92	[69] 854110.920	1.544	-3.524 ***	1.471	-3.534 ***	0.592	0.21	851	3.74 *	1.27
[30] 847330.000	-0.512	4.017 ***	-0.577	4.060 ***	0.383 ***	0.28	998	6.36 **	0.62	[70] 854121.910	1.548	-2.133 ***	1.514	-2.131 ***	0.114	0.17	840	0.03	1.38
[31] 847989.900	0.194	1.269 ***	0.183	1.266 ***	0.048	0.41	1020	37.1 ***	1.73	[71] 854129.910	1.020	-4.852 ***	1.145	-4.827 ***	-0.660	0.14	836	29.3 ***	1.67
[32] 847990.000	0.807	-0.435	0.875	-0.442	-0.110	0.30	1013	28.5 ***	1.57	[72] 854140.990	1.214	2.133	1.370	2.131	-0.194	0.28	885	62.3 ***	0.91
[33] 848110.000	-0.031	0.103	0.052	0.101	-0.129 ***	0.30	1008	1.85	1.71	[73] 854390.000	-0.215	-1.627 ***	-0.265	-1.637 ***	-0.150	0.15	730	21.2 ***	1.58
[34] 848120.000	0.540	-0.259	0.522	-0.259	0.079	0.15	996	2.44	1.60	[74] 854451.910	1.234	-0.534 *	1.077	-0.538 *	0.235 *	0.10	980	34.4 ***	1.65
[35] 848130.900	0.448	-0.486	0.496	-0.486	-0.050	0.32	985	4.9 **	1.54	[75] 870899.900	-0.446 ++	0.173 *	-0.475 ++	0.174 *	0.043	0.28	1019	66.3 ***	1.46
[36] 848180.190	0.274	0.007	0.291	0.006	-0.048	0.15	1020	0.28	1.57	[76] 900912.000	-0.190	0.053	-0.559	0.113	-0.040	0.64	824	35.3 ***	1.25
[37] 848190.000	0.443	0.076	0.521	0.080	-0.258 **	0.37	1001	97.6 ***	1.78	[77] 901380.000	-0.545 ++	3.474 ***	-0.543 ++	3.473 ***	-0.021	0.36	820	12.1 ***	1.62
[38] 848210.000	0.063	-1.084 *	0.154	-1.080 *	-0.365 **	0.57	960	55.7 ***	1.32	[78] 903180.190	-0.023	-0.107	-0.026	-0.107	0.008	0.03	1015	0.94	1.87
[39] 848250.000	0.671	-0.891 *	0.671	-0.889 *	-0.061	0.49	944	102 ***	1.25	[79] 903190.100	0.541	0.257	0.575	0.269	-0.100	0.10	826	9.82 ***	1.95
[40] 848299.000	-1.069 ++	0.910 ***	-1.107 ++	0.909 ***	0.046	0.52	944	89.1 ***	1.54	[80] 961210.000	0.049	1.009 *	0.030	1.009 *	0.045	0.34	898	30.1 ***	1.48

Note: The first set of ER and Share*ER are estimated in equation (5) and the second set and Jshare*ER are estimated in equation (5'). One-side test of coefficient of ER being greater than zero (or less than unity) with statistical significance at 1%, 5% and 10% level are shown respectively by +++, ++, and + (or by ###, ##, and #). LM is the test for the null of homoskedastic disturbances and DW is the Durbin–Watson statistics for unbalanced panel. For other coefficients, F stat and LM, statistical significance at 1%, 5%, and 10% level are shown respectively by ***, **, and *.

Table 8. Difference in standard deviation of port market shares between 1988 and 2004

HS9	KOR	CHN	TWN	HK	GMN	US	HS9	KOR	CHN	TWN	HK	GMN	US
370790000	-0.0466	-0.2445	-0.0783	-0.0884	-0.0073	-0.0201	848310000	0.0126	-0.0720	0.0171	-0.1072	-0.0342	-0.0490
392062000	0.0469	-0.1047	-0.2413	-0.1745	-0.0422	0.0316	848330200	-0.0597	-0.1180	-0.0233	-0.0423	-0.0929	-0.0395
392099000	-0.0716	-0.2135	0.0105	-0.0799	-0.2273	-0.0710	848340200	-0.0220	-0.1316	0.0368	-0.0241	0.0873	-0.0128
392690000	-0.0616	-0.1281	-0.0267	-0.0580	-0.0054	-0.0374	848350000	0.0369	-0.1569	0.0730	0.0262	0.1588	0.0249
401693000	-0.0428	-0.0907	-0.0085	-0.0313	-0.0643	-0.0292	848360000	-0.0004	-0.0084	-0.0213	0.0117	-0.1198	0.0019
401699000	-0.0071	-0.0833	-0.0217	0.0072	-0.0068	-0.0341	848410000	-0.0369	-0.0599	0.0012	-0.1240	0.1388	0.0937
482390900	-0.0978	-0.0665	-0.0521	-0.0651	0.0958	0.0483	848590000	-0.0041	-0.1300	-0.0547	0.0354	-0.0536	-0.1409
491110000	-0.0460	-0.0990	0.0018	-0.0011	0.0135	-0.0207	850110191	0.0100	-0.2284	-0.0561	-0.0584	0.0340	0.0257
591190000	-0.0838	-0.2560	-0.0336	-0.0783	-0.2107	-0.0628	850151000	-0.0900	-0.1731	-0.0625	-0.0576	-0.0423	-0.0519
731511900	-0.0406	-0.1973	0.0190	0.0561	-0.0424	0.0062	850300000	-0.0265	-0.1345	-0.0362	-0.0750	0.0676	-0.0402
731815190	0.0352	-0.1340	0.0581	-0.1510	0.0319	0.0804	850431910	-0.1117	-0.1523	-0.0003	-0.2065	0.0783	-0.0072
731815900	-0.0440	-0.1903	0.0042	0.0030	-0.0383	-0.0068	850440110	-0.1282	-0.1526	-0.0267	-0.0215	-0.0589	-0.1072
731816900	0.0154	-0.1936	0.0210	-0.1023	-0.0675	-0.0214	850440900	-0.1132	-0.1955	-0.0201	-0.0784	0.0525	-0.0332
731822000	0.0476	-0.2661	0.1460	-0.0526	-0.0353	-0.0128	850450000	-0.0811	-0.2320	-0.0534	-0.0401	-0.0374	-0.0021
732020000	-0.0408	-0.1825	-0.0436	-0.0945	-0.0390	-0.0739	850730000	0.0118	0.0769	0.0767	0.1351	0.0861	0.1719
732690000	-0.1381	-0.2332	-0.0550	-0.0082	-0.0579	-0.0237	852290900	-0.0387	-0.2232	-0.0674	-0.2057	0.0312	0.0282
820559000	-0.0804	-0.1098	0.0105	-0.0757	-0.0291	-0.0373	852990900	-0.0661	-0.1948	-0.0394	-0.0450	-0.0724	-0.0439
820890000	-0.0582	-0.1477	-0.0343	-0.0827	-0.0054	0.0710	853222000	-0.0470	-0.1413	-0.0123	0.0288	0.0834	-0.0585
840991100	-0.0320	-0.1221	0.0293	0.0104	-0.0788	0.0301	853223000	-0.0513	-0.1425	0.0010	0.0529	-0.0074	-0.0752
841330000	-0.0321	-0.0544	0.0506	0.0055	-0.0361	-0.0400	853321000	0.0009	-0.1522	-0.0026	0.0223	0.1121	0.1789
841360100	-0.0462	-0.1236	-0.0400	-0.0707	-0.0344	-0.0796	853340000	-0.0583	-0.2090	-0.0060	-0.0086	0.0453	-0.0567
841391000	0.1691	-0.1706	0.0001	-0.0601	0.0344	0.0580	853400000	-0.0723	-0.1264	-0.0514	-0.0172	0.0301	-0.0106
841459000	-0.0326	-0.1625	0.0422	0.0043	0.1142	-0.0149	853641000	-0.0056	-0.1358	-0.0022	-0.0285	0.0625	-0.0436
841590000	0.0055	-0.1585	-0.0505	-0.0834	-0.0278	0.0008	853649000	-0.0381	-0.0961	0.0707	-0.0013	-0.0693	-0.0216
842123000	-0.0292	-0.0288	-0.0290	-0.0091	0.1108	0.0590	853650900	-0.0159	-0.1803	-0.0421	-0.0326	-0.0424	-0.0055
842129000	-0.2160	-0.0590	-0.0868	-0.1028	0.0676	-0.0835	853669000	0.0056	-0.1246	-0.0239	-0.0281	-0.0318	0.0180
842199000	-0.0405	-0.0770	0.0092	-0.0148	-0.1021	-0.0040	853710000	-0.0159	-0.0968	0.0307	0.0439	0.0342	-0.0750
846693000	-0.1598	-0.1791	-0.1209	-0.0482	-0.0513	-0.1638	853890900	-0.0675	-0.2000	-0.0511	-0.0901	-0.0335	-0.0061
846711000	-0.1559	-0.2169	-0.0461	-0.1562	-0.0277	0.0209	854110920	-0.0265	-0.1891	-0.0395	-0.0067	-0.1045	0.0034
847330000	-0.0375	-0.0831	-0.0612	-0.0898	0.0692	0.0077	854121910	0.0889	-0.1880	-0.0141	-0.0059	-0.0709	0.0054
847989900	-0.0675	-0.1408	-0.0016	-0.0696	-0.0414	-0.0367	854129910	-0.0173	-0.2369	-0.0115	-0.0113	-0.0619	0.0633
847990000	-0.1091	-0.1666	-0.0655	0.0224	0.0278	-0.0072	854140990	-0.0078	-0.2475	-0.0206	-0.0294	0.1215	-0.0202
848110000	-0.0400	-0.1199	-0.0079	0.0166	0.1278	-0.0557	854390000	-0.0168	-0.2096	-0.0266	-0.0641	-0.0281	0.0030
848120000	-0.0483	-0.1170	0.0061	0.0340	-0.0675	-0.0037	854451910	-0.1257	-0.0972	-0.0617	-0.0826	0.0110	0.0005
848130900	-0.0258	-0.1382	-0.0515	-0.0114	-0.1326	0.0599	870899900	-0.0120	-0.1213	0.0481	0.0329	0.0939	0.0419
848180190	-0.1403	-0.0721	-0.1295	-0.0938	0.1217	-0.0624	900912000	-0.0586	-0.1000	0.1456	0.1155	0.1342	0.0348
848190000	0.0485	-0.1389	-0.0929	-0.0107	0.0032	-0.1206	901380000	-0.0795	-0.1215	0.0162	0.0948	-0.0063	-0.0276
848210000	-0.0380	-0.1489	-0.0289	0.0111	0.0568	0.0154	903180190	-0.1184	-0.1440	-0.0265	-0.0817	0.0416	-0.0035
848250000	-0.0391	-0.0708	-0.0125	-0.0395	0.0849	-0.0014	903190100	-0.0847	-0.1470	-0.0307	-0.0898	-0.0664	-0.0108
848299000	-0.0725	-0.1383	-0.1379	-0.1724	0.0597	-0.0188	961210000	-0.1474	-0.1949	0.0644	0.0254	-0.0615	-0.0169

Note: Monthly standard deviations of Japanese port market share are calculated firstly for each importing country and annual averages of monthly standard deviations for each year are then calculated. Specifically, the values in table represent average standard deviation in 2004 minus average standard deviation in 1988.

Table 9. Changes in average ERPT

	Korea		China		Taiwan	
	75.0		63.8		81.3	
percentage point change in ERPT	decline	increase	decline	increase	decline	increase
5	20.0	20.0	27.5	8.8	15.0	21.3
10	16.3	11.3	16.3	7.5	8.8	20.0
15	8.8	8.8	12.5	6.3	6.3	16.3
20	3.8	3.8	7.5	3.8	2.5	13.8

	HongKong		GMN		US	
	73.8		76.3		75.0	
percentage point change in ERPT	decline	increase	decline	increase	decline	increase
5	7.5	21.3	11.3	15.0	3.8	8.8
10	6.3	11.3	5.0	6.3	1.3	3.8
15	3.8	5.0	1.3	5.0	1.3	2.5
20	2.5	2.5	0.0	1.3	1.3	2.5

Note: The figures just below the name of importing countries indicate the percentage of commodities showing time-varing ERPT behaviors with statistical significance. The figures under either 'decline' or 'increase' indicate the percentage of commodities with more than corresponding percentage point changes in ERPT.