

RMB Internationalization, FTA and Exchange Rate Pass-Through

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Abstract

Based on the monthly import data classified by HS code from 2008 to 2018, this paper analyzed China's exchange rate pass-through (ERPT) and the effects of RMB internationalization on it by constructing theoretical model and econometric model. The research shows that the increase of RMB internationalization reduces China's ERPT and stabilizes import price and reduces the risk of exchange rate fluctuations that our enterprises are exposed to significantly. In the extended analysis, it is found that the signing of Free Trade Agreements further strengthens the impact of RMB internationalization on exchange rate pass-through, means two strategies of RMB internationalization and FTA can promote each other.

Keywords

RMB Internationalization, FTA, Exchange Rate Pass-Through, Import Price

1. Introduction

Exchange Rate Pass-through refers to the change of import price expressed in the trade destination's currency caused by exchange rate fluctuations. When one unit exchange rate fluctuation causes the change of import price with the same proportion, it is called complete exchange rate pass-through. Therefore, exchange rate pass-through is closely related to changes in import prices. The greater exchange rate pass-through, the greater the impact of exchange rate changes on import prices will be. Stabilizing price level has always been one of China's main policy objectives. In the context of RMB exchange rate volatility becoming more market-oriented and entering the new normal of two-way volatility, it is necessary to study the new characteristics of China's exchange rate pass-through under the new situation and research how to stabilize import prices.

From a macro perspective, exchange rate pass-through affects overall price level of China by affecting the import price, so it is related to consumer welfare, inflation and effectiveness of monetary policy. From a micro perspective, a considerable number of Chinese export enterprises import intermediate from foreign countries, and the proportion of intermediate in imports is as high as 60% (Li, 2020). Therefore, changes in import prices due to exchange rate fluctuations affect their production costs. However, Han et al. (2017) pointed out that due to product structure, low profit and lack of core competitiveness, many Chinese export enterprises could only cope with exchange rate fluctuations by adjusting export quantity instead of export price. Therefore, when these export enterprises importing intermediate inputs cannot pass on the cost changes caused by exchange rate fluctuations to export price, their operational and financial risks increase. For non-exporting import enterprises, due to the existence of price stickiness, the cost changes brought by exchange rate fluctuations cannot be fully reflected in commodity prices, which further increase the uncertainty of profits. Therefore, from the perspective of stabilizing import prices, it is meaningful to study exchange rate pass-through and its influencing factors.

Exchange rate pass-through is affected by invoicing currency. The call for reform of the current international monetary system has been growing since the outbreak of the international financial crisis in 2008. Peng & Tan (2017) pointed out that in this context, Chinese government actively promotes RMB internationalization in order to accelerate the diversification of international currencies and avoid further infringement from current international monetary system to China. As the embodiment of transaction medium function, RMB settlement is an important part of RMB internationalization. In July 2009, the People's Bank of China, the Ministry of Finance and other relevant authorities announced that the RMB settlement scheme would be launched in five cities including Shanghai, Guangzhou and Shenzhen. RMB internationalization report 2019 written by International Monetary Institute of Renmin University of China shows that the scale of RMB settlement increased rapidly from RMB 2.94 trillion in 2012 to RMB 5.11 trillion in 2018, and cross-border RMB settlement accounted for 14.9% of China's total trade in goods and services that year. RMB settlement provides both importers and exporters with another currency choice for invoicing and settlement in cross-border trade. Therefore, as a major national strategy, the implementation of RMB internationalization is bound to have an impact on exchange rate pass-through, and its impact need to be studied urgently.

Due to the differences in the characteristics and market structure of different products, this paper constructed a theoretical model and uses product -level data to compile the nominal effective exchange rate index. To explore whether RMB internationalization can improve the stability of China's import prices, this paper measured exchange rate pass-through in China and the impact of RMB internationalization on it. Then this paper discovered the relationship between signing of Free Trade Agreements and the impact of RMB internationalization on exchange rate pass-through.

2. Literature Review

The existing researches on exchange rate pass-through mainly focus on the measurement of it and the factors affecting it. At the national level, most literatures point out that exchange rate pass-through is incomplete (Campa & Goldberg, 2005; Wang & Li, 2009; Beirne & Bijsterbosch, 2011). At the industry level, exchange rate pass-through in each industry is also different (Pollard & Coughlin, 2006; Chen et al., 2007; Hong & Zhang, 2016).

In recent years, scholars have gradually shifted focus to explore the factors affecting exchange rate pass-through. From a macro perspective, Taylor (2000), Cao & Shen (2013) all pointed out that inflation rate and exchange rate system reform affect exchange rate pass-through. Therefore, monetary policies or monetary system reforms (such as joining the euro area) affecting the inflation rate and exchange rate fluctuations, thus have an impact on exchange rate pass-through (Gagnon & Ihrig, 2004; Cheikh & Zaied, 2020). From the micro perspective, Cao (2016) pointed out that the most convincing and representative theory to explain the incomplete exchange rate pass-through is Pricing to Market (PTM) based on manufacturers' profit maximization behavior. Specifically, when faced with exchange rate fluctuations, export enterprises adopt different markup strategies for different product destination markets, resulting in different price of the same product in different markets, and thus inconsistent exchange rate pass-through across regions (Atkeson & Burstein, 2008). Therefore, the factors that affect the PTM ability of export enterprises also affect exchange rate pass-through.

PTM ability of export enterprises is affected by many aspects. From the perspective of enterprise and product heterogeneity, Wang et al. (2015) pointed out that the quality of export products is negatively correlated with the exchange rate pass-through, the higher the quality of products, the lower the exchange rate pass-through. From the perspective of market competition, Chou (2019) pointed out that when exporting enterprises are in a more competitive market environment, in order to maintain market share, exporting enterprises tend to maintain the stability of the destination price of export commodities when the exchange rate changes. Therefore, when the trade openness of the importing country increases, exchange rate pass-through decreases.

Industries are composed of enterprises. From this perspective, differences in exchange rate pass-through in various industries can be explained to some extent by the competitive environment of the industry and the heterogeneity of enterprises and products in the industry. Therefore, inter-provincial differences in exchange rate pass-through can also be explained by differences in the proportion of various types of imported products, and changes in import structure, trading partners brought by the implementation of the Belt and Road policy also lead to changes in exchange rate pass-through (Cao et al., 2019).

Above all can be found that the existing analysis of exchange rate pass-through influence factors are more focused on the national, provincial and enterprise le-

vels. As for industry and product level, researches are more about exchange rate pass-through measurement, scholars have explored only two aspects of China's exchange rate system reform and import tariffs' influence on industry's exchange rate pass-through (Wan et al., 2011; Gao & Sheng, 2016). Few studies have investigated the impact of RMB internationalization on exchange rate pass-through. RMB internationalization starts from RMB cross-border trade settlement, which affects invoicing method and PTM behavior of enterprises from the micro level, and inevitably affects the exchange rate pass-through of China various products. Therefore, it is very necessary to carry out research on it. The main contributions of this paper are as follows: Firstly, the relationship between RMB internationalization and exchange rate pass-through is investigated for the first time, which enriches research about influencing factors of exchange rate pass-through; Secondly, from the perspective of the impact of RMB internationalization on exchange rate pass-through, it explains how RMB internationalization can stabilize import prices and help Chinese importing enterprises reduce business risks caused by exchange rate fluctuations. Thirdly, this paper verifies the meaning of Free Trade Agreements for RMB internationalization and exchange rate pass-through.

3. Methodology and Data

3.1. Theoretical Analysis

Suppose there are two countries, home H and foreign F , and each country has a large number of homogeneous firms. The representative firm in country F produces the product X_{FH} and sells it to the representative firm in country H . According to the theorem of supply and demand, the sales volume Q_{FH} of X_{FH} is affected by the export price P_{FH} (which is the import price for the representative firm in country H), the price of competitive goods P_H and the total demand Y_H in country H . The production cost of X_{FH} is $C_{FH}(Q_{FH})$.

The profit function of the representative enterprise in country F is:

$$\max \pi = E \times P_{FH} \times Q_{FH} - C_{FH}(Q_{FH}) \quad (1)$$

The first-order condition for profit maximization is:

$$P_{FH} = MC_{FH}^* \times \mu_{FH} \quad (2)$$

where MC_{FH}^* is the foreign currency price of marginal cost MC_{FH}/E ,

$\mu_{FH} = 1/(1-1/\varepsilon)$, $\varepsilon = -\frac{\partial Q_{FH} P_{FH}}{\partial P_{FH} Q_{FH}}$. μ_{FH} represents the markup and ε is the

price elasticity of demand. Changing Equation (2) to logarithmic and combined with the above analysis, the following basic analysis model of exchange rate pass-through in country H is established:

$$\ln P_{FH} = \ln E + \ln P_H + \ln MC_{FH} + \ln Y_H \quad (3)$$

Based on the method of Burstein & Gopinath (2014), the following model is

established to explore the relationship between invoicing currency and exchange rate pass-through. Exporters in country F can choose to use currency of country F or country H for invoicing. There are $v\%$ of exporters choosing currency of country H and $(1 - v)\%$ of exporters choosing currency of country F . Under the condition of price stickiness, every time $k\%$ of exporters choose not to adjust price, $(1 - k)\%$ of exporters adjust price. Then, the change of import price of country H is:

$$\Delta P_{FH,t} = (1-k) \left[v(P_{new,t}^H - P_{FH,t-1}^H) + (1-v)(P_{new,t}^F - P_{FH,t-1}^F + \Delta E_t) \right] + k(1-v)\Delta E_t \quad (4)$$

where P_{new} represents the price readjusted by exporter, and the exchange rate pass-through is:

$$\frac{\Delta P_{FH,t}}{\Delta E_t} = (1-v) + (1-k) \left[v \frac{\Delta P_{new,t}^H}{\Delta E_t} + (1-v) \frac{\Delta P_{new,t}^F}{\Delta E_t} \right] \quad (5)$$

According to Equation (5), when the proportion of exporters invoicing in the currency of country F , that $1-v$ is higher, exchange rate pass-through is higher, and the import price is more affected by exchange rate fluctuations. On the contrary, when the proportion of exporters invoicing in the currency of country H that v is higher, exchange rate pass-through is lower, and the import price is less affected by exchange rate fluctuations.

Based on the above model, this paper puts forward the following propositions:

From the perspective of China's import trade, invoiced in RMB means invoiced in importing country currency. Therefore, with the deepening of RMB internationalization, the number of foreign exporters invoicing in RMB will increase, which will reduce exchange rate pass-through. That is, for Chinese importers, RMB internationalization is helpful to stabilize import prices and avoid risks caused by exchange rate fluctuations.

Proposition 1: The deepening of RMB internationalization will reduce exchange rate pass-through in China, $\partial ERPT / \partial RII < 0$, where ERPT represents exchange rate pass-through, and RII represents the internationalization degree of RMB.

Due to influence scope of current RMB internationalization, some countries have a higher RMB acceptance, so the same RMB internationalization level will have different impact on the exchange rate pass-through of products due to their different exporting country. If a country has a higher degree of RMB acceptance, its exporters will be more likely to accept invoicing in RMB under the same RMB internationalization level. The signing of free trade agreements (FTA) will improve the probability of RMB invoicing among member countries by rising the degree of trade correlation and financial coordination (Deng & Huo, 2017).

Proposition 2: When product exporting countries are mostly having signed free trade agreements with China, the exchange rate pass-through of the product is more obviously affected by RMB internationalization.

3.2. Econometric Model, Variable Selection and Data Description

1) Econometric Model

To explore China's exchange rate pass-through and impact of RMB internationalization on it, the following basic regression model is constructed based on the theoretical model:

$$ip_{it} = \beta_0 + \beta_1 er_{it} + \beta_2 rii_t + \beta_3 er_{it} \times rii_t + \beta_4 ppi_{it} + \beta_5 mc_{it} + \beta_6 y_t + \varepsilon_{it} \quad (6)$$

where i represents product, t represents time, ip represents the import price of product, er represents the nominal effective exchange rate of product, rii is the RMB internationalization index, pi , mc and y are control variables, respectively represent the domestic substitute price of each product, import cost of each product and China's total demand. The signs of β_1 and β_3 can be inferred are opposite.

2) Variable Selection and Data Description

International Convention for Harmonized Commodity Description and Coding System (HS) classified imported products into 21 categories totally. Since product in HS 19, 20 and 21 are weapons and art related, whose import prices are not representative¹, this paper only selects monthly data of imported products in HS 1 to 18 from 2008 to 2018 for analysis. The sources of data and the processing of variables are described in turn.

a) Import price

Import price indices by HS classified product are derived from CEIC database and are monthly year-on-year. Xu (2012) pointed out that the year-on-year index could effectively eliminate the seasonal cyclical fluctuation factors and better reflect the real trend of price changes.

b) Product nominal effective exchange rate index

Through DRCNET database, the monthly import amount of HS product i from country f IM_{ift} is obtained, and then the proportion of the import amount of HS product i from country f IM_{ift}/IM_{it} is calculated. The bilateral exchange rate between each Country's currency and US dollar and the bilateral exchange rate between RMB and US dollar are obtained from the BVD EIU data database, and the bilateral exchange rate between RMB and each country's currency er_{ft} can be obtained by transformation (one unit RMB = N unit foreign currency). The bilateral exchange rate of RMB against each country's currency is indexed on a year-on-year basis and multiplied with the above proportion to obtain the nominal effective exchange rate index of each product er_{it} . The corresponding calculation formula as follow.

$$er_{it} = \sum_f (IM_{ift}/IM_{it}) \times er_{ft} \quad (7)$$

c) Price of domestic substitutes

Monthly year-on-year basis China's Producer Price Index is obtained from CEI database, and it is classified and matched with the 18 products classified by

¹HS 19: weapons, ammunition and their parts and accessories, HS 20: miscellaneous products; HS 21: Art, collectibles and antiquities.

HS according to similar categories. The classification matching result is shown in **Table 1**.

d) Import cost

The monthly producer price index of each exporting country is obtained from BVD EIU database. The original data is converted into year-on-year data, and multiplied by the proportion of each product's trade volume imported from each country to obtain the weighted import cost.

e) Aggregate demand of China

Since the monthly GDP is not available, the monthly power generation is considered as the proxy variable. The original data is from CEI database, which is also converted into year-on-year index.

f) RMB internationalization index

Learn from the method of [Dai & Zhen \(2020\)](#) to build the RMB internationalization index. Firstly, build the secondary indicators for RMB serving exchange medium, value unit and value reserve, set the weight of each secondary indicator using the principal component analysis method, and then build the RMB internationalization index from 2008 to 2018 by weighted average. Due to the availability of data, the constructed RMB internationalization index is quarterly data, which is converted into monthly data by constant match average method.

In order to eliminate heteroscedasticity, all the above variables except the RMB internationalization index are logarithmized. **Table 2** reports the descriptive statistics of the main variables.

4. Empirical Results

4.1. Stationary Test

In order to avoid spurious regression, LLC unit root test is carried out for each variable, results from **Table 3** shows that all variables except *ppi* are stationary series at 1% significant level. *ppi* becomes stable after the first-order difference, so Δppi is used for estimation.

4.2. Exchange Rate Pass-Through and Impact of RMB Internationalization on It

Based on model (6), this paper estimates full sample to explore the impact of RMB internationalization on China's exchange rate pass-through. Since the data are long panel data, panel correction standard error (PCSE) method was adopted for regression in order to avoid the possible inter-group heteroscedasticity, intra-group autocorrelation or inter-group covariance of disturbance terms. Individual dummy variables and time trend items are added to control individual effects and time effects. The interaction terms are centralized. In addition, in order to further strengthen the robustness, this paper adopted the method of gradually adding control variables to regression.

Table 1. Classification matching results.

HS	Corresponding to domestic substitute industry
1, 2, 3	Agricultural and sideline food processing
4	Food manufacturing
5, 13	Non-metallic mineral product
6	Chemical raw materials and chemical product
7	Rubber and plastic product
8, 12	Leather, fur, feathers and related products and footwear
9	Wood processing and wood, bamboo, rattan, palm and grass product
10	Paper making and paper related product
11	Textile product
14, 15	Metal product
16, 17, 18	Special equipment manufacturing product

Table 2. Descriptive statistics.

	observation	mean	sd	min	max
<i>ip</i>	2640	4.623	0.142	3.968	5.713
<i>er</i>	2640	4.631	0.589	4.372	12.971
<i>ppi</i>	2640	4.618	0.040	4.416	4.811
<i>mc</i>	2640	4.589	0.018	4.447	4.666
<i>y</i>	2640	4.670	0.067	4.453	4.973
<i>rii</i>	2640	0.040	0.021	0.006	0.083

Table 3. Stationary test.

	adj T	<i>p</i> value
<i>ip</i>	-4.692	0.000
<i>er</i>	-6.825	0.000
<i>ppi</i>	-1.523	0.064
Δppi	-14.201	0.000
<i>mc</i>	-11.358	0.000
<i>y</i>	-10.045	0.000
<i>rii</i>	-2.939	0.001

Firstly, China's exchange rate pass-through is estimated. The results in **Table 4** show that the coefficient of *er* is about -0.3, that is, when the RMB exchange rate changes 1%, the import price changes 0.3% from the overall perspective. This result did not change significantly when the control variables were gradually added, indicating the robustness of the result. Among the control variables, *mc* and *y* are positively correlated with the import price, indicating that the

Table 4. The empirical results of RMB internationalization affecting China's ERPT.

<i>ip</i>	(1)	(2)	(3)	(4)
<i>er</i>	-0.341*** (0.046)	-0.321*** (0.046)	-0.318*** (0.045)	-0.257*** (0.048)
<i>rii</i>	-2.987*** (0.541)	-2.965*** (0.541)	-2.911*** (0.539)	-2.678*** (0.542)
<i>er*rii</i>	11.939*** (1.703)	11.221*** (1.669)	11.149*** (1.657)	8.938*** (1.752)
<i>ppi</i>		0.791 (0.597)	0.685 (0.592)	0.068 (0.588)
<i>mc</i>			0.644* (0.341)	0.569* (0.236)
<i>y</i>				0.281*** (0.096)
Time	control	control	control	control
Product	control	control	control	control

Note: Standard deviation in brackets; *, ** and *** respectively represent significant at the significance level of 10%, 5% and 1%, the same as in the following tables.

higher the production cost of imported products and China's total domestic demand, the higher the price of imported products.

Then, this paper analyzes impact of RMB internationalization on China's exchange rate pass-through. It can be seen from **Table 4** that the sign of interaction item is significantly positive, which means the increase of the degree of internationalization of RMB will reduce China's exchange rate pass-through, consisting with Proposition 1 in the theoretical model. The possible reason is that with the improvement of RMB internationalization, both importers and exporters are offered choice of invoicing in RMB, so that more trades are invoiced in RMB. Invoiced in importing country's currency reduces the exchange rate pass-through, stabilize the import price in China, and reduce the uncertainty caused by exchange rate fluctuations for importers.

4.3. Robustness Test

Firstly, this paper uses the monthly cross-border RMB settlement amount of goods trade to replace the RMB internationalization index for robustness test. The original data came from CEIC economic database, which was converted into year-on-year index for estimation.

Secondly, this paper changes estimation method for robustness test, use Fix Effect method and system GMM method to estimate model 6 respectively. System GMM method is used to avoid endogeneity, the lag term of the explained variable is the instrumental variable. In column (3), it can be seen that p value of Sargan test is greater than 0.1, indicating that the instrumental variables are valid. And p value of AR(2) is greater than 0.1, indicating that the residual term of

the model does not exist second-order autocorrelation. In conclusion, it can be considered that system GMM model has passed the Arellano-Bond sequence correlation test and the Sargan test, which is reasonable and reliable.

Column (1) - (3) in **Table 5** shows that the signs of interaction item are still significantly positive, the result that RMB internationalization can reduce exchange rate pass-through in China is robust.

4.4. Extended Analysis

The signing of Free Trade Agreement promotes the settlement of cross-border trade in RMB by strengthening trade correlation degree and financial coordination between China and signatory counties (Deng & Huo, 2017). Therefore, it can be speculated that under the given internationalization level of RMB, exporters from countries signing FTA with China may be more willing to invoice in RMB, resulting in a greater impact of RMB internationalization on exchange rate pass-through. By December 2018, China had 12 free trade agreements in effect, covering 22 countries and regions.

According to the method of Yu et al. (2012), on the basis of regression model (6), the interaction term of the three variables, namely, the proportion of import value from FTA signatory countries for different products (fta), the degree of internationalization of RMB (rii) and the product nominal effective exchange rate index (er), are added to obtain the econometric model (8). According to proposition 2, the coefficient sign of the interaction term can be inferred to be positive.

$$ip_{it} = \beta_0 + \beta_1 er_{it} + \beta_2 rii_{it} + \beta_3 fta_{it} + \beta_4 er_{it} \times rii_{it} + \beta_5 er_{it} \times fta_{it} + \beta_6 er_{it} \times rii_{it} \times fta_{it} + \beta_7 ppi_{it} + \beta_8 mc_{it} + \beta_9 y_t + \varepsilon_{it} \quad (8)$$

In order to avoid endogeneity, regression is carried out with the lagged fta , PCSE method is still used. The regression results are shown in **Table 6**.

Columns (1) to (4) respectively show the regression results of fta with lag of one quarter to four quarters. It can be seen that, except for the insignificant interaction terms of er , rii and fta in column (1), the interaction terms in the other three columns are all significantly positive, and the coefficient increases gradually with the increase of the lag order of fta , indicating that proposition 2 is valid.

5. Conclusion

This paper analyzes China's exchange rate pass-through and two strategies of RMB internationalization and FTA on it. The research finds that: 1) RMB internationalization significantly reduces China's exchange rate pass-through. With the improvement of RMB internationalization, trade invoiced in RMB increase, and the stability of import price will be enhanced. 2) Signing FTA increase impact of RMB internationalization on China's exchange rate pass-through.

According to the above conclusions, this paper obtains the following enlightenments. 1) RMB internationalization is helpful to reduce the exchange rate

Table 5. Robustness test.

<i>ip</i>	(1) replace variable	(2) FE	(3) system GMM
<i>er</i>	-0.214*** (0.043)	-0.246** (0.093)	-0.156** (0.072)
<i>rii</i>	-0.017*** (0.004)	-0.019*** (0.006)	-0.002 (0.002)
<i>er*rii</i>	0.104*** (0.021)	0.120** (0.046)	0.075** (0.032)
Control variables	control	control	control
Time	control	control	control
Product	control	control	control
AR(1) <i>p</i> value			0.020
AR(2) <i>p</i> value			0.178
Sargan <i>p</i> value			0.437

Table 6. Relationship between FTA and the impact of RMB internationalization on ERPT.

<i>ip</i>	(1)	(2)	(3)	(4)
<i>er</i>	-0.270*** (0.046)	-0.245*** (0.046)	-0.203*** (0.043)	-0.195*** (0.042)
<i>rii</i>	-2.607*** (0.533)	-2.541*** (0.521)	-2.373*** (0.485)	-2.161*** (0.469)
<i>fta</i>	0.001*** (0.0003)	0.001*** (0.0003)	0.002*** (0.0003)	0.002*** (0.0003)
<i>er*rii</i>	8.091*** (2.057)	7.701*** (2.028)	6.784*** (1.919)	5.536*** (1.831)
<i>er*fta</i>	0.001 (0.002)	0.0002 (0.002)	-0.0002 (0.002)	0.001 (0.001)
<i>er*rii*fta</i>	0.034 (0.038)	0.055** (0.027)	0.078*** (0.025)	0.087*** (0.028)
Control variable	control	control	control	control
Time	control	control	control	control
Product	control	control	control	control

risks faced by Chinese import enterprises. Therefore, RMB internationalization should be further promoted. 2) Two strategies of RMB internationalization and FTA can promote each other. China can actively negotiate with countries and regions along the “One Belt and One Road” to build Free Trade Areas, attach importance to the negotiation and signing of Free Trade Agreements with developed countries.

As the impact of exchange rate fluctuations on prices usually goes through the transmission process of import price to producer price to consumer price, among which the import price index is the most directly affected by exchange rate fluc-

tuations, this paper focused on the influence of RMB internationalization and FTA on China's import price. In future studies, if data such as enterprises' ex-factory prices and products' consumer prices can be obtained, more diversified price data can be used to estimate and compare with import prices and study the complete influence chain of exchange rate pass-through in a more comprehensive way.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

- Atkeson, A., & Burstein, A. (2008). Pricing-to-Market, Trade Costs, and International Relative Prices. *The American Economic Review*, *98*, 1998-2031. <https://doi.org/10.1257/aer.98.5.1998>
- Beirne, J., & Bijsterbosch, M. (2011). Exchange Rate Pass-Through in Central and Eastern European EU Member States. *Journal of Policy Modeling*, *33*, 241-254. <https://doi.org/10.1016/j.jpolmod.2010.11.001>
- Burstein, A., & Gopinath, G. (2014). International Prices and Exchange Rate. *Handbook of International Economics*, *4*, 391-447. <https://doi.org/10.1016/B978-0-444-54314-1.00007-0>
- Campa, J. M., & Goldberg, L. S. (2005). Exchange Rate Pass-Through into Import Prices. *The Review of Economics and Statistics*, *87*, 679-690. <https://doi.org/10.1162/003465305775098189>
- Cao, W. (2016). Literature Survey on the Pricing to Market and Incomplete Exchange Rate Pass-Through: History and Recent Developments. *The Journal of World Economy*, *39*, 53-73.
- Cao, W., & Shen, Y. (2013). Research on RMB Exchange Rate Pass-Through, Industrial Import Prices and Inflation: 1996-2011. *Journal of Financial Research*, *10*, 68-80. https://en.cnki.com.cn/Article_en/CJFDTotal-JRYJ201310006.htm
- Cao, W., Wan, D., Qian, S. T., & Jin, Z. H. (2019). RMB Exchange Rate Pass-Through to Import Prices Against the Backdrop of Belt and Road Initiative. *Economic Research Journal*, *54*, 136-150.
- Cheikh, N. B., & Zaied, Y. B. (2020). Revisiting the Pass-Through of Exchange Rate in the Transition Economies: New Evidence from New EU Member States. *International Journal of Finance & Economics*, *100*, Article ID: 102093. <https://doi.org/10.1016/j.jimonfin.2019.102093>
- Chen, X. B., Li, S. G., & Lu, B. (2007). Exchange Rate Pass-Through to Chinese Export Prices and Exporters' Capability of Pricing to Market. *Economic Research Journal*, *12*, 106-117. https://en.cnki.com.cn/Article_en/CJFDTOTAL-JYJ200712011.htm
- Chou, K. (2019) Re-Examining the Time-Varying Nature and Determinants of Exchange Rate Pass-Through into Import Prices. *The North American Journal of Economics and Finance*, *49*, 331-351. <https://doi.org/10.1016/j.najef.2019.04.022>
- Dai, J. P., & Zhen, X. Y. (2020). Has the Internationalization of the RMB Promoted the Internationalization of Chinese Enterprises? *Naikai Journal (Philosophy, Literature and Social Science Edition)*, *3*, 46-56.

- Deng, F. H., & Huo, W. D. (2017). Free Trade Agreement, Institutional Environment Ang RMB Cross-Border Trade Settlement. *China Industrial Economics*, 5, 75-93.
- Gagnon, J. E., & Ihrig, J. E. (2004). Monetary Policy and Exchange Rate Pass-Through. *International Journal of Finance & Economics*, 9, 315-338.
<https://doi.org/10.1002/ijfe.253>
- Gao, W. G., & Sheng, B. (2016). The Research on Impact of RMB Exchange Rate Changes on China Trade Price. *World Economy Studies*, 9, 73-85+96+136.
- Han, J., Zheng, Q. L., & Shao, J. (2017). Multi-Product Firms, Exchange Rate Fluctuation and Export Price Pass-Through. *Journal of Management World*, 8, 14-26+187.
- Hong, P., & Zhang, F. (2016) Exchange Rate Pass-Through into China's Import Prices: An Empirical Analysis Based on ARDL Model. *Open Journal of Social Sciences*, 4, 13-22.
<https://doi.org/10.4236/jss.2016.44003>
- Li, L. L. (2020). The Diversification of Imported Intermediate Goods and Dual Margin of Enterprise Innovation—Evidence from Micro-Data of China's Enterprises. *Collected Essays on Finance and Economics*, 1, 3-11.
- Peng, H. F., & Tan, X. Y. (2017). RMB Internationalization: Degree Measurement and Determinants Analysis. *Economic Research Journal*, 52, 125-139.
https://en.cnki.com.cn/Article_en/CJFDTotal-JJYJ201702010.htm
- Pollard, P. S., & Coughlin, C. C. (2006). Pass-Through Estimates and the Choice of an Exchange Rate Index. *Review of International Economics*, 14, 535-553.
<https://doi.org/10.1111/j.1467-9396.2006.00642.x>
- Taylor, J. B. (2000). Low Inflation Pass-Through and Pricing Power of Firms. *European Economic Review*, 44, 1389-1408. [https://doi.org/10.1016/S0014-2921\(00\)00037-4](https://doi.org/10.1016/S0014-2921(00)00037-4)
- Wan, X. L., Chen, K. B., & Fu, X. G. (2011). Exchange Rate Pass-Through on China's Import Prices and Foreign Exporters' Pricing Strategy: Evidence Based on the Industry-Level Data. *Studies of International Finance*, 4, 18-29.
https://en.cnki.com.cn/Article_en/CJFDTotal-GJJR201104004.htm
- Wang, J. B., & Li, N. (2009). Exchange Rate Pass-Through: The Case of China. *Economic Research Journal*, 4, 17-27+140.
<https://link.springer.com/article/10.1007/s11459-010-0102-4>
- Wang, Y. Q., Dai, M., & Xu, J. W. (2015). Exchange Rate, Product Quality and Export Price. *The Journal of World Economy*, 38, 17-35.
- Xu, Q. Y. (2012). Analysis of Pass-Through Effect of RMB Exchange Rate on CPI. *Journal of Management World*, 1, 59-66.
- Yu, B. Z., Tian, G. L., & Zhang, Y. M. (2012). Media Coverage, Institutional Development and Market Reaction to Earnings: A Further Investigation about Market Pressure Hypothesis. *Accounting Research*, 9, 40-51+96-97.
https://en.cnki.com.cn/Article_en/CJFDTotal-KJYJ201209008.htm