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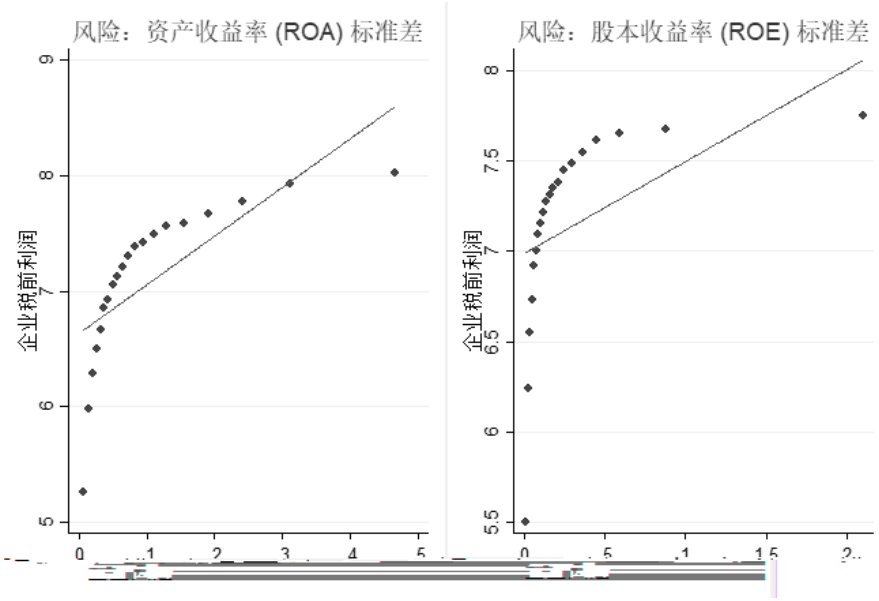

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$$Risk_{ikpc} = \alpha_0 + \alpha_1 OFDI_{ic} + \beta OFDI_{ic} \cdot TaxDiff_c + X_i{}'\lambda + OFDI_{ic} \cdot U_i{}'\gamma + OFDI_{ic} \cdot FC_c{}'\theta + \delta Num_{ic} + f_k + f_p + \varepsilon_{ikpc} \quad (1)$$

4 . *4* .

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4 . *4* . *4* .

$$Risk_{ikpc} = \alpha_0 + \alpha_1 OFDI_{ic} + \beta_1 OFDI_{ic} \cdot I^{TaxDiff_c>0} \cdot TaxDiff_c + \beta_2 OFDI_{ic} \cdot I^{TaxDiff_c<0} \cdot |TaxDiff_c| + X_i{}'\lambda + OFDI_{ic} \cdot U_i{}'\gamma + OFDI_{ic} \cdot FC_c{}'\theta + \delta Num_{ic} + f_k + f_p + \varepsilon_{ikpc}$$

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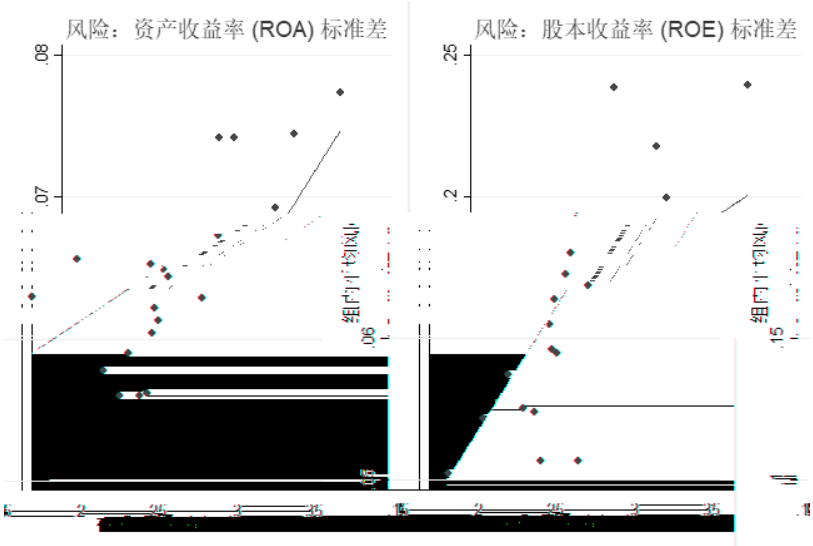
$TaxDiff_c$ 0 $OFDI_{ict}$ 0 0 ROA - 5 - ROE 3 - 1% OFDI OFDI

$$RiskDiff_{ikpc} = \alpha_0 + \beta TaxDiff_c + X_i{}'\lambda + U_i{}'\gamma + FC_c{}'\theta + \delta Num_{ic} + f_k + f_p + \varepsilon_{ikpc} \qquad (3)$$



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2

2A 1 ROA

2B 2 ROE

					OFDI			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.343	0.266	0.400**	0.395**	0.174	0.074	0.277	0.209
	(0.209)	(0.214)	(0.189)	(0.193)	(0.209)	(0.212)	(0.204)	(0.199)
	-0.524*		**-0.394***		**-0.420***			

***

	1 ROA		2 ROE	
	(1)	(2)	(3)	(4)
	0.138**		**0.428***	
	(0.060)		**(0.218)**	
		0.138**		**0.444***
		(0.066)		**(0.245)**
		-0.138		**-0.392**
		(0.112)		**(0.280)**
	493	493	1,718	1,718
R-Square	0.394	0.394	0.212	0.212

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.110	0.132*	-0.018	-0.047	0.116	0.152**	-0.026	-0.047
	(0.076)	(0.072)	(0.066)	(0.061)	(0.076)	(0.074)	(0.066)	(0.061)
	-0.180 ***		**-0.162 *****		**-0.179 *****		**-0.147 *****	
	(0.050)		**(0.050)**		**(0.050)**		**(0.050)**	
		-0.159***		**-0.188*****		**-0.146****		**-0.164*****

			OFDI				**OFDI**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.059	0.079	-0.012	-0.027	0.145	0.198	0.077	0.010
	(0.059)	(0.062)	(0.059)	(0.060)	(0.217)	(0.193)	(0.239)	(0.224)
	-0.149* **		**-0.133*** **		**-0.264**		**-0.257**	
	(0.042)		**(0.044)**		**(0.163)**		**(0.194)**	
		-0.127 **		**-0.147*** **		**-0.243**		**-0.285**
		(0.051)		**(0.050)**		**(0.182)**		**(0.214)**
		0.205* **		**0.094**		**0.373** **		**0.120**
		(0.064)		**(0.062)**		**(0.163)**		**(0.230)**
	113,892	113,892	2,162	2,162	116,043	116,043	1,112	1,112
R-Square	0.119	0.119	0.245	0.245	0.193	0.193	0.335	0.335

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6

PSM

4 . .					0.487***		0.494***	
					(0.018)		(0.018)	
					[725.91] ***		**[736.59] *****	
4 . .						0.552***		0.554*****
.						(0.011)		(0.012)

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	(0.899)	(0.924)	(0.469)	(0.475)	(0.905)	(0.925)	(0.449)	(0.432)
	-2.113 ***		**-0.914 *****		**- 1.769*****		**- 0.948*****	
	(0.461)		**(0.334)**		**(0.472)**		**(0.330)**	
		-2.412 ***		**-1.063 *****		**-2.142 *****		**-1.089 *****
		(0.476)		**(0.364)**		**(0.495)**		**(0.357)**
		1.495**		**0.641**		**0.998**		**0.676**
		(0.712)		**(0.572)**		**(0.704)**		**(0.550)**
-								
-								
	2,064,432	2,064,432	1,912,459	1,912,459	25,942	25,942	24,150	24,150
R-Square	0.305	0.305	0.730	0.730	0.492	0.492	0.802	0.802

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	*a = b*c*	9.75%	9.75%
	b	*9.17%*	*9.17%*
	c	*1.06*	*1.06*
2013	*d*	23,879.59	23,879.59

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.634	0.593	1.206**	1.254**	0.581	0.529	1.399**	1.464***
	(0.530)	(0.532)	(0.536)	(0.510)	(0.600)	(0.607)	(0.590)	(0.565)
	-0.758**		**-0.760****		**-0.677***		**-0.775****	
	(0.348)		**(0.331)**		**(0.389)**		**(0.347)**	
		-0.811**		**-0.702***		**-0.741***		**-0.700***
		(0.390)		**(0.366)**		**(0.424)**		**(0.391)**
		0.673		**0.862**		**0.571**		**0.907**
		(0.585)		**(0.558)**		**(0.614)**		**(0.559)**
				-	-			
	1,909,853	1,909,853	21,489	21,489	1,909,579	1,909,579	21,205	21,205
R-Square	0.730	0.730	0.804	0.804	0.730	0.730	0.804	0.804

9B

			OFDI				**OFDI**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.501	0.404	0.766*	0.674	0.451	0.331	0.743*	0.639
	(0.460)	(0.468)	(0.446)	(0.435)	(0.470)	(0.475)	(0.449)	(0.432)
	-0.890 * **		**-0.932 *** **		**-0.774 ** **		**-0.948 *** **	
	(0.339)		**(0.333)**		**(0.337)**		**(0.330)**	
		-1.031 * **		**-1.059 *** **		**-0.945 ** **		**-1.089 *** **
		(0.368)		**(0.358)**		**(0.368)**		**(0.357)**
		0.635		**0.692**		**0.461**		**0.676**
		(0.573)		**(0.550)**		**(0.576)**		**(0.550)**
				-	-			
	1,850,204	1,850,204	23,819	23,819	1,547,089	1,547,089	24,150	24,150
R-Square	0.731	0.731	0.803	0.803	0.744	0.744	0.802	0.802

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.960	0.805	0.915	0.830	0.643	0.852	0.729	0.795
	(0.602)	(0.588)	(0.585)	(0.541)	(1.158)	(1.258)	(0.852)	(0.893)
	-1.614* **		**-1.377*** **		**-0.105**		**-0.150**	
	(0.387)		**(0.383)**		**(0.839)**		**(0.796)**	
		-1.852* **		**-1.508*** **		**0.146**		**-0.082**
		(0.436)		**(0.440)**		**(0.823)**		**(0.859)**
		1.185 **		**1.131** **		**0.600**		**0.299**
		(0.589)		**(0.557)**		**(1.343)**		**(1.086)**
				-	-			
	881,368	881,368	13,895	13,895	890,196	890,196	7,483	7,483
R-Square	0.762	0.762	0.854	0.854	0.759	0.759	0.865	0.865

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	PSM				**IV**			
	1:5		**Kernel**				**OFDI**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	0.804	0.627	0.549	0.444	0.722	1.335	1.102*	1.154
	(0.492)	(0.493)	(0.469)	(0.475)	(0.666)	(0.959)	(0.646)	(0.853)
	-1.148* **		**-0.916*** **		**-1.136***		**-1.397** **	
	(0.356)		**(0.334)**		**(0.639)**		**(0.600)**	
		-1.397 * **		**-1.067 *** **		**-1.370 ** **		**-1.533 ** **
		(0.380)		**(0.363)**		**(0.658)**		**(0.608)**
		0.685		**0.641**		**2.169**		**1.425**
		(0.601)		**(0.572)**		**(1.512)**		**(1.348)**
	61,842	61,842	1,882,548	1,882,548	1,912,459	1,912,459	24,150	24,150
R-Square	0.807	0.807	0.730	0.730	0.128	0.128	0.242	0.242
4 .								
					0.488***		0.506***	
					(0.019)		(0.019)	
					[664.74] * **		**[678.61] *** **	

4 . .								
4 . .						0.567***		0.575***
.						(0.010)		(0.009)
4 . .						-0.079***		-0.069***
.						(0.021)		(0.022)
						[2890.05]* **		**[3340.12]*** **
4 . .								
.						(0.013)		(0.013)
4 . .						-0.454***		-0.478
.						(0.036)		(0.037)
						[282.88]* **		**[274.46]*** **
χ					**73.01*** **	**55.81*** **	**61.34*** **	**51.22*** **

$$ln\,(Profit_{ikpct} + 1) = \alpha_0 + \alpha_1 OFDI_{it} + \beta OFDI_{it} \cdot TaxDiff_{ct} + \rho RISK_{ic} + X_{it}{}' \lambda + OFDI_{it} \cdot U_{it}{}' \gamma + OFDI_{it} \cdot FC_{ct}{}' \theta + f_i + f_{kt} + f_{pt} + \varepsilon_{ikpct}$$

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	1 ROA				**2 ROE**			
			OFDI				**OFDI**	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
4 .	0.556	0.517	1.556**	1.466**	0.161	0.123	0.713	0.692
	(0.704)	(0.719)	(0.685)	(0.725)	(0.526)	(0.552)	(0.479)	(0.505)
	-0.528		-1.235**		-0.780*		-0.977**	

	(0.475)		(0.550)		(0.411)		(0.409)	
		-0.592		-1.370**		-0.836*		-1.005**
		(0.561)		(0.588)		(0.459)		(0.456)
		0.420		0.992		0.678		0.922
		(0.672)		(0.755)		(0.629)		(0.631)
	2.332*	**2.330***	**1.856***	**1.849***	**0.494***	**0.494***	**0.556***	

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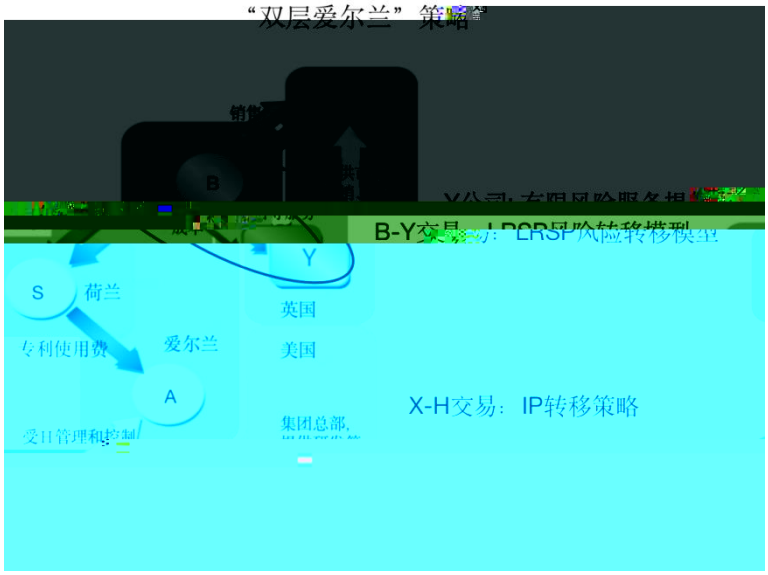

IMF 2013 47

MA Xiangjun, TIAN Wei and YU Miaojie

Abstract

Multinational enterprises (MNEs) can shift profit to low tax rate countries through internal transactions, which leads to firm-level income inequality and corporate tax base erosion of the government in China. Existing studies on the profit-shifting channels of Chinese MNEs mostly focus on related-party export-price adjustments of internal goods transactions. However, MNEs usually apply compliant profit-shifting strategies which do not violate the Arm ' s Length Principle so as to achieve tax avoidance rather than tax evasion. The most commonly used ones are to shift the operating risks involved in the internal transactions or to transfer intellectual property (IP) to low tax rate countries, and thus the profit is shifted accordingly based on the economic principle emphasized in the transfer pricing regulations that expected returns of a party should match the risk assumed by the party. Since the internal transactions associated with risk shifting and IP transfer also cover services transactions, our profit-shifting channel analysis is not restricted to goods transactions. As an initial empirical study on the risk-shifting channel of Chinese MNEs tax avoidance, we use 2000-2013 firm-level data and find that when the tax rate differential between China and outward foreign direct investment (OFDI) destination countries rises by 10%, the risk and profit are shifted to low tax rate countries, with the risk left in the Chinese headquarters dropping by 12.8% from the mean value and the profit left dropping by 10.6%. Compared with other profit-shifting channels, the contribution of the risk-shifting channel is much more significant. Our results are robust when we apply the alternative risk index or exclude certain subsamples such as tax havens. We also find that the risk-shifting and profit-shifting effects are only significant when the firm owns relatively high level of intangible assets. In addition, we comprehensively estimate the profit-shifting scale of Chinese MNEs that invest in both tax havens and non-tax havens, and show that the annual corporate tax loss from Chinese MNEs profit-shifting practice is around 59.2-65.3 billion RMB in China.

Keywords: Risk shifting, Profit shifting, IP shifting, Transfer pricing, Multinational enterprises

JEL Classifications: H26, F23, H25