FDI

200030

FDI

2005-2019

FDI

FDI

FDI

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Abstract: This paper studies the impact of FDI on the income gap between urban and rural areas in view of industrial structure upgrading, and further analyzes the spatial spillover effect. Based on China's provincial panel data from 2005 to 2019, an empirical study is carried out. The regression results of the intermediary effect model confirm that FDI can narrow the income gap between urban and rural areas by promoting the upgrading of industrial structure; The results of spatial panel Durbin model show that FDI inflow not only has a positive impact on narrowing the income gap between urban and rural areas in this area, but also has a significant spatial spillover, which can effectively narrow the income gap between urban and rural areas in neighboring areas. Among the control variables, the improvement of human capital and the degree of openness helps to narrow the income gap in this region, and produces a negative spatial spillover, which to some extent inhibits the widening of the income gap between urban and rural areas in the surrounding areas.

Key Words: FDI; Upgrading the industrial structure; Income gap between urban and rural areas; Space spillover

FDI

2019   1381

90   GDP

2019   GDP   92.9%

2014   [1]

FDI

FDI

FDI

FDI

FDI   U   Todar 1969 [4]

FDI

2013 [5]   FDI

2013 [6]

U

FDI   Chen 2016   !

FDI   Dancheng et al.

2011 [7]   FDI

2021 [17]

2014

[18]

2015 [19]   VAR

2017 [20]

2019 [21]   FDI

FDI

2017 [22]   FDI

GMM   FDI   FDI

（   2011) [23]

FDI

FDI

FDI

FDI

FDI   FDI

                                                                      FDI

                                              FDI

                              FDI

                                                      FDI

                        [23]   FDI

                                                      FDI

                              FDI

        H₁ₐ   FDI

        H₁ᵦ   FDI

                        FDI

                        FDI

                                              FDI

                        2017   [22]   FDI

                              FDI

    FDI

                                                      FDI

        H₂ₐ   FDI

        H₂ᵦ   FDI

FDI

Ravi and Xiaobo 1999 [24]

Cuadros et al. 2019 [25] FDI

FDI

Huang et al. (2017)[2] FDI

H₃

H₃ FDI

FDI 1

$$GAP_{i,t} = \alpha_0 + \alpha_1 FDI_{i,t} + \sum \alpha_c Control_{i,t} + \mu_i + \delta_t + \varepsilon$$ (1)

$GAP_{i,t}$ $FDI_{i,t}$ i t

$Control_{i,t}$ μ_i δ_t $\varepsilon_{i,t}$

FDI

$$stru_{i,t} = \beta_0 + \beta_1 FDI_{i,t} + \sum \beta_c Control_{i,t} + \mu_i + \delta_t + \varepsilon_{i,t} \qquad (2)$$

$$GAP_{i,t} = \gamma_0 + \gamma_1 FDI_{i,t} + \gamma_2 stru_{i,t} + \sum \gamma_c Control_{i,t} + \mu_i + \delta_t \qquad (3)$$

4

$$GAP_{i,t} = \varphi_0 + \rho WGAP_{i,t} + \varphi_1 FDI_{i,t} + \varphi_2 upgrade_{i,t} +$$
$$\sum \varphi_c Control_{i,t} + \delta_1 WFDI_{i,t} + \delta_2 Wupgrade_{i,t} + \sum \delta_c WControl_{i,t} + \mu_i + \varepsilon_{i,t} \qquad 4$$

W ρ δ ρ δ

W_{ij}

1 0

0 5

$$W_{ij} = \begin{cases} 1 & i, j \\ 0 & i, j \end{cases}$$

5

30

2005

2005-2019

2006-2020

GAP

$$GAP_t = \sum_{i=1}^{2} (\frac{Y_{i,t}}{Y_t}) \ln \left(\frac{Y_{i,t} / Y_t}{N_{i,t} / N_t} \right)$$

6

N_t Y_t $N_{i,t}$ $Y_{i,t}$

i   i=1   i=0

FDI

FDI

upgrade

$$upgrade = \sum_{3}^{i=1} q_i \times i \qquad q_i \qquad\qquad i$$

2021 [11]   2016 [26]

1   eximv   GDP   2

labour   3   humcap

4   tech

GDP   5   fiscal

GDP   1

1

GAP		
FDI		
upgrade		
eximv		/GDP
labour		/
humcap		/
tech		GDP
fiscal		/GDP

2   GAP   GAP

0.0198-0.281

FDI   FDI   upgrade

表 2

GAP	450	0.110	0.053	0.0198	0.281
FDI	450	5.266	1.601	0.259	7.722
upgrade	450	2.352	0.130	2.085	2.834
eximv	*450*	0.031	0.037	0.001	0.171
labour	450	0.529	0.146	0.027	0.896
humcap	450	0.170	0.061	0	0.282
tech	450	1.165	2.295	0	16.068
fiscal	450	0.719	1.949	0.002	28.213

3   FDI   FDI

    FDI   2018 [10]   (2017)[27]

3 FDI

	GAP	upgrade	GAP
FDI	-0.021***	0.040***	-0.009***
upgrade			-0.287***
eximv	-0.015	-1.092***	-0.328***
labour	-0.001**	0.001**	-0.000
humcap	-0.100*	-0.240*	-0.169***
tech	-0.008***	0.012***	-0.005***
fiscal	-0.001	0.004***	0.000
cons	0.248***	2.194***	0.878***
N	450.000	450.000	450.000
R^2	0.315	0.391	0.602

*** ** *   1% 5% 10%

\>0

<0

0

4   4   2005-2019

P   0

4   AcfUb g˙ =

		2005	2006	2007	2008	2009	2010	2011	2012
	Moran's I	0.544	0.547	0.553	0.552	0.534	0.516	0.526	0.520
	Statistic	4.733	4.764	4.802	4.781	4.639	4.489	4.578	4.540
	Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GAP		2013	2014	2015	2016	2017	2018	2019	
	Moran's I	0.517	0.538	0.558	0.555	0.553	0.544	0.529	
	Z-Statistic	4.520	4.693	4.844	4.826	4.818	4.749	4.641	
	P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Stata   2005 -2019

2005   2019

H-H   L-H   L-L

H-L   1   2   2005   2019

Moran scatterplot (Moran's I = 0.529)
GAP
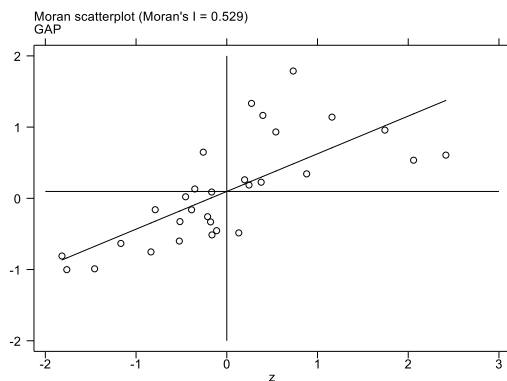

1 2005 AcfUb ġ =   2 2019 AcfUb ġ =

LM   Wald

5   LM   (LMLAG LMERR)

P   0   1%

Robust-LMLAG   Wald

Wald   P   0   Huasman

Hausman   P   0.049   5%

表5

		P
LMLAG	358.577	0.000
LMERR	475.967	0.000
Robust-LMLAG	0.061	0.805
Robust-LMERR	22.476	0.000
Wald	67.63	0.000
Hausman	25.00	0.049

6

SAR   SDM   SAR

SDM   SAR   R²   SDM

SDM   FDI

FDI   FDI

FDI

表6 FDI

	SAR	SDM
FDI	-0.004***	-0.004***
upgrade	-0.046***	0.066***
eximv	-0.244***	-0.278***
labour	0.000	0.000
humcap	-0.076***	-0.085***
tech	-0.002**	0.000
fiscal	0.000	0.000**
W*FDI		-0.006***
W*upgrade		-0.231***
W*eximv		0.055
W*labour		0.001***
W*humcap		-0.198***
W*tech		-0.003**
W*fiscal		0.001***
ρ	0.785***	0.582***
^{2}	0.000***	0.000***
R^2	0.677	0.702

LeSage and Robert 2010 [28]

7   FDI   -0.006

-0.019   -0.025   1%

FDI

H3

7

FDI	-0.006***	-0.019***	-0.025***
upgrade	0.027*	-0.419***	-0.392***
eximv	-0.293***	-0.229*	-0.523***
labour	0.000	0.001***	0.001**
humcap	-0.134***	-0.540***	-0.674***
tech	-0.001	-0.007**	-0.008**
fiscal	0.001***	0.004***	0.005***

LeSage and Robert 2010 [28]

8   2

1

humcap   graduate

9   3   3   1

8   3.79 Tm   [(3.79 T>11<34g[<0D0E>11<1582332B

1 FDI

2 FDI FDI

3

FDI ,

FDI

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