*

F752 F14 O31

2020 2020
48589 27853
23.77% 1
[2]

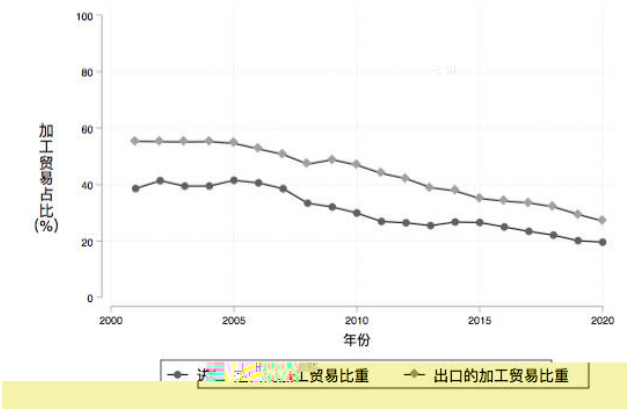
2014 Yu
2015 Manova & Yu 2016 Dai et al. 2016
Liu & Qiu 2016

2010 Helpern et al. 2015

[3]

[2]
[3]

2008; 2007 2018



2000-2006

1

2

3

PSM-DID

2004 DID

4

4

2019

2019

2022 7 26

2020 KS

2014 Yu 2015 Manova & Yu 2016 Dai et al. 2016 Manova & Yu 2016 Manova & Yu 2016

2017

2016

PSM-DID

2004

2011

2018

PSM-DID

Liu & Qiu 2016

2014

Bai et al.(2021)

5

[6] 2000 2006 2000
139020 2006 276885

13007 21622
2004 1

2014

1

- 1414185
1065493 23667 166641
159023

[6]

d_patent 1 0 *patent*
d_rd 1
0 *lnrd* [7] *lnk*
lnl *va_aver*
profit *foreignorhmt_ratio*
va_aver *profit*

Chen et al. (2022)

2014 2014
Li et
al. 2018

ÐPforeig3rETOq5.000008871 0 595.32 841.92 reW* nBT5512CB41119C21007F3 10.56 Tf122311 463 02EJE5455F06ID4A40583316

1				1,715	16.45%
2				4,907	47.07%
3				3,803	36.48%

4 *d_patent*

patent *d_rd* *lnrd*

va_aver

d_patent	0.030	0.065	0.102
	(0.171)	(0.247)	(0.302)
patent	0.119	1.011	1.499
	(1.294)	(27.033)	(21.530)
d_rd	0.080	0.183	0.276
	(0.271)	(0.387)	(0.447)
lnrd	0.405	0.997	1.596
	(1.536)	(2.408)	(2.956)
patent_invention	0.013	0.474	0.285
	(0.283)	(21.532)	(5.656)
patent_utility	0.043	0.272	0.448
	(0.512)	(5.489)	(6.594)
patent_design	0.063	0.264	0.767
	(0.982)	(3.765)	(14.669)
lnk	8.844	9.347	9.409
	(1.484)	(1.765)	(1.793)
lnl	5.434	5.521	5.559
	(1.093)	(1.169)	(1.195)
va_aver	73.861	121.132	107.625
	(257.520)	(973.644)	(387.357)
profit	0.312	1.120	1.752
	(1.927)	(8.493)	(24.001)
foreignorhmt_ratio	0.697	0.482	0.319
	(0.422)	(0.455)	(0.397)

3

2

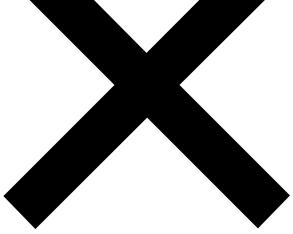
5

[10]

2004

[11]

6



2 95%

2

2020

æ

Dai et al. 2016

12

Ä

Borusyak & Jaravel 2017 2020È

p 0.1

3

77.58%

12.39% 15.36% t

2003 222 2004 1

A2

2014

2004

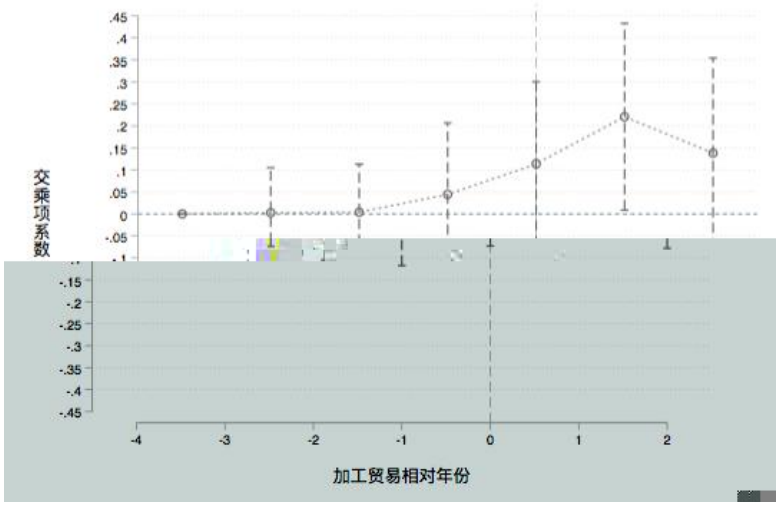
[13] 2004

i 1 2

2004 3 2004

2004 1 2004

2000 2006



4

2214

2004

8.8 30%

3 1

2

3

PSM-DID 10

6 * ** *** 10% 5% 1%

10

Chen et al. 2022

2013

2014 15

5

5

Allen & Sriram 2000

Pietrobelli & Rabellotti 2011

Athukorala & Jayasuriya 2003 2005 2010

15

[16]

Schmitz &
Knorringa 2000

[17]

Brambilla & Porto 2016 Bastos, P. et al. 2018
2000 GDP
20,000 [18] =1 =0

[19]

[20]

=1 =0

[21]

11PanelA 11PanelB

3

[22]

---

[16]

[17]

[18]

[19]

[20]

[21]

Panel A:				
	-0.0039	-0.0060	0.039***	0.037***
	(0.012)	(0.012)	(0.014)	(0.014)
	0.038***	0.031**	0.0019	-0.012
	(0.013)	(0.014)	(0.011)	(0.012)
	945,001	64,753	180,553	45,075
	0.556	0.641	0.629	0.699
Panel B:				
	0.018	0.0018	0.041**	0.036*
	(0.013)	(0.014)	(0.019)	(0.020)
	0.030***	0.026**	0.019***	0.0046
	(0.010)	(0.011)	(0.0073)	(0.0082)
	945,001	64,753	180,553	45,075
	0.556	0.641	0.629	0.699

2016

2020

2010 2008

Schmitz & Knorringa 2000

Bai X. et al., 2021

Kim, 2017 Kim (2017)

Simonin 1999

HS

HS

=1

	180,553	45,075	180,553	45,075	180,553	180,553
	0.597	0.677	0.611	0.677	0.575	0.597

highsalesfee=1 *highsalesfee*=0

14

23

	0.024**	0.021**	0.038***	0.039***
	(0.011)	(0.011)	(0.013)	(0.013)
	0.024**	0.016	0.0059	-0.010
	(0.0098)	(0.011)	(0.0086)	(0.0092)
	945,001	64,753	180,553	45,075
	0.556	0.641	0.629	0.699

Yu 2015 Manova & Yu 2016 2017

Gereffi et al. 2005

=1

=0

15

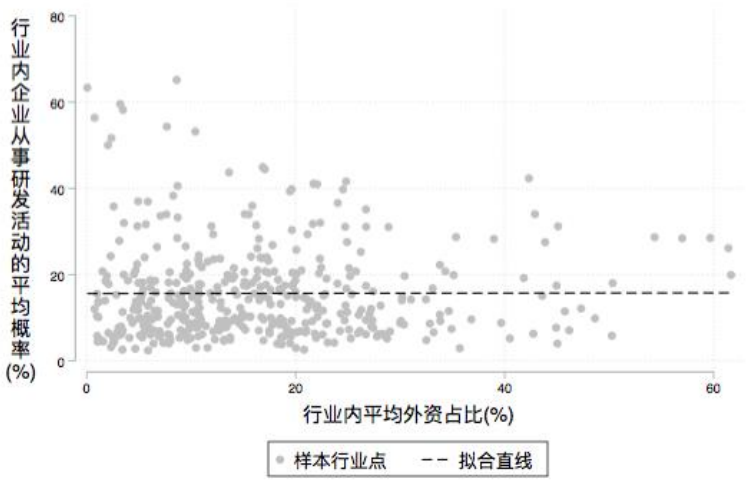
1.9 2.3

2004

56. Ejpmi gja Dom odji g ji jh d n
57. M d r ja Dom odji g jgbd g ji jht
58. Mn mc jglt
59. Ejpmi gja ji jh ond n
60. Jsajm_m d r ja ji jh d k jglt
61. I opm N d i odd o
62. Ejpmi gja ji jh d Nmp opmn
63. Mn mc jglt
64. Oc ejpmi gja d _pnond g ji jh d n
65. h md i ji jh d M d r
66. Ejpmi gja Dom odji g ji jh d n
67. Ejpmi gja Dom odji g ji jh d n
68. Ejpmi gja gjk h i o ji jh d n
69. Oc p mo mg Ejpmi gja ji jh d n
70. Rjmg_ _ gjk h i o
71. Ejpmi gja gjk h i oNop_d n
72. Nom o d i h i o Ejpmi g
73. Rjmfd k m
74. ji jh d Ejpmi g

	0.0036	0.0061	0.038***	0.036***
	(0.0098)	(0.0095)	(0.012)	(0.012)
	0.030***	-0.0055	0.0025	-0.012
	(0.0094)	(0.0094)	(0.0096)	(0.010)
	1,030,175	64,753	180,553	45,075
	0.593	0.641	0.629	0.699

	64,753	180,553	45,320
	0.641	0.629	0.660


行业内企业从事研发活动的平均概率(%)
80
60
40
20
0
0
20
40
60
行业内平均外资占比(%)
样本行业点
拟合直线

Rediscovering OEM: Processing Trade and Innovation of Chinese Manufacturing Firms

Abstract: It is a typical fact among Chinese manufacturing firms that the productivity of processing firms is significantly lower than that of others. Processing firms have long been regarded as the synonym of low R&D and innovation, while a large number of practical cases show that processing trade plays an important role in firm innovation and upgrading. Our paper goes beyond the type of firms and focuses on trade behavior itself, and studies the impact of firms' changes from not engaging in processing trade to engaging in processing trade on R&D and innovation. Exploiting Chinese manufacturing firms data from 2000 to 2006, we find that engagement in processing trade significantly promoted firm innovation. Results are robust when using (1) PSM-DID model and (2) export tax rebate rate adjustment in 2004 as a quasi-experiment to control for the self-selection effect of processing trade. We further divide processing trade behaviors into three categories: from non-trade to pure processing trade, from non-trade to hybrid trade, and from ordinary trade to hybrid trade. We find that the latter two types are the main sources of innovation enhancement effect of processing trade behavior. In addition, the innovation enhancement effect for the firms from non-trade to hybrid trade originates from the synergistic effect of the two trade modes, which is the trade mode synergy mechanism. The shift from ordinary trade to hybrid trade shows more development effect of processing trade on new markets and new products, which is reflected in the quality and technical standards mechanism. We argue that processing trade, as an important channel for manufacturing firms to embed in the global value chain, is still conducive to improving the overall innovation level of Chinese firms.

Keywords: processing trade, R&D and innovation, trade-mode synergy effect, quality-and-technical-standards effect

JEL Classification: F14, O31