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THE IMPACT OF ENTRY OF FOREIGN BANKS ON CREDIT ACCESS: AN EMPIRICAL STUDY ON INDIAN ECONOMY

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Abstract: *The main aim of the study is to investigate the credit access to firms in India in the post entry of the foreign banks. A Panel data was constructed for 5454 firms across districts for 16 years period from 1999 to 2014 and analysed through dynamic panel data estimator GMM. The results of the study depicts that the credit access to firms in India have depleted after foreign banks entry and foreign banks do follow their clients. However, there were no sign of cherry picking behaviour by foreign banks in terms of credit access to firms in India.*

Keywords: *Indian banks, Credit access, foreign banks entry, Panel data*

JEL Classification: *F3, G21, O16*

1. INTRODUCTION

The entry of foreign banks into the developing countries has been rapid in the twentieth century due to liberalization of economies, formation of World Trade Organization (WTO), and development in the technology and communication system (Berger et al. 2003; Gormely, 2010). This entry is considered to enhance competition and to extend their spill over effects like upgradation of technology that induce efficiency of the domestic banks (Ghosh, 2012; Hermes and Lensink, 2004). Furthermore, foreign banks are more efficient and well connected with international markets (Levine, 1996) that can enhance credit supply in emerging economies (Giannetti and Ongena, 2012). However, the rise in competition reduces credit supply (Petersen and Rajan, 1995). The empirical results of Detragiache et al. (2008) and Gormley, (2010) found that the entry of foreign banks deteriorates credit access to firms due to the information asymmetry.This fosters domestic banks to change their lending decision (Gormley, 2007; Sengupta, 2007). Thus, the impact of foreign banks on the credit supply in the host economy is inconclusive. This study is an attempt to investigate the impact of foreign bank entry on the Indian credit market.

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There is a huge impact of foreign banks entry on an economy. The entry of foreign lender induces high competition in the host credit market that also affect the net output of the firms (Gormley, 2014). Foreign banks adopt *cream skimming* approach to capture the potential profitable firms, and lend them while ignoring the small and non-profitable firms (Dell'Ariccia and Marquez, 2004; Sengupta, 2007, Detragiache, Tressel and Gupta, 2008). Li and Yuan (2015) argued that continuously decline in the growth of emerging economies is the result of credit gap for SMEs that are responsible for majority of job-creation and development. Due to informational asymmetry, foreign lenders cannot lend to financially opaque firms which result in declining credit supply in the market. Moreover, this approach by foreign lenders affect the lending decision of incumbent lenders to invest into high screening technology (Gormley, 2010). Initially, incumbent lender may not invest into high screening technology and lend to soft information firms at higher rates to protect their market share. However, at later stage, they may change their lending strategy and reduce lending to non-profitable firms. SMEs suffer the most in the process. Hence, the overall credit supply reduces in the host economy. This discussion raises the central question of the study, do foreign banks entry really reduce credit access to firms in the host country? Do lending to SMEs decline following foreign banks entry?

India have adopted restrictive policy towards the entry of foreign banks till the liberalization. Though the first foreign bank had entered into India in 1853, the presence of foreign bank was felt after signing the contract with WTO in 1995 (Kim and Pant, 2010). India have approved further entry of foreign banks after WTO agreement to enhance the competition level and efficiency of domestic banks (GOI, 1991). India have received forty four foreign banks with over two hundred branches dispersed over sixty districts by 2015. The accelerating presence of foreign banks add to the concerns of policymakers regarding their impact on the credit market and on the overall economy. Thus, the present study is an attempt to unearth the impact of entry of foreign lenders and credit access to various firms in India.

Our study is similar to that of Gormley (2010), however, we adopt a dynamic panel data model simultaneously controlling for firm level effect and time effect. The time period of our study is also diverse from the above study. The actual entry of foreign banks were felt after 1998 when 12 branches of foreign banks were allowed entry in a single year. Hence, our study is topical and timely. We also measure the direct impact of credit supply to firms by foreign banks that is absent in the case of Gormely (2010). Moreover, we test for the hypothesis *follow your client* by segregating the data for foreign banks that makes the present study unique. The main comparison between the credit access to the firms having foreign bank in districts and the credit access to the firms in districts without having a foreign bank.

The reminder of the study is as follows. The Section 2 reviews the extensive literature and frame hypotheses, section 3 describes data, methodology, and variables. Section 4 discusses the results and findings, and the section 5 concludes.

2. REVIEW OF LITERATURE

There have been strand of literature on foreign banks entry and their impact. However, most of these studies are extensively on developed economies. According to the extensive literature on developed nations, there are two school of thoughts regarding the impact of entry of foreign lender on credit access in the host market. The first pronounces that foreign banks lend to their own home clients and cherry pick a few large domestic firms and serve them while ignoring the small local firms in the host economy. This leads to reduction in the credit access in the host economy (Bhaumik and Piesse 2008; Detragiache et al. 2008; Gormley, 2010, 2014; Sengupta, 2011).The second claims that the entry of foreign banks improves credit access in host economy as it enhances credit supply to all the firms including SMEs due to their sound connectivity with the international markets (Clark et al. 2005, 2006; De Haas and Naaborg, 2006; Beck et al. 2010; de la Torre et al. 2010; Giannetti and Ongena, 2012). Even the debate on the impact of enhanced competition on the economy in the banking sector is still on in the academic literature.

One of the empirical studies on Indian banking sector, Gormely (2010) investigated the entry of foreign banks district wise and their impact on credit access to the Indian firms. The study used a simple panel data regression and found that firms are less likely to access credit in the districts having foreign banks rather than the firms in the districts without having foreign banks. The study period was from 1991 to 2002 which is quite less because the actual entry began only after 1995. Moreover, many foreign banks entered into new districts only after 2002-2003. We understand the essence of it and consider the data from 1999. We extend this work further and use dynamic panel data model GMM to investigate the results. However, we find the similar results of Gormley (2010) with few disagreements. Moreover, Gormely (2014) claimed that foreign banks entry would adversely affect the overall credit supply in the host economy.

Clark et al. (2005) pronounces that lending to firms in Argentina has improved after foreign banks entry. All enterprises, including small and medium-sized ones, report facing lower financing obstacles in countries having higher levels of foreign bank presence (Clark et al., 2006). Studying over the acquired domestic banks by foreign banks in Europe, Giannetti and Ongena, (2012) results that foreign banks benefit all the firms by indirectly enhancing credit access. Entry of large foreign banks directly improve credit access to SMEs (Beck et al. 2010; De Haas and Naaborg, 2006; de la Torre et al. 2010). Haas and Lelyveld (2006) finds that during crisis periods domestic banks contracted their credit base, whereas Greenfield foreign banks did not. "Greenfield foreign banks credit growth is influenced by the health of the parent bank." According to Boustanifar (2014), transparent firms are the only type screened before the entry and therefore they are the only type distinguishable by incumbents, entrants might have a comparative advantage in lending to opaque firms. Considering foreign banks advantage over technology as well as cost of funds and domestic banks advantage of lending information, Li & Yuan (2015) developed two step theoretical

model and found that foreign banks entry enhance the credit access to SMEs in emerging economies. Thus, Emerging economies should remove all the barriers to foreign banks entry.

Leon (2015) considered firm level data of 69 developing economies and investigated for credit constrains due to competition among banks. They found that bank competition alleviates constrains in credit supply. Hence, credit access to firms can be enhanced. The study by Haas et al. (2010) was conducted for 220 banks in 20 transition countries. The study found that bank ownership, bank size, and laws for credit approval of a bank are strong determinants of the composition of banks' loan portfolios. The study further found that foreign banks are active in credit supply in an economy.

Weller (2000)analysed the hypothesis that entry of foreign banks lead to reduction in credit supply in the early stage of transition by using multivariate regression. The study found that due to increase in competition caused financial constraints which led to decline in credit supply by polish banks. Dell' Aricia (2004) explained that financial liberalization gave shock to the banks' cost of funds and hence they reallocate their credit to more captured borrowers with hard information and reducing lending towards the soft information firms. Popov and Udell (2012) analysed the effect of financial crisis to credit access to firms in 16 emerging European countries. The study found that the credit access to firms declines over the credit constraints of banks due to financial crisis. Moreover, in case of foreign banks, the credit constraints determined by their parent banks' balance sheet conditions that leads to decline in credit supply to firms.Liberalization and competition in the Indian banking sector made domestic banks more circumspect to lend to firms (Bhaumik and Piesse, 2008). Ghosh (2012) claims that foreign banks entry adversely affect the maturity of credit portfolio of Indian domestic banks. Degryse et al. (2012) claims that there are no differences in lending rates between domestic and foreign banks. Thus, we tests the following hypotheses to fill the gap in the inconclusive literature over the impact of foreign lender entry on the credit market in case of India.

H_1: The overall credit access to firms in India reduces following the foreign banks entry.

Althammer and Haselmann (2011) claimed that foreign banks have advantage of high screening technology whereas domestic banks have information advantage about the knowledge of soft information firms. Thus, foreign banks lend to hard information or more transparent firms (Berger and Udell, 2002) while ignoring the small, opaque and soft information firms in the host economy (Bhaumik and Piesse 2008; Gormley, 2010, 2014; Sengupta, 2011). This is called as *cream skimming* or *cherry picking*.

Detragiache et al. (2008) finds that credit to the private sector is lower in countries with more foreign bank penetration. According to Information hypothesis foreign banks should invest in hard information firms as investing in soft information firms

would be unprofitable (Petersen and Rajan, 1995). Thus, cream skimming strategy by foreign banks can be constraint for small firms in India (Gormley, 2010).

Morgan (2013)used panel data for 930 observations for Indian chemical firms from 1997 to 2005 to analyse the impact of foreign banks entry over export promotion. The study employed two-stage least squares (2SLS) method with fixed effects and found the positive relationship between firm size and export sales. However, foreign banks participation has no relationship with positive firm size and export sales. Sarma and Prashad (2016) studied the issue of cream skimming a lending strategy by foreign banks in Indian urban areas in the 21 states of India from 1999-2011. They found foreign banks do indulge in such practices by using state level variables. However, district level variables or individual company wise variables can bring the real picture.Viverita et al. (2015) investigated the effect of foreign banks' penetration to the credit access to SMEs in a host economy as per the different mode of entry. They claimed that greenfield entry of foreign banks have tendency to supply less credit to SMEs than the take-over foreign banks. They also claimed that this behaviour is the result of cream skimming by greenfield foreign banks.The literature with empirical analysis is inconclusive about the effect of foreign banks entry on the credit access to SMEs and the theories support cherry picking behaviour of foreign banks (Li and Yuan, 2015).

H_2: Foreign banks adopts *cherry picking* or *cream skimming* strategy for lending in India.

Foreign banks are also believed to enter into host nations to follow their clients to serve them in many ways (Yamori, 1998; Moshirian 2001; Mutinelli and Piscitello, 2001). These banks can serve them through lending credit to host businesses. Nolle and Seth (1996) tested the hypothesis follow your clients abroad by investigating lending patterns of foreign banks in US from the countries like Japan, Canada, France, the Netherland, Germany, and UK in the period 1981-1992. They found limited applicability for the hypothesis as foreign banks from four countries out of six had lent to non-home country borrowers. Moreover, Kim and Pant (2010) have empirically studied and tested the hypothesis of *following your client*.They found it true in Indian context. Thus, we check this lending behaviour of foreign banks in India.

H_3: Foreign banks entered in India to follow their home clients and lend them.

3. RESEARCH METHODOLOGY

3.1. Data

The data of foreign banks entry is collected from RBI's publication *Directory of Bank Offices* that describes the location, date of opening and closing of a bank in India. Using this information, we identify the entry of foreign bank in a particular district in a particular year. Table 1 shows the entry of a foreign bankin the particular district

Table 1
District and State wise entry of foreign bank in India

SI. No.	*District Name*	*State Name*	*Number of branches*	*Year of entry*
1	Chennai	Tamil Nadu	14	1854
2	Kolkata	West Bengal	5	1854
3	Mumbai	Maharashtra	15	1858
4	New Delhi	Nct Of Delhi	26	1889
5	Coimbatore	Tamil Nadu	3	1892
6	Haora	West Bengal	1	1909
7	Bangalore Urban	Karnataka	16	1951
8	Ernakulam	Kerala	4	1951
9	Hyderabad	Telangana	10	1962
10	Kamrup Metropolitan	Assam	1	1962
11	Mumbai Suburban	Maharashtra	19	1962
12	Pune	Maharashtra	12	1995
13	Ahmedabad	Gujarat	6	1996
14	Gurgaon	Haryana	7	1998
15	Thiruvananthapuram	Kerala	1	1999
16	Vadodara	Gujarat	4	1999
17	Jaipur	Rajasthan	3	2000
18	Chandigarh	Chandigarh	3	2001
19	Darjiling	West Bengal	2	2001
20	Ludhiana	Punjab	4	2001
21	Gautam Buddha Nagar	Uttar Pradesh	5	2002
22	Bhopal	Madhya Pradesh	2	2003
23	Jalandhar	Punjab	3	2003
24	Lucknow	Uttar Pradesh	3	2003
25	Surat	Gujarat	3	2003
26	Thane	Maharashtra	3	2003
27	Aurangabad	Maharashtra	2	2004
28	Faridabad	Haryana	1	2004
29	Indore	Madhya Pradesh	2	2004
30	Khurda	Odisha	2	2004
31	Nagpur	Maharashtra	3	2004
32	Patna	Bihar	1	2004
33	Rajkot	Gujarat	1	2004
34	Allahabad	Uttar Pradesh	1	2005
35	Nashik	Maharashtra	3	2005
36	Puducherry	Puducherry	1	2005
37	Jodhpur	Rajasthan	2	2006
38	Mysore	Karnataka	1	2006
39	Raipur	Chhattisgarh	1	2006
40	Bangalore Rural	Karnataka	2	2007
41	Jalgaon	Maharashtra	1	2007
42	Kancheepuram	Tamil Nadu	3	2007
43	Kolhapur	Maharashtra	2	2007
44	Akola	Maharashtra	1	2008
45	Junagadh	Gujarat	1	2008
46	Moradabad	Uttar Pradesh	2	2008
47	Salem	Tamil Nadu	1	2008

(contd...)

(Table 1 contd...)

SI. No.	*District Name*	*State Name*	*Number of branches*	*Year of entry*
48	Vellore	Tamil Nadu	2	2008
49	Ahmadnagar	Maharashtra	1	2009
50	Dehra Dun	Uttar Pradesh	1	2009
51	Kurnool	Andhra Pradesh	1	2009
52	Mathura	Uttar Pradesh	1	2009
53	Nanded	Maharashtra	1	2009
54	Saharanpur	Uttar Pradesh	1	2009
55	Y.s.r. (Cuddapa)	Andhra Pradesh	1	2009
56	Cuddalore	Tamil Nadu	1	2010
57	East Godavari	Andhra Pradesh	1	2010
58	Udaipur	Rajasthan	1	2012
59	Agra	Uttar Pradesh	1	2013
60	Chhindwara	Madhya Pradesh	1	2013
61	Medak	Telangana	1	2013
62	Bareilly	Uttar Pradesh	1	2014
63	Rangareddi	Telangana	1	2014
			226	

Source: *Directory of Commercial bank offices in India published by RBI*

in the particular year and the total number of foreign branches in the respective districts by 2014.

The firm level data is collected from CMIE *(Centre for Monitoring Indian Economy) Prowess database* that provides data of firm's address, ownership, their financial and accounting status including loan received from a bank and a financial institution from 1999. In order to understand the effect of foreign banks entry on credit access to firms located in the various districts of India, We identify all firms located in different districts in India from 1999 to 2014 and harmonize these data with the data of foreign banks entry in the respective districts of India. Thus, we construct a Panel with firms as our cross section units and years as time units. We assume that all the firms borrow from their respective registered districts. However, we eliminate the firms located into the districts where foreign banks were already present prior to 1999 to capture the effect of entry of new foreign branches and to avoid the multiplier effect of already present foreign branches into the highly populated metro cities prior to 1999. There were 14 districts where foreign banks already had their presence prior to 1999. These districts are Kolkata, Chennai, New Delhi, Mumbai, Coimbatore, Haora, Ernakulum, Kamrup metropolitan, Mumbai Suburban, Bangalore Urban, Hyderabad, Ahmedabad, Pune, and Gurgaon. As we are interested mainly in deriving the effect on Private (Indian or foreign) firms and SMEs, We also exclude all government owned firms and firms involved in banking or in any financial businesses.

The study contemplates on both direct and indirect effects of foreign banks entry on credit access to firms in India. To measure indirect effect of foreign banks, we use dummy 1 as foreign banks entry into a particular district and 0 as districts without

Table 2
Summary Statistics of observed variables

	Borrowing from banks	*Borrowing from Financial Inst.*	*Borrowing from both banks and financial Inst.*	*Credit from foreign banks*	*Sales over total assets*
Mean	0.4737	0.0790	0.5528	0.04477	0.9684
Median	0.4778	0	0.6504	0	0.5429
Maximum	1	1	1.0000	71	3483.7
Minimum	0	0	0	0	0
Std. Dev.	0.3781	0.1850	0.3805	1.0671	16.0977
Skewness	0.0364	2.7407	-0.3367	49.0227	206.7752
Kurtosis	1.4657	10.3890	1.5565	2843.05	44597.58
Observations	40897	40897	40897	54540	49145

receiving any foreign bank. We use credit data of foreign banks to capture the direct impact on firm's access to credit. However, this data is available only from 2005 that is collected from RBI's publication *Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks* which is converted into yearly data. All the variables are in ratio form and summary is delivered in Table 2.

3.2. Empirical Model

We consider dynamic Panel data model GMM (Generalised Method of Moments) as it helps in overcoming many real time problems like endogeneity. Our model is given below.

$$L_{ijt} = \alpha L_{ijt-1} + \beta F_{jt} + \eta_{ij} + \phi_{jt} + \varepsilon_{ijt} \quad (1)$$

L_{ijt} represents loan received by a firm (i) in the district (j) from bank/financial institution in the year t, F_{jt} represents foreign bank entry in the district (j) in the year t (Indirect effect) or credit supply by foreign banks in the district (j) in the year t (direct effect), η_{ij} is an unobserved effect of firms (i) clustered at districts (j) like different managerial decision or firm level structural changes, ε_{jt} is an unobserved period effect clustered at district like changing government policies or various reforms and ε_{ijt} is an error term clustered at district level. In the above equation β describes the main effect of foreign bank entry.

The Orthogonal deviation transformation method is adopted. We have used instrumental variable (IV) as overall borrowing by a firm that is tested through Sargan's J statistics Test for IV (see Table 2, 3, and 4). Our model also controls for unobserved effect of firm's strategy for borrowing and unobserved period effect of any governmental policy and/or business cycle effect from time to time. Thus, the model controls for any effect across firms and over the period of time.

Initially, we estimate the model (1) through Panel GMM technique observing foreign banks entry through dummy variables that captures indirect effect of foreign

banks. Then, we employ the data of credit supply by foreign banks to capture the direct impact of foreign banks entry. In order to measure altered effect on the various categories of firms, we divide the data into three Ownership categories i.e. Indian Private Firms, Indian Group firms, and foreign firms in order to investigate the category wise impact of foreign banks entry to investigate the *follow your client behaviour.* If foreign banks lend to their foreign clients more than the domestic firms, it means that they entered into India to serve their clients. Moreover, there could be a case of *Cream Skimming* or *Cherry Picking*, where foreign banks lend to large Indian domestic firms probably to Group categories or large size firms in any of the ownership categories. Group categories firms are the firms established by large business groups in India. e.g. Reliance, TATA, or Birla etc. We use sales variable to measure the size of the firm. If the firm-size is big, it would be more profitable and would likely to receive higher credit. Furthermore, we also employ different dynamic panel data models to check the robustness of our results. The results are in the same direction of the results presented here.

4. RESULT OF AN EMPIRICAL ESTIMATION

The results of the dynamic Panel data analysis suggest that the credit access to firms have been reduced drastically following foreign banks entry in India. We further test hypothesis *follow your clients* and *cherry picking* behaviour by foreign banks entered in Indian credit market. The empirical results indicates that foreign banks in India do follow their clients and lend them enough so that their overall borrowings increases. However, we did not find foreign banks *cherry picking* or *cream skimming* in Indian context.

The results in the Table 3 shows that a firm can borrow more if it has borrowed in the previous year. The negative sign of coefficient for foreign banks entry indicates that firms' borrowing reduces following the foreign banks entry. It indicates that the credit supply to firms from both banks and FIs (Financial Institutions) reduces in the districts having foreign bank over the firms in the districts without foreign bank. The overall borrowing from bank and Financial Institutions reduces by 23 percent following the foreign banks entry. The negative sign in the case of firms' size indicates that small firms tend to borrow more than the large firms or banks lend to small firms in the districts having foreign banks. Moreover, the overall credit supply to firms is also negative and statically significant(see Table 3).

The results of Table 4displays the direct impact of foreign banks entry on the credit access to firms in districts having foreign banks and it is similar to the results of Table 3. The firms borrowed credit in the previous year are likely to receive more credit. We interpret the results of Table 4 – the total borrowings of firms reduces in those districts where foreign banks directly lend to firms. This could be the result of high screening technology adopted by foreign banks, and Indian domestic banks might have followed foreign banks' lending strategy. Moreover, the statistically insignificant results for

Table 3
Indirect Impact of Foreign banks entry (Results of Panel data GMM)

Dependent / *Explanatory*	*Borrowing from* $bankL_1$	*Borrowing from* FIL_2	*Borrowing from* $(bank + FI)L_3$
$L_i(-1)$	0.54***(15.62)	0.67***(46.38)	0.62***(21.71)
F(Foreign banks entry)	-0.20***(-4.12)	-0.11***(-4.12)	-0.23***(-4.52)
S(Sales/Total Asset)	0.001(0.05)	-0.03***(-3.18)	-0.23**(-1.02)
Number ofObservation	29700	29700	29700
J Statistics	103.76(0.43)	104.35(0.42)	97.68(0.60)

The sample got adjusted for 14 years period from 2001 to 2014. Orthogonal deviation is used for transformation. Standard errors are white noise. Parenthesis represents t-statistics. ***significant at 1%, **significant at 5%.

Table 4
Direct Impact of Foreign banks entry (Results of Panel data GMM model)

Dependent / *Explanatory*	*Borrowing from* $bankL_1$	*Borrowing from* FIL_2	*Borrowing from* $bank + FIL_3$
$L_i(-1)$	0.53***(11.96)	0.73***(42.16)	0.61***(17.60)
F(Credit by Foreign banks)	-0.04(-1.22)	-0.02(-1.41)	-0.09**(-2.18)
S(Sales/Total Asset)	0.006(0.022)	-0.02(-1.46)	-0.03(-1.02)
Number ofObservation	20526	20526	20526
J Statistics	92.83(0.31)	85.47(0.52)	77.31(0.76)

Orthogonal deviation is used for transformation. Standard errors are white noise. Parenthesis represents t-statistics. ***significant at 1%, **significant at 5%.

sales variable indicates that the size does not matter while lending. So, the cherry picking behaviour is not seen in terms of size for lending by foreign banks. Thus, we accept H_1 and reject H_2.

Our results are similar to that of Gormley (2010) for India. However, Gormley (2010) found that borrowing of firms reduces from FIs only and not from banks in districts having foreign banks. Our results contradicts this results in a manner that the actual borrowing of firms reduces from both banks and FIs separately in districts after entry of foreign banks. However, the main results remain the same that foreign banks entry have negative impact on credit access to firms in India. We further divide the firms in three different categories as mentioned earlier. we also consider foreign firms in our data set in order to test the *follow your client hypothesis*.

The results in Table 5 represent the indirect impact of foreign banks entry on the segmented firms in India, i.e. private Indian, Indian Group, and private foreign firms. For all the columns from A to I, borrowings by any firm in the preceding year has positive relation with the current year borrowings. The foreign banks entry has mixed results for private Indian firms. Results shows that the borrowings of private firms from banks have reduced (Column A) but borrowings of private firms from FIs have

Table 5
Indirect Impact of Foreign banks entry on segmented firms (Private Indian, Indian Group, and Private Foreign firms) in India

Dependent	*Borrowing from bank (Prv Ind) [A]*	*Borrowing from FI (Prv Ind) [B]*	*Borrowing from (bank+ FI) (Prv Ind) [C]*	*Borrowing from bank (Ind Grp) [D]*	*Borrowing from FI (Ind Grp) [E]*	*Borrowing from (bank+FI) (Ind Grp) [F]*	*Borrowing from bank (Foreign) [G]*	*Borrowing from FI (Foreign) [H]*	*Borrowing from (bank+FI) (Foreign) [I]*
Explanatory	L_1	L_2	L_3	L_1	L_2	L_3	L_1	L_2	L_3
L_i(-1)	0.45***	0.67***	0.66***	0.35***	0.79***	0.58***	0.55***	0.48***	0.52***
	(14.80)	(105.69)	(39.90)	(9.24)	(52.23)	(22.52)	(1218.73)	(4330.82)	(175.88)
F(Foreign	-0.35***	0.10***	-0.13***	-0.07**	-0.15***	-0.21***	0.12***	-0.02***	0.11***
bank entry)	(-6.87)	(5.30)	(-2.96)	(-2.13)	(-6.99)	(-4.92)	(264.80)	(-160.24)	(101.35)
S(Sales/Total	-0.01	-0.01**	-0.02*	-0.02	-0.01	-0.01	-0.03***	0.01***	-0.02***
Asset)	(-0.89)	(-2.08)	(0.07)	(-0.76)	(-1.08)	(-0.29)	(-63.43)	(196.84)	(-16.15)
Number of	19681.00	19681.00	19681.00	9319.00	9319.00	9319.00	700.00	700.00	700.00
Observation									
J Statistics	94.61	108.35	100.36	95.54	114.27	88.85	82.74	87.23	80.74
(P-value)	(0.69)	(0.31)	(0.77)	(0.66)	(0.19)	(0.82)	(0.28)	(0.18)	(0.36)

Orthogonal deviation is used for transformation. Standard errors are white noise. Parenthesis represents t-statistics. ***significant at 1%, **significant at 5%, *significant at 10%.

Table 6
Direct Impact of Foreign banks entry on segmented firms
(Private Indian, Indian Group, and Private Foreign firms) in India

Dependent	*Borrowing from bank (Prv Ind) [J]*	*Borrowing from FI (Prv Ind) [K]*	*Borrowing from (bank+ FI) (Prv Ind) [L]*	*Borrowing from bank (Ind Grp) [M]*	*Borrowing from FI (Ind Grp) [N]*	*Borrowing from (bank+FI) (Ind Grp) [O]*	*Borrowing from bank (Foreign) [P]*	*Borrowing from FI (Foreign) [Q]*	*Borrowing from (bank+FI) (Foreign) [R]*
Explanatory	L_1	L_2	L_3	L_1	L_2	L_3	L_1	L_2	L_3
L_i(-1)	0.42***	0.70***	0.51***	0.48***	0.73***	0.63***	0.39***	0.33***	0.36***
	(15.97)	(121.99)	(26.34)	(15.32)	(71.57)	(21.61)	(1812.93)	(2228.51)	(229.42)
CR_FB	0.06	0.01	0.07*	0.03***	-0.04***	-0.04*	0.02***	0.001***	0.02***
(Foreign bank credit)	(1.63)	(0.23)	(1.76)	(2.85)	(-10.75)	(-1.68)	(326.05)	(-10.61)	(160.94)
S(Sales/	-0.01	-0.03***	-0.04**	-0.02	-0.03**	0.004	-0.06***	0.01***	-0.06***
Total Asset)	(-0.92)	(-3.75)	(0.04)	(-0.71)	(-2.31)	(-0.15)	(-261.87)	(130.72)	(-127.10)
Number of Observation	13919.00	13919.00	13919.00	6176.00	6176.00	6176.00	431.00	431.00	431.00
J Statistics	77.90	107.62	74.76	82.12	87.14	79.67	72.90	76.70	71.05
(P-value)	(0.75)	(0.70)	(0.82)	(0.63)	(0.48)	(0.70)	(0.35)	(0.22)	(0.41)

Orthogonal deviation is used for transformation. Standard errors are white noise. Parenthesis represents t-statistics. ***significant at 1%, **significant at 5%, *significant at 10%.

improved (Column B). The effect of foreign banks entry on the total borrowings from banks and FIs of private Indian firms have deteriorated. This indicates that the credit access to private Indian firms have reduced after foreign banks entry. In case of Indian Group firms, the entry of foreign lender do have negative impact on credit access from both banks (Column E) and FIs (Column F). Hence, the total borrowings by firms in the districts having foreign banks have reduced. In the case of foreign firms, lending from banks have enhanced despite of reduction in borrowings from FIs. Foreign firms are the only firms whose borrowings have increased following the foreign banks entry. Moreover, the negative sign in most of the cases for Sales represents there is no difference in credit access for varied size of the firms in all the categories i.e. Indian private, Indian Group, or foreign firms.

The results in Table 6 shows that the direct impact of foreign banks entry on segmented firms' credit access in India i.e. private Indian, Indian group, and private foreign firms. The firms in India can avail credit due to their previous year borrowings relationship (Table 5, columns J to R). Again the results of Table 5 suggests that borrowings of foreign firms in India improves with the hike in lending by foreign banks. This suggests that foreign banks in India do follow their clients and lend them. Thus, we accept H_3. In case of private Indian firms, the results are statistically not significant. For Indian group companies, the negative results of total borrowings from bank and FIs indicates that the credit access to these firms have reduced with the increase in the lending by foreign banks (Column N). Thus, except foreign firms, all other Indian domestic firms have less access to credit in the districts having foreign banks than in the districts without foreign banks.

5. CONCLUSION

The empirical study investigates the direct and indirect impact of foreign banks entry in India. The study further analyse the hypotheses *follow your client* and *cherry pick behaviour* of foreign banks by estimating the credit access to firms according to their size, type and location in India. By using firm level data, the study constructs panel data and analyse it through dynamic panel GMM estimator. The empirical results of the study finds that the entry of foreign banks have an adverse impact on the credit access in the Indian markets. Foreign banks do follow their home clients and lend them while ignoring Indian domestic firms. However, we did not find any *cherry picking* or *cream skimming* behaviour by foreign banks. Moreover, foreign banks entry also affect the credit decision of Indian domestic banks that reduces overall credit supply to the firms in various districts in India. Thus, the entry of foreign banks result in shrunk of credit supply to the Indian districts that is believed to be the results of their strategy to lend to firms with hard information. The prevailing high cost of lending Information in India is one of the reasons for this. This signals policy makers to take steps to avail lending information at lower cost or to allow foreign banks to enter through Merger and Acquisition. Otherwise, the entry of foreign banks in new Indian districts would be fatal for Indian economy.

References

Althammer, W. & Haselmann, R., 2011. Explaining foreign bank entrance in emerging markets. *Journal of Comparative Economics*, 39(4), pp.486–498. Available at: http://dx.doi.org/10.1016/j.jce.2011.03.002.

Beck, T., De Jonghe, O. & Schepens, G., 2013. Bank competition and stability: Cross-country heterogeneity. *Journal of Financial Intermediation*, 22(2), pp. 218–244. Available at: http://dx.doi.org/10.1016/j.jfi.2012.07.001.

Berger, A.N. et al., 2002. Small Business Credit Availability and Relationship Lending/: the Importance of Bank Organisational Structure, *The Economic Journal*, 112(477), pp. 32–53.

Berger, A.N. et al., 2003. To what extent will the banking industry be globalized? A study of bank nationality and reach in 20 European nations. *Journal of Banking & Finance*, 27(3), pp. 383–415. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0378426602003862.

Bhaumik, S.K. & Piesse, J., 2008. Does lending behaviour of banks in emerging economies vary by ownership? Evidence from the Indian banking sector. *Economic Systems*, 32(2), pp. 177–196. Available at: http://www.sciencedirect.com/science/article/pii/S0939362507000519 [Accessed May 24, 2016].

Bhuamik, S. & Dimova, R., 2006. How important is ownership in a market with level playing field/ ? The Indian banking sector revisited., *Centre for Economic Development & Institutions Brunel University West London,* WP 32, pp. 165–180 http://cedi.org.uk.

Boustanifar, H., 2014. Information acquisition, foreign bank entry, and credit allocation. *Quarterly Review of Economics and Finance*, 54(3), pp. 324–336.

Brealey, R. & Kaplanis, E.C., 1996. The determination of foreign banking location. *Journal of International Money and Finance*, 15(4), pp. 577–597.

Claessens, S., 2001. How does foreign entry affect domestic banking markets/ ? *Journal of Banking and Finance*, 25, pp. 891-911.

Clarke, G.R.G. et al., 2002. Does Foreign Bank Penetration Reduce Access To Credit in Developing Countries/ ? Evidence From Asking Borrowers, *The World Bank*.

Clarke, G.R.G., Crivelli, J.M. & Cull, R., 2005. The direct and indirect impact of bank privatization and foreign entry on access to credit in Argentina's provinces. *Journal of Banking and Finance*, 29(1 SPEC. ISS.), pp. 5–29.

Clarke, G.R.G., Cull, R. & Martnez Peria, M.S., 2006. Foreign bank participation and access to credit across firms in developing countries. *Journal of Comparative Economics*, 34(4), pp. 774–795.

De Haas, R. & van Lelyveld, I., 2006. Foreign banks and credit stability in Central and Eastern Europe. A panel data analysis. *Journal of Banking & Finance*, 30(7), pp. 1927–1952. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0378426605001548 [Accessed October 16, 2014].

Degryse, H. et al., 2012. Foreign bank entry, credit allocation and lending rates in emerging markets: Empirical evidence from Poland. *Journal of Banking and Finance*, 36(11), pp. 2949–2959. Available at: http://dx.doi.org/10.1016/j.jbankfin.2011.12.006.

Dell'Ariccia, G. & Marquez, R., 2004. Information and bank credit allocation. *Journal of Financial Economics*, 72(1), pp.185–214. Available at: http://www.sciencedirect.com/science/article/pii/S0304405X03002101 [Accessed May 24, 2016].

Detragiache, E., Tressel, T. & Gupta, P., 2008. Foreign banks in poor countries: theory and evidence. *The Journal of Finance*, LXIII (5), pp.2123–2160. Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.2008.01392.x/full.

Ghosh, S., 2012. Foreign Banks in India: Liabilities or Assets? *Economic Papers: A journal of applied economics and policy*, 31(2), pp.225–243. Available at: http://doi.wiley.com/10.1111/j.1759-3441.2011.00143.x [Accessed October 19, 2014].

Giannetti, M. & Ongena, S., 2012. "Lending by example": Direct and indirect effects of foreign banks in emerging markets. *Journal of International Economics*, 86(1), pp. 167–180. Available at: http://dx.doi.org/10.1016/j.jinteco.2011.08.005.

Gormley, T. A, 2007. Banking competition in developing countries: Does foreign bank entry improve credit access? *Department of Economics MIT*, pp. 1–54. Available at: http://econ.snu.ac.kr/upload/contents/Nega_kts_semi_99.pdf.

Gormley, T. A., 2010. The impact of foreign bank entry in emerging markets: Evidence from India. *Journal of Financial Intermediation*, 19(1), pp. 26–51. Available at: http://linkinghub.elsevier.com/retrieve/pii/S1042957309000291.

Gormley, T. A., Kim, B.H. & Martin, X., 2012. Do Firms Adjust Their Timely Loss Recognition in Response to Changes in the Banking Industry? *Journal of Accounting Research*, 50(1), pp. 159–196. Available at: http://doi.wiley.com/10.1111/j.1475-679X.2011.00429.x [Accessed October 1, 2014].

Gormley, T.A., 2014. Costly information, entry, and credit access. *Journal of Economic Theory*, 154, pp. 633–667. Available at: http://dx.doi.org/10.1016/j.jet.2014.06.003.

Gormley, T.A., Kim, B.H. & Martin, X., 2009. Can Firms Adjust Their Opaqueness to Lenders? Evidence from Foreign Bank Entry into India. *SSRN eLibrary*, (March). Available at: http://ssrn.com/paper=1265109.

Haas, R. De, Ferreira, D. & Taci, A., 2010. What determines the composition of banks' loan portfolios/ ? Evidence from transition countries. *Journal of Banking and Finance*, 34(2), pp.388–398. Available at: http://dx.doi.org/10.1016/j.jbankfin.2009.08.005.

Hermes, N., & Lensink, R. 2004. Foreign Bank Presence, Domestic Bank Performance and Financial Development. *Journal of Emerging Market Finance*, 3(2), pp. 207–229. Available at: http://emf.sagepub.com/cgi/doi/10.1177/097265270400300206 [Accessed October 19, 2014].

Leon, F., 2015. Does bank competition alleviate credit constraints in developing countries/ ? *JOURNAL OF BANKING FINANCE*, 57, pp. 130–142. Available at: http://dx.doi.org/10.1016/j.jbankfin.2015.04.005.

Li, Q., Zeng, Y. & Liu, B., 2014. Asymmetric information, foreign entry and multi-period credit competition in banking industry. *Quarterly Review of Economics and Finance*, 54(2), pp. 216–229. Available at: http://dx.doi.org/10.1016/j.qref.2013.12.006.

Li, Z., & Yuan, X., 2015. Endogenous Information, Foreign Banks Entry and SMEs Access to Credit in Emerging Economies., 2009 (ERMM), pp. 313–317.

Lin, H., 2011. Foreign bank entry and firms' access to bank credit/: Evidence from China. *Journal of Banking and Finance*, 35(4), pp. 1000–1010. Available at: http://dx.doi.org/10.1016/j.jbankfin.2010.09.015.

Moshirian, F., 2001. International investment in financial services. Journal of Banking &

Finance, 25(2), pp. 317–337. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0378426699001259.

Morgan, H.M., 2013. Research in International Business and Finance Foreign banks and the export performance of emerging market firms/: Evidence from India. *Research in International Business and Finance*, 29, pp. 52–60. Available at: http://dx.doi.org/10.1016/j.ribaf.2013.02.003.

Popov, A. & Udell, G.F., 2012. Cross-border banking, credit access, and the fi nancial crisis. *Journal of International Economics*, 87(1), pp.147–161. Available at: http://dx.doi.org/10.1016/j.jinteco.2012.01.008.

Sarma, M. & Prashad, A., 2016. Do Foreign Banks in India Indulge in Cream Skimming? *Economic and Political Weekly*, lI (12), pp. 120-125.

Sengupta, R., 2007. Foreign entry and bank competition. *Journal of Financial Economics*, 84(2), pp.502–528. Available at: http://linkinghub.elsevier.com/retrieve/pii/S0304405X06002212 [Accessed November 5, 2014].

Tsai, H., Chang, Y. & Hsiao, P.H., 2011. What drives foreign expansion of the top 100 multinational banks? The role of the credit reporting system. *Journal of Banking and Finance*, 35(3), pp. 588–605.

Van Tassel, E. & Vishwasrao, S., 2007. Asymmetric information and the mode of entry in foreign credit markets. *Journal of Banking and Finance*, 31(12), pp. 3742–3760.

Viverita, Lubis, A.W., Bustaman, Y. & Riyanti, R.S., 2015. Foreign Bank Entry and Credit Allocation to SMEs/ : Evidence from ASEAN Countries. , 211(September), pp. 1049–1056.

Weller, C.E. 2000. Financial Liberalization, Multinational Banks and Credit Supply/: the case of Poland, *International Review of Applied Economics* 14(2) pp. 193-210.

Yamori, N., 1998. A note on the location choice of multinational banks: The case of Japanese financial institutions, *Journal of banking and finance,* 22, pp. 109–120.