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What explains India's surge in outward direct investment?

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Abstract

India's outward direct investment (ODI) has grown very fast, especially since the global financial crisis erupted. In this paper, we analyze empirically what are the factors behind the geographical destination of India's ODI. We estimate a gravity model using weighted EGLS into a panel data of 74 ODI destinations from India during 2008 to 2012. Given the sheer size of India's ODI which is deviated to offshore financial centers awaiting their final destination, we go beyond using the official ODI data by destination and reassign the ODI directed to 5 major offshore financial centers into its most likely final destinations. Both sets of results (with raw data and rearranging India's ODI into offshore centers) suggest that India's direct investors are attracted towards richer countries and not so much proximity with India. Furthermore, countries having a high degree of trade openness are preferred destinations for India's ODI, especially those that export technology but also, to a much lesser extent, exporters of food and fuel. Also, bilateral and/or multilateral free trade agreements with host countries are found to strengthen ODI flows from India. Finally, an efficient governance system in host countries is found to attract higher ODI flows from India. However, when controlling for the existence of off-shore centers, the host country's ability to control corruption is not a significant determinant of India's ODI.

Keywords: Indian outward direct investments, host countries.

JEL: F210.

1 Introduction

It has been less than a decade since India's companies have jumped into the global mergers and acquisitions (M&A) arena. According to the Reserve Bank of India, since 2003, India's stock of outward direct investment (ODI) has jumped 35 fold to USD 241 billion in 2013 (See Appendix 2: Figure 1). The bulk of this investment, nearly 70%, has taken place in the past five years. Since 2009, Indian companies have invested USD 161 billion overseas as compared to USD 73 billion during 2004-08. For a developing economy with low per capita income¹, the surge in ODI over such a short time-span is increasingly noteworthy. In fact, for the most recent period, namely 2013-14, India's ODI overshadowed India's inward direct investment (IDI) by a wide margin (USD 38 billion vs. USD 24.3 billion). Such a phenomenal growth in India's ODI stands as an exception to the traditional investment development path (IDP) hypothesis (Dunning & Narula, 1996) which notes that a country is normally characterized as being a net outward investor, with ODI bigger than IDI, when its GDP per capita exceeds USD 10,000 (See Appendix 2: Figure 2 & 3).

In terms of scale, however, India remains a small source of foreign direct investment, with 0.5% share in global stock of ODI (See Appendix: Figure 4). As a comparison, China already counts with 2.2% of the world's ODI stock and Brazil with 1%. In absolute terms the situation is similar, India's stock of ODI, at USD 118 bn, is larger than that of Chile (USD 97 billion) and, of course, Indonesia (USD 12 billion) but lags far behind China (USD 509 billion) and Brazil (USD 233 billion). Furthermore, India's ODI in per-capita terms are discernibly low at USD 94, compared to USD 376 for China, USD 1174 for Brazil, USD 1185 for Mexico and USD 5575 for Chile. Meanwhile, as a share of GDP, India's ODI stock looks reasonable, matching that of China (at 6%) but still lags behind Brazil (10%), Mexico (12%) and Chile (37%).

As regards the destination of India's ODI, Europe has received the largest chunk of direct investment from India since 2008 followed by Asia, Africa and North America. Over the past year, Indian companies have struck 1743 ODI deals in Europe, 60% of them across information technology, automotive, manufacturing, telecom, financial services and steel. Singapore, Mauritius and Netherlands are India's favorite offshore centers for mobilizing financial resources. Excluding offshore centers, the US and UK top the list of India's ODI destinations (See Appendix: Figure 5 & 6). India's investments in the US are mainly concentrated in the financial, business and software services (40%) and manufacturing sector (30%). To give a couple of concrete examples, the past year saw two big ticket investments in the US from India, namely, USD 1.35 billion investment by Piramal Healthcare and USD 759 million investment by JSW Steel in their respective US subsidiaries.

As for the sector breakdown of India's ODI, the manufacturing sector has received the bulk of ODI flows from India since 2008, but its share is steadily declining (See Appendix: Figure 7 & 8). Resource seeking overseas investment from India has increased in recent years, particularly in the energy and mining space. This is driven by India's widening energy deficit. According to the BP Energy Outlook 2035, India's primary energy deficit has more than doubled from 82 million tonnes of oil equivalent (Mtoe) in 2000 to 219 Mtoe in 2012 and is expected to widen further to 578 Mtoe by 2035.

This paper analyzes empirically what are the factors behind the geographical destination of India's ODI within the framework of a gravity model. Section 2 reviews the existing literature on the issue, Section 3 explain the empirical methodology we have chosen and how we tackle the difficult issue of having most of India's ODI being deviated to off-shore centers before reaching their final destination. Section 4 reviews the results and Section 5 concludes.

1: As per the IMF, India's per capita income stood at USD 1504 in 2013 compared to USD 6747 for China. India is ranked 140th in the world in terms of per capita GDP.

2 Literature review

Emerging economies have stepped up their direct investments over the past two decades from virtually none. According to UNCTAD, their share of world ODI rose from 6.2% to 30% between 1980 and 2012. The World Bank notes that direct investment from the BRIC (Brazil, the Russian Federation, India and China) continue to lead, accounting for more than 60% of ODI from emerging countries. Not surprisingly, this trend has increasingly intrigued researchers, who have examined the characteristics of ODI from emerging economies such as Taiwan and Korea (Dunning et al, 1997, and Fung, Garcia-Herrero and Siu, 2009), China (Randall Morck et al, 2007, Fung and Garcia-Herrero, 2012) and Brazil (de Oliveira et al, 2010). Their findings suggest that the determinants of ODI flows from developing economies exist at the country, industry as well as the firm level, under the broad gamut of motives as identified by John Dunning (1993) - natural resource seeking, market seeking, efficiency seeking, and strategic asset seeking. Dirk Holtbrugge et al (2012) find that, while the internationalization of Brazilian and Indian companies is primarily driven by economic motives, many Chinese and Russian firms also receive substantial political support from their governments to invest abroad, especially in strategically important industries. Rashmi Banga (UNCTAD, 2004) argues that ODI from developing economies is basically determined by trade flows. The author also identifies inward FDI flows as one of the drivers of outward FDI. Meanwhile, Ali J. Al-Sadig (2013) from the IMF shows a robust negative relationship between outward FDI from developing economies and the rate of domestic investment in these economies.

Despite the surge in India's ODI flows over the past decade, there are very few studies on the topic and even less on the determinants of the geographical destination of India's ODI, which is the question we are asking ourselves. Fung and Garcia Herrero (2012) use an augmented gravity model to examine the determinants of Indian and Chinese outward FDI. Their results suggest that Indian companies prefer destinations that are smaller but richer and further away. This result is supported by Pradhan and Sauvant, (2010) who note that during 1961–1989, 82% of Indian outward FDI went to other developing countries; but in 1990–2007, almost 62% went to developed countries. Interestingly Fung and Garcia Herrero (2012) find that Indian investments are attracted to less corrupt economies with better rule of law while Chinese investments are attracted to more corrupt countries. Furthermore, the authors note that fuel as well as food exporting countries are favored by Indian investments although technology acquisition and the presence of ores and metals is found to be an insignificant factor in aiding investments from India. Nunnenkamp et al (2012) also look into the determinants of India's ODI with the help of a gravity model and find that India's outward FDI is hardly explained by a search of resources of superior technologies. Furthermore, they find that market-related factors appear to have dominated the location choices of Indian direct investors and that larger Indian Diasporas in the host countries attracts more ODI from India.

Finally, in a more descriptive than empirical tone, Govindarajan and Ramamurti (2010) note that India's outward FDI is led by highly entrepreneurial private firms that have capabilities in design, production, branding, and distribution, and are innovative at providing products and services of "good enough" quality at ultra-low prices. Given the scarcity of industrial resources in relation to India's size, there was perhaps a need for strategic initiatives to encourage public and private sector firms to seek scarce natural resources, including energy, to facilitate industrial development at home (R Nagaraj, 2006).

3 Data and methodology

We examine host country characteristics that drive ODI from India using a weighted panel with Estimated Generalized Least Squares (EGLS). We use annual data on ODI from India into 74 host countries during 2008 to 2012. The selected countries are a well-represented sample given that they accounted for 93% of total ODI flows from India during the period under study. Our dependent variable is ODI from India in USD billion and we included a number of independent variables based on a gravity model specification. These are: first, the gross domestic product (USD bn) of the host country; second, the geographical distance (in km) between host country and India; third, the share of trade in GDP, which measures the openness of the host economy; fourth, the share of food exports in GDP, indicating whether the host is an exporter of food; fifth, the share of high-end technology exports in total manufacturing exports; sixth, the share of fuel exports in GDP; seventh, the share of metal exports in GDP; eighth, the ability of the host country to control corruption; ninth, a dummy variable with the value of one when the host country has a Free Trade Agreement (FTA) with India, either multilateral or bilateral; and lastly the degree of government effectiveness as reflected in the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies. Data sources of all of these variables can be found in Appendix 1.

The key challenge that we face when analyzing the determinants of the destination of India's ODI is the large share of such ODI which is routed to off-shore centers before being directed into the final destination (over 75%). Special purpose vehicles (SPVs) set up in off-shore financial centers, such as, Mauritius, Singapore and the Netherlands, have been mainly used as conduits to mobilize funds and invest in third countries, keeping in view the business and legal consideration, taxation advantages and easier access to financial resources in the countries (RBI 2012)². In this context, we run two separate set of panel data regressions. First, we use the raw data, with annual data for all 74 host countries including offshore financial centers, which gives us a total of 370 observations. We, then adjust the ODI received by Offshore Financial Centers and make assumptions to redirect it to their most likely final destination. To do so, we first consider ODI flows data from India to all offshore centers except Mauritius. We allocate the ODI flows received by each offshore Centre to countries in its proximity. For example, flows to Singapore are redistributed to Asian countries; flows to Netherlands are redistributed to European countries and so on. This redistribution is done on the basis of the weighted share of total ODI flows received to each country in that particular region. For example if Indonesia's share in ODI flows to Asia is 35% (excluding Singapore), then Indonesia will be allocated 35% of ODI flows to Singapore during that period (calculated monthly and then aggregated). We look at Mauritius separately because it is a global hub and its flows to any individual country or region cannot be ascertained. We thus allocate ODI flows to Mauritius across all countries in the world (excluding other offshore centers) based on the same methodology as above. These adjustments for 5 major offshore financial centers, namely Singapore, Mauritius, Netherlands, Cyprus and Luxembourg leaves 69 countries in the cross section panel EGLS model across 2008 to 2012 (A total of 345 panel observations).

Finally, given the very fast growth of ODI during our sample, we obviously need to test for stationarity to specify the estimation model properly. To that end, we use the Augmented Dickey-Fuller test to ascertain whether the dependent as well as independent variables are stationary. Tests reveal the presence of a unit root in three independent variables, namely 1) Share of metal exports in GDP, 2) Share of trade in GDP and 3) Share of technology exports in total manufacturing exports. We thereby use the first difference of these variables, which is found to be stationary, in our analysis.

2: Refer to: Harun R Khan, 2011, " Outward Indian FDI – Recent Trends and Emerging Issues" , Reserve Bank of India Monthly Bulletin, April, Available at: <http://www.rbi.org.in/home.aspx>.

The gravity model regression equation becomes:

$$ODI_{eit} = \beta_1 GDP_{it} + \beta_2 D_{ei} + \beta_3 TO_{it} + \beta_4 FD_{it} + \beta_5 TN_{it} + \beta_6 FL_{it} + \beta_7 ML_{it} + \beta_8 CC_{it} + \beta_9 FTA_{it} + \beta_{10} GE_{it}$$

Where:

ODI_{eit} : Annual outward direct investment from India (USD bn) to host economy i in year t .

GDP_{it} : Gross Domestic Product (USD bn) of host economy i in year t .

D_{ei} : Distance (kilometres) between India and the host economy i .

TO_{it} : Trade as a share of GDP (%) in host economy i in year t .

FD_{it} : Food exports as a share of GDP (%) in host economy i in year t .

TN_{it} : High-end technology exports as a share of total manufacturing exports (%) in host economy i in year t .

FL_{it} : Fuel exports as a share of GDP (%) in host economy i in year t .

ML_{it} : Metal exports as a share of GDP (%) in host economy i in year t .

CC_{it} : Corruption control index of host economy i in year t .

FTA_{it} : A dummy variable denoting the existence of a free trade agreement, either bilateral or multilateral, between India and host economy i in year t .

GE_{it} : Index for government effectiveness for host economy i in year t .

4 Results

Results using raw data as opposed to the estimated redirection of ODI from offshore centres to final destinations (See Table-1 at the end of this Chapter) are quite similar with one main exception. The latter half of regressions using redistributed data shows that corruption control in host countries is not found to be a significant factor in driving ODI flows from India. Government effectiveness in host country is an important determinant nevertheless for India's ODI flows, which gives credence to the role of quality of governance in host countries in influencing ODI flows from India.

As regards the similarities, outward direct investments from India are attracted towards richer, more developed countries. The 'GDP' coefficient is positive and significant. Concentration of India's ODI flows into developed economies mirrors the growing capabilities and readiness of India's private sector to enter advanced economies and seek better markets, resources and higher efficiencies. This trend in India's ODI flows has been documented in previous studies as well – "During 1961–1989, 82% of Indian outward FDI went to other developing countries; but in 1990–2007, almost 62% went to developed countries (Pradhan and Sauvant, 2010)".

While physical distance plays a role in aiding ODI flows from India, it is not a major driver. The 'distance' coefficient is positive and significant but very small. The bulk of India's outward investments have been in the US and Europe, which are significantly far away.

Countries having a high degree of trade openness are preferred destinations for India's outward direct investments. The importance of trade openness in host countries suggests that Indian multinational companies seek to source essential resources, either natural or technical, from its outward investment destinations.

High end technology exporting countries are India's most preferred ODI destinations. The coefficient of high end technology exports as a share of manufacturing exports is large and significant. Such host countries with a high share of technology exports invest heavily in research and development across sectors such as information technology and pharmaceuticals. Given that India's revealed firm capacity lies in skill and knowledge intensive products and services rather than natural resource based industries, such investments help Indian MNCs strengthen technological capabilities to expand their market base and also protect existing export markets.

Countries with a higher share of food attract greater ODI flows from India. Coefficient for food exports as a share of GDP in host economies is positive and significant. The coefficient of food exports is lower than that of technology. While India's per capita food demand is low for most food items (except milk and sugar) and also less diversified, its enormous population base (18% of world population) makes it a major food consumer in the world for almost all categories except meat. India is the world's largest importer of edible oil and pulses. Also, India's imports of chemical fertilizers has surged over the last decade as farmers struggle to raise farm output amid limited and declining land resources for agriculture.

Fuel exporting countries are gaining importance as preferred destinations for India's ODI flows. Coefficient for fuel exports as a share of GDP is significant and positive, although lower than food. Energy resources seeking overseas investments from India have picked up in recent years given the country's widening energy deficit. According to the BP Energy Outlook 2035, India's primary energy deficit has more than doubled from 82 million tones of oil equivalent (Mtoe) in 2000 to 219 Mtoe in 2012 and is expected to widen further to 578 Mtoe by 2035. Key deals struck over the past year in the energy space include the acquisition of Videocon Group's 10% stake in a giant Mozambique gas field for USD 2.47 billion by India's public sector energy major ONGC Videsh Ltd (OVL) and OIL India. Additionally, OVL bought US energy major Anadarko Petroleum's 10% stake in the same block for USD 2.64 billion. The acquired block is strategically located to

competitively supply LNG to India and marks OVL's entry into an emerging world-class offshore gas basin. Looking ahead, given the scarcity of industrial resources in relation to India's rising demand, we could see Indian public and private sector firms increasingly tap scarce natural resources abroad, to facilitate industrial development at home.

It's important to note that a prior study by Alicia Garcia-Herrero and K.C.Fung (2012), titled 'Foreign direct investment outflows from China and India', has underscored the significance of food and fuel exports in host countries in attracting outward direct investments from India.

Metal exports as a share of host country GDP is not a significant factor influencing ODI flows from India. The coefficient of metal and ores exports is found to be insignificant. Alicia et al (2012) too noted that "for ores and metals, the Indian regression coefficient is not significant". This can be attributed to the fact that India's share in world refined metals consumption has remained stagnant near 3% since 1990s, in sharp contrast to China, whose share stands around a formidable 45%. This is largely due to India's service oriented economic structure, low commodity intensity in industry, low per capita GDP and the lack of decisive reforms to boost investment and trade.

Bilateral and/or multilateral free trade agreements (FTA) with host countries are found to strengthen ODI flows from India. The coefficient of FTA is significant and positive. Stronger bilateral and regional trade as well as investment agreements help spur Indian companies to achieve global scale and benefit from reciprocal market access in other countries.

Host country's efficacy of governance and its ability to control corruption have a positive impact on ODI flows from India. Indian multinational companies seek destinations which offer a higher degree of independence from political pressures, credible and pro-business government policies and a low incidence of corruption, particularly in the public sector. The need for effective governance could be mainly due to the fact that India's ODI is led by private enterprises, rather than public sector undertakings, and thus seek minimal government interference and greater operational freedom.

Table 1
Result of Weighted Panel EGLS Estimation

Dependent Variable: Outward Direct Investments from India	Result-1: All host countries in sample	Result-2: Redistribution of flows to offshore financial centers
GDP	0.044096*** (0.000)	0.150183*** (0.000)
Distance	-0.009024*** (0.000)	-0.004957*** (0.000)
Trade Share in GDP	1.549071** (0.0147)	0.992066** (0.0455)
Food exports share in GDP	2.606753*** (0.000)	1.103273*** (0.0000)
Technology exports share in manufacturing exports	4.456782** (0.0449)	2.714214* (0.0723)
Fuel exports share in GDP	1.901541*** (0.000)	0.679500*** (0.0000)
Metal exports share in GDP	0.430263# (0.5505)	0.381004# (0.4161)
Corruption Control	76.89847** (0.0026)	320.5362# (0.2419)
Free Trade Agreement	203.3486*** (0.0001)	-11.73286*** (0.0000)
Government Effectiveness	35.96899* (0.0518)	60.85272*** (0.0000)
Total observations	370	345
Adjusted R ²	0.212	0.329

Note: p value in parenthesis, *10% significance level; ** 5% significance level; *** 1% significance level, # not quite significant.

Source: Author's estimation of panel EGLS

5 Conclusions

India's outward direct investment (ODI) has grown very fast, especially since the global financial crisis erupted. In this paper, we analyze empirically what are the factors behind the geographical destination of India's ODI. We estimate a gravity model using weighted EGLS into a panel data of 74 ODI destinations from India during 2008 to 2012. Given the sheer size of India's ODI which is deviated to offshore financial centers awaiting their final destination, we go beyond using the official ODI data by destination and reassign the ODI directed to 5 major offshore financial centers into its most likely final destinations. Both sets of results (with raw data and rearranging India's ODI into offshore centers) suggest that India's direct investors are attracted towards richer countries and not so much proximity with India. Furthermore, countries having a high degree of trade openness are preferred destinations for India's ODI, especially those that export technology but also, to a much lesser extent, exporters of food and fuel. Also, bilateral and/or multilateral free trade agreements with host countries are found to strengthen ODI flows from India. Meanwhile, an efficient governance system in host countries is found to attract higher ODI flows from India. However, when controlling for the existence of off-shore centers, the host country's ability to control corruption is not a significant determinant of India's ODI.

As we conclude, it is important to note that the results obtained in this paper are preliminary and warrant further research before drawing strong policy conclusions. In this regard, a good way forward would be to compare our results with those based on M&A data. In addition, it would be interesting to investigate the issue on inward FDI from India from the host country perspective.

6 References

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7 Appendixes

Appendix 1

Sources:

Annual outward direct investment from India (USD bn) is calculated from Reserve bank of India's monthly data on outward direct investments from India.

Independent variables related to host countries:

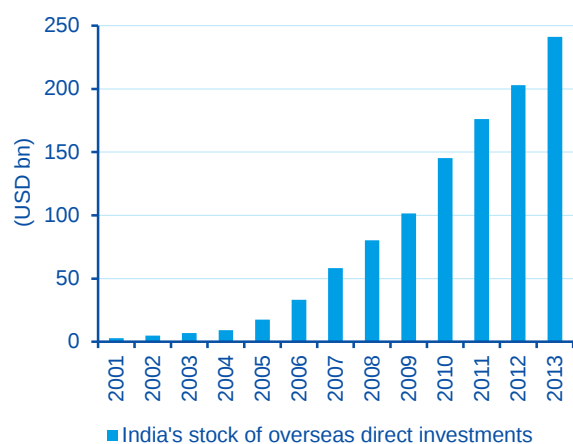
1. Gross domestic product (USD bn) of host economies are taken from the IMF (www.imf.org/external/data.htm).
2. Distance between India and host countries is calculated using www.distancefromto.net.
3. Share of trade in GDP (%) is taken from World Bank (data.worldbank.org).
4. Share of food exports in GDP (%) is taken from World Bank (data.worldbank.org).
5. Share of fuel exports in GDP (%) is taken from World Bank (data.worldbank.org).
6. Share of metal exports in GDP (%) is taken from World Bank (data.worldbank.org).
7. Share of high end technology exports in total manufacturing exports (%) is taken from World Bank (data.worldbank.org).
8. Government's ability to control corruption is taken from World Governance Indicators, as constructed by the World Bank (www.govindicators.org).
9. A dummy variable signifying the presence of Free Trade Agreement (FTA) between host economy and India, which can be either multilateral or bilateral.
10. Government effectiveness is taken from World Governance Indicators, as constructed by the World Bank (www.govindicators.org).

Appendix 2

Figures:

Figure 1

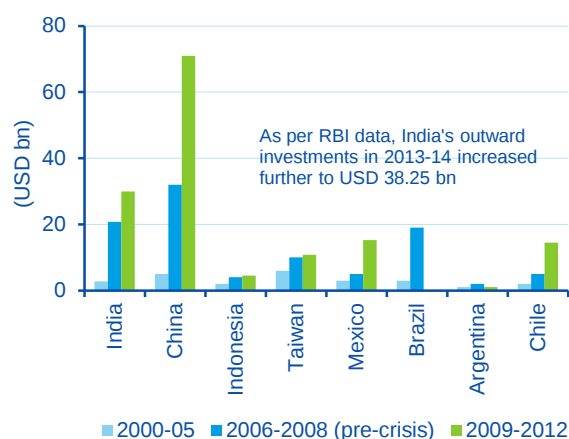
India's stock of overseas direct investment (ODI) has jumped 35 fold over the past decade



Source: RBI, UNCTAD and BBVA Research

Figure 2

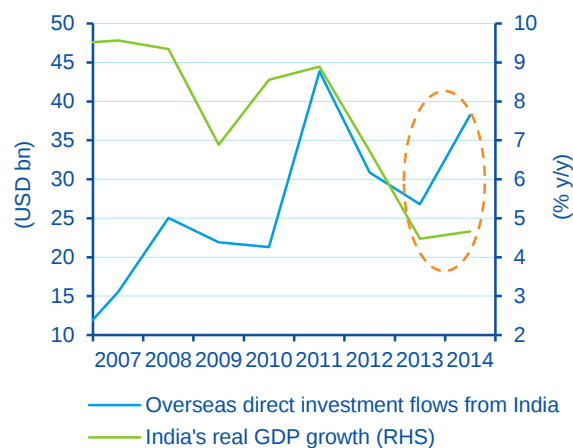
Average annual ODI flows from India have surpassed several emerging economies over recent years



Source: RBI, UNCTAD and BBVA Research

Figure 3

Notwithstanding domestic macro challenges, ODI flows from India picked up sharply last fiscal year

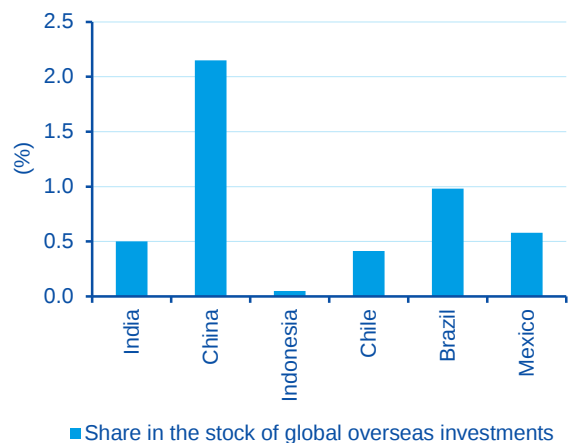


*Fiscal year ending March.

Source: RBI and BBVA Research

Figure 4

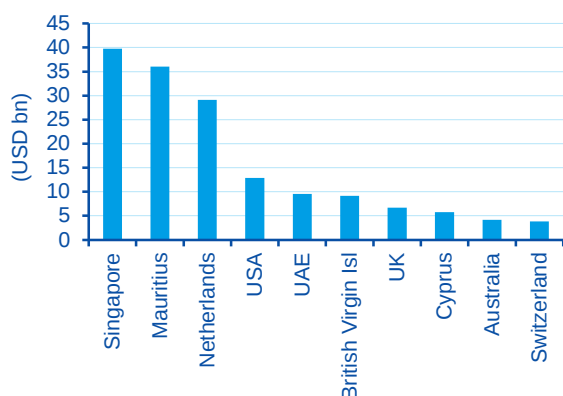
In terms of scale, India remains a small source of global investments, lagging far behind China



Source: UNCTAD and BBVA Research

Figure 5

Excluding offshore centres, the US, UK and Australia are preferred investment destinations for Indian ODI

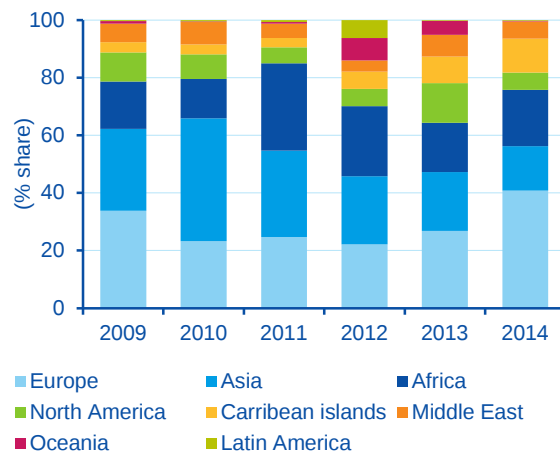


■ Total ODI from India between July 2007 and March 2014

* Fiscal year ending March.
 Source: RBI, BBVA Research

Figure 6

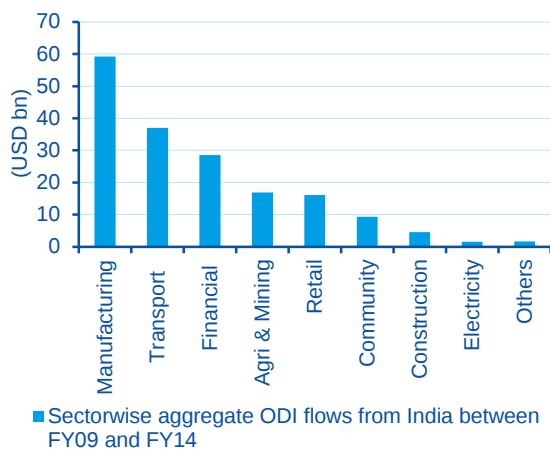
Europe has fast grown as India's preferred investment destination, followed by Asia and Africa



* Fiscal year ending March.
 Source: RBI, BBVA Research

Figure 7

Since FY09, bulk of ODIs from India have been in the manufacturing sector, followed by transport

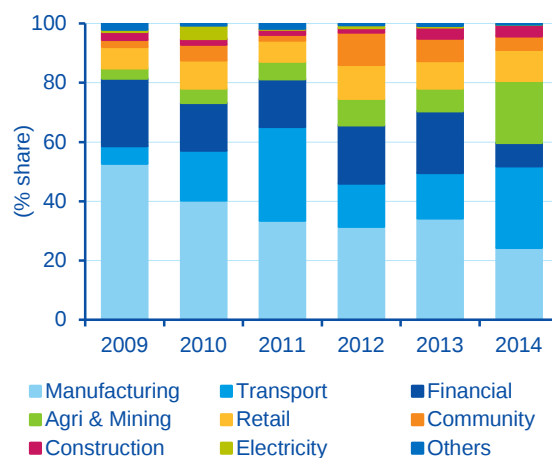


■ Sectorwise aggregate ODI flows from India between FY09 and FY14

* Fiscal year ending March.
 Source: RBI, BBVA Research

Figure 8

But, the share of manufacturing in India's ODI basket is declining, offset mainly by mining and transport



* Fiscal year ending March
 Source: RBI, BBVA Research

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