Roll out the Red Carpet and They Will Come:
Investment Promotion and FDI Inflows

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Abstract As red tape in host countries and information asymmetries constitute a significant obstacle to investment flows across international borders, an important policy question is: what can aspiring FDI destinations do to reduce such barriers? This study uses newly collected data on 124 countries to examine the effects of investment promotion on inflows of US FDI. We test whether sectors explicitly targeted by investment promotion agencies in their efforts to attract FDI receive more investment in the post-targeting period, relative to the pre-targeting period and non-targeted sectors. The results of our analysis are consistent with investment promotion leading to higher FDI flows to countries in which red tape and information asymmetries are likely to be severe. The data suggest that investment promotion works in developing countries but not in industrialized economies.

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1. Introduction

Countries around the globe compete fiercely to attract foreign direct investment (FDI). Policy makers believe that FDI can contribute to a faster economic growth by bringing additional capital, creating jobs, and transferring new technologies and know-how across international borders. Recent empirical evidence suggests that FDI may also lead to positive productivity spillovers to local firms, particularly in the supplying industries.[1] Given these potential benefits of FDI inflows, an important question for policy makers is how to attract foreign investors.

This paper argues that investment promotion may be a cost-effective way of increasing FDI inflows, particularly to developing countries where information about business conditions is less readily available and bureaucratic procedures tend to be more burdensome. The purpose of investment promotion is to reduce transaction costs facing foreign investors by providing information (on business opportunities, prevailing laws and regulations as well as factor cost in a host country) and helping foreign investors deal with bureaucratic procedures. Investment promotion is a widespread but a relatively new phenomenon. In 2001, there existed more than 160 national and over 250 sub-national investment promotion agencies (IPAs) (UNCTAD 2001). The 2005 Census of Investment Promotion Agencies conducted by the World Bank revealed that 85 percent of the responding IPAs in developing countries were established in 1980 or later (see Figure 1).

This study aims to rigorously assess the effectiveness of investment promotion activities by examining three questions: (i) does investment promotion lead to higher FDI inflows? (ii) is there evidence that information provision and assistance with bureaucratic procedures are important channels through which investment promotion works? (iii) how do the costs of investment promotion compare to the benefits it brings?

Our study was made possible by the availability of new data that we collected through a worldwide Census of Investment Promotion Agencies conducted under the aegis of the World Bank. The data set is unique in terms of the extent of its coverage and the level of detail. The data set includes information on investment promotion efforts (or the lack thereof) in 124 countries, representing all income groups and geographic regions. About three quarters of responses pertain to developing countries. An extremely useful feature of the Census is that it includes time-varying information specifying which sectors were given priority by IPAs in their investment promotion efforts.

Our identification strategy relies on the fact that the majority of IPAs target particular sectors in their efforts to attract FDI. Sector targeting is considered to be best practice by investment promotion professionals (Loewendahl 2001, Proksch 2004). It also allows us to identify the effect of investment promotion using a difference-in-differences approach. We compare FDI inflows into targeted sectors, before and after targeting, to FDI inflows into non-targeted sectors during the same time period. Our analysis is based on data on US outward FDI, disaggregated by host country and sector and available for the period 1990-2004, provided by the US Bureau of Economic Analysis. We control for changes in host country business environment by including country-year fixed effects, for heterogeneity of sectors in different locations by including country-sector fixed effects and for shocks to supply of FDI in particular sectors by adding sector-time fixed effects. The ability to control for all these factors enables us to credibly identify the effects of investment promotion.

As sector targeting is a choice of the IPA, the targeting decision could be a response to earlier experience of the sector, which could present a reverse causality problem. However, when we

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[1] See studies by Javorcik (2004a), Blalock and Gertler (2007), Javorcik and Spatareanu (2008, 2009, 2010); and literature reviews by Görg and Strobl (2001) and Görg and Greenaway (2004).

exclude countries that reported in the Census that the targeting decision was based on the past success or failure in attracting FDI to the sector, our results hold. In addition, we find no evidence suggesting that targeting took place in sectors with relatively high or low inflows in the years preceding targeting. Finally, a strict exogeneity test does not reject our empirical strategy.

Our results suggest that investment promotion efforts lead to higher FDI inflows. Investment promotion appears to be more effective in countries where English is not an official language and in countries which are more culturally distant from the US. Investment promotion also works better in countries with less effective governments, higher corruption and a longer time period required to start a business or obtain a construction permit. All of these findings are consistent with investment promotion alleviating problems associated with the scarcity of information and cumbersome bureaucratic procedures. Further, when we split the sample into industrialized and developing countries we find that investment promotion has a positive impact on FDI inflows in the developing world but not in industrialized countries. This is consistent with the observation that information and bureaucratic permits tend to be harder to obtain in a developing country setting. Finally, even within the subsample of developing countries, we confirm that investment promotion works better in places with higher information asymmetries and more red tape.

The result that investment promotion is more effective in the presence of information asymmetries or more complex bureaucratic procedures is an interesting finding in its own right. Moreover, showing that investment promotion works better where we would expect it to do so suggests that we are indeed capturing the effects of IPA efforts rather than something else.

Our analysis allows us to conduct a back-of-the-envelope cost-benefit calculation. On the benefit side, we find that targeted sectors receive more than twice as much FDI as non-targeted sectors in developing countries. This magnitude is plausible, given that many sectors receive small amounts of FDI in absolute terms. For instance, during the period covered by our study the median sector-level inflow of US FDI to developing countries that received some US investment was 11 million dollars. Thus, an increase of 155 percent estimated in our analysis would translate into additional 17 million dollars of FDI flowing into a targeted sector. On the cost side, we rely on the 2004 budget figures obtained from the Census and find that an average IPA spent 90,000 dollars per sector targeted. Combining the benefit and the cost side, we conclude a dollar spent on investment promotion leads to 189 dollars of FDI inflows. In other words, bringing a dollar of FDI inflows costs half a cent in investment promotion expenditures.

In an alternative exercise, we focus on the cost of creating a new job in a foreign affiliate. This is also a relevant metric as most policy makers care about creating employment and recent research shows that foreign affiliates tend to pay higher wages than domestic firms even when worker characteristics are taken into account (see, for instance, Lipsey and Sjöholm 2004, Almeida 2007). Using a data set on employment in US affiliates abroad, we find that targeted sectors see a 68 percent increase in affiliate employment relative to non-targeted sectors. This translates into additional 1,159 jobs for the average sector or 78 dollars per job created.

Our cost-benefit calculations should be treated with caution. On the one hand, these calculations capture only the effect of targeting on flows of FDI from the US. As investment promotion is likely to have a similar impact on investors from other source countries, our analysis underestimates the benefits of investment promotion activities. On the other hand, there may be other factors which contribute to the success of investment promotion and whose costs we are not taking into account (for instance, priority sectors may be awarded access to accelerated bureaucratic procedures). Finally, one needs to stress that our analysis captures the average, not the marginal, effect. Thus we are not suggesting that a large increase in investment promotion spending on the part of countries already engaged in such practice will lead to spectacular

increases in FDI inflows. Rather, we interpret our results as suggesting that countries not engaged in investment promotion may benefit from such activities.

A series of robustness checks further supports our conclusions. First, we demonstrate that inclusion of country-sector specific time trends has no effect on our conclusions. Second, we show that the results hold if we exclude services sectors and utilities. This makes us confident that our findings are not driven by simultaneous opening to FDI and targeting of services industries where entry of foreign investors was restricted in the past. Third, we demonstrate that controlling for the past stock of FDI, a proxy for agglomeration effects, does not affect the estimated coefficients. Fourth, to address the concern that FDI flows may be a poor reflection of actual activities of foreign investors (Lipsey 2007), we demonstrate that our results hold if we use sales or employment of US affiliates abroad as our dependent variable.

Finally, to give us confidence that we are capturing the benefits of investment promotion in the form of information provision and help with bureaucratic procedures, we examine whether the effect of targeting is stronger in the presence of financial or fiscal incentives. This does not appear to be the case. Our conclusion is further supported by the fact that there is no evidence that targeting of the same sector by other countries in the same geographic region leads to a diversion of FDI flows.

Our study is related to two distinct literatures. The first one is the literature evaluating the effects of industrial policies. Within this literature, the strand most relevant to our work focuses on investment promotion. The few existing studies on this subject produce mixed conclusions. While Bobonis and Shatz (2007) and Charlton and Davis (2006) provide evidence suggesting that investment promotion is associated with higher FDI inflows, Head, Ries and Swenson (1999) do not find any significant effect of investment promotion efforts.[2]

Our paper differs from the existing studies in several respects. First, we explicitly focus on whether investment promotion is more effective in countries where information asymmetries tend to be greater and bureaucratic procedures more burdensome. Examining this question was not possible in the earlier studies which focused on FDI flows to US states, which are very homogenous in terms of availability of information on business conditions, or OECD countries among which differences may be limited.[3] In contrast to these studies, we use a broad sample of both developed and developing economies, which not only gives us a lot of variation in terms of potential information asymmetries but also makes our results more general. Second, we conduct a cost-benefit calculation in order to shed some light on whether the fruits of investment promotion

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[2] Head, Ries and Swenson (1999) estimate a location choice model on a sample of 760 Japanese manufacturing establishments in the US between 1980 and 1992. The findings show that the presence of a state investment promotion office in Japan does not have a statistically significant effect on entry of Japanese investors. In contrast, Bobonis and Shatz (2007), who analyze determinants of the FDI stock in US states from eight source countries using Arellano-Bond dynamic panel data estimator, reach the opposite conclusion. They measure investment promotion with the number of years a state had a full-time state trade or investment office in each of the eight countries and find that a one-percent increase in the number of years with an investment office increases the FDI stock by between 0.14 and 0.27 percent. Charlton and Davis (2006) use data on FDI inflows into 19 industries in 22 OECD countries during the 1990-2001 period combined with information on targeted industries. Using propensity score matching and the difference-in-differences specification, the authors show that targeting of an industry increases the growth rate of FDI inflows into that industry by 41 percent.

[3] For instance, Head et al. (1999, p. 209) state "Promotion offices, like other forms of advertising, would be more likely to work when investors have little information about the choices they face. The low efficacy of this policy suggests that Japanese investors may already be well-informed about [US] state characteristics and therefore unswayed by the information the offices provide."

are worth the expenditure.[4] And third, we take into account investment promotion activities of competing host countries.

A related strand of studies examines the effectiveness of export promotion efforts. Again, the results appear to be mixed. Bernard and Jensen (2004) do not find a statistically significant relationship between expenditures of US states on export promotion and export market participation of US firms based in that state. Using Irish data, Görg, Henry and Strobl (2007) show that large enough government export grants encourage existing exporters to compete more effectively on the international market but find little evidence that grants encourage non-exporters to start exporting. Using cross-country data, Lederman, Olarreaga and Payton (2010) conclude that export promotion agencies have on average a strong and statistically significant impact on exports.[5,6]

The second literature relevant to our study postulates that information asymmetries and poor business climate constitute a significant obstacle to capital flows across international borders. Information asymmetries between domestic and foreign investors have been put forward as a possible explanation for home bias, the tendency of investors to invest less in foreign equities relative to the prediction of a portfolio choice model (Stulz 1981, Ahearne, Griever, and Warnock 2005). The negative effects of information asymmetries on capital flows have been documented in empirical studies (Portes et al. 2001, Portes and Rey 2005, Gelos and Wei 2005). Moreover, Daude and Fratzscher (2008) have shown that FDI flows are "substantially more sensitive to information frictions than investment in portfolio equity and debt securities." Information asymmetries are the reason why Bond and Samuelson (1986) conclude in their theoretical contribution that high-productivity countries should use tax holidays as signals in their efforts to attract FDI. For the same reason, the theoretical model of Gordon and Bovenberg (1996) suggests that a capital-importing country could raise welfare by subsidizing foreign direct investment and other capital inflows from abroad.[7] The negative impact of corruption on investment flows has been documented in a number of studies including Wei (2000a, 2000b), Javorcik (2004b) and Javorcik and Wei (2009), just to name a few.[8]

This study is structured as follows. Section 2 focuses on the role of investment promotion in an investor's decision making process. The empirical strategy and the data are described in Section 3. Section 4 discusses the results, while the last section presents the conclusions.

2. *Role of investment promotion*

2.1 What is investment promotion?

Wells and Wint (2000) define investment promotion as activities through which governments aim to attract FDI inflows. These activities encompass: advertising, investment seminars and missions, participation in trade shows and exhibitions, distribution of literature, one-to-one direct

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[4] For a very useful case study evidence of benefits and costs associated with investment promotion efforts see Moran (2009).

[5] In a related study, Rose (2007) finds that the presence of foreign diplomatic missions is positively correlated with exports to the country where the mission is located.

[6] Industrial policies, even if effective, may have some downsides. Ades and Di Tella (1997) warn that corruption tends to be higher in countries pursuing industrial policies.

[7] For an analysis focusing on import-substituting FDI see Raff and Srinivasan (1998).

[8] Our study is also related to the literature on general determinants of FDI inflows, which is, however, too large to be reviewed here. For a recent survey of the literature see Blonigen and Wang (2004).

marketing efforts, facilitating visits of prospective investors, matching prospective investors with local partners, help with obtaining permits and approvals, preparing project proposals, conducting feasibility studies and servicing investors whose projects have already become operational. Their definition of promotion excludes granting incentives to foreign investors, screening potential investment projects and negotiations with foreign investors, even though some IPAs may also be engaged in such activities.

Investment promotion activities can be grouped into four areas: (i) national image building, (ii) investment generation, (iii) investor servicing, and (iv) policy advocacy. Image building activities aim to build a perception of the country as an attractive location for foreign direct investment. Investment generation involves identifying potential investors who may be interested in establishing a presence in the country, developing a strategy to contact them and starting a dialogue with the purpose of having them commit to an investment project. Investor servicing involves assisting committed investors in analyzing business opportunities, obtaining permits and approvals for establishing a business in the host country and maintaining business operations. Policy advocacy encompasses initiatives aiming to improve the quality of the investment climate and identifying the views of private sector in this area.

Investment promotion practitioners believe that the most effective way of attracting FDI is to focus on a few priority sectors (so called targeting) rather than attempt to attract all types of foreign investors. Thus, an agency not engaged in targeting will promote its country as a good place to do business, while an IPA targeting particular sectors will emphasize why its country is an ideal location for investors operating in these industries. Similarly, the former IPA will attend many different types of fairs and conferences while the latter will present only at events specific to the industries it aims to attract. The idea behind targeting is that a more focused message tailored and delivered to a narrow audience will be more effective than general investment promotion activities.

2.2 How can investment promotion affect the decision process of a potential investor?[9]

A company that has decided to engage in FDI usually starts the process of selecting the investment location by drawing a long list of potential host countries. The list is put together by the company executives or by a consulting firm hired for the purpose of site selection. The long list typically includes 8 to 20 countries which can be thought of as belonging to three groups: (i) most popular FDI destinations in the world, (ii) countries located in proximity to the existing operations of the investor, and (iii) emerging FDI destinations (that is, countries that the investor may not be initially very serious about but which represent "out of the box" thinking). The inclusion of the third category presents an opportunity for IPAs. The potential investor or the consulting firm working on its behalf is likely to include in the third group countries whose advertisements they have recently seen in international media, countries whose IPAs have recently approached them or their colleagues, or countries whose IPA representatives they have met at conferences and industry fairs.[10]

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[9] This subsection draws on MIGA (2006) and the authors' interviews with former professional consultants assisting companies in establishing facilities abroad.

[10] For instance, the Polish IPA believes that TV advertising spots abroad increased the number of visitors to its website by 43 percent in 2006 (source: *Dziennik online*. "Wielka promocja rozpoczeta. Polska jak proszek do prania" December 29, 2006.
http://www.dziennik.pl/Default.aspx?TabId=97&ShowArticleId=26406).

Based on the trade-off between costs and the quality of business environment, the long list is narrowed down to a short list of up to 5 potential host countries. This is usually done without visiting the potential host countries, so the accessibility of the information about the business conditions in a host country plays a crucial role. IPAs that provide up-to-date, detailed and accurate data on their websites and IPAs that are willing to spend time preparing detailed answers to investors' inquiries and customize these answers to the needs of an individual investor can increase the chances of their countries being included in the short list.

The next step in the decision-making process involves visiting the countries included in the short list. This can be done by the potential investor, consultants or both. Multiple sites in each country may be visited. A visit often involves interactions with an IPA which has the opportunity to emphasize the advantages of locating in its country, answer questions, show executives potential investment sites or introduce them to potential local business partners.

In the final stage of the process, the foreign investor chooses an investment location based on the availability of potential sites, costs, the overall quality of business climate and availability of incentives. An IPA can assist in providing information on incentives and prevailing regulations (for instance, labor law), helping with the registration process and compliance with other applicable bureaucratic requirements (for example, obtaining construction permits, appropriate licenses and work permits for expatriate staff).

As evident from the above outline, IPAs can play a significant role in the selection process of FDI sites and the process of establishing a foreign affiliate. The national IPA is often the first entity contacted by a potential investor in order to obtain information. Absence of an IPA not only increases the investor's cost of gathering information but may also constitute a reason to eliminate a location during the selection process. An IPA is also a key partner of a foreign investor during the actual investment process. It often serves as an intermediary between the investor and the national or local government agencies. A well-functioning IPA can to some extent compensate for deficiencies of the bureaucracies in its country.

3. *Empirical strategy and data*

3.1 Empirical strategy

Our identification strategy relies on the fact that most IPAs focus their efforts on a certain number of priority (targeted) sectors. Sector targeting is viewed by investment promotion practitioners as best practice, as it is believed that more intense efforts concentrated on a few priority sectors are likely to lead to greater FDI inflows than less intense across-the-board attempts to attract FDI. Thus in our empirical analysis we use a difference-in-differences approach and ask whether targeted sectors receive higher FDI inflows in the post targeting period, relative to the pre-targeting period and non-targeted sectors. More specifically, we estimate the following model:

$$ln\ (FDI\ inflow_{cit}) = \alpha_0 + \beta_0\ Post\ targeting_{cit} + \gamma_{ci} + \gamma_{ct} + \gamma_{it} + \varepsilon_{cit} \qquad (1)$$

The dependent variable is the log of inflow of foreign direct investment into sector i in country c at time t. *Post targeting* $_{cit}$ equals one if country c targets sector i at time t and zero otherwise. γ_{ci}, γ_{ct} and γ_{it} are country-industry, country-year and industry-year fixed effects, respectively. Time-invariant characteristics that differentiate sectors chosen for targeting from other sectors will be captured by country-sector fixed effects (so there is no need to include a dummy for

targeted sectors). Shocks common to all sectors in a particular country in a particular year will be captured by country-year fixed effects (so there is no need to include a dummy for the post-targeting period). Shocks affecting supply of FDI in a particular sector will be controlled for by sector-year fixed effects. The model will be estimated on a sample of countries that have or have not practiced sector targeting. Narrowing the sample to only countries engaged in targeting does not change the conclusions of the study.

We will also aim to shed light on channels through which investment promotion works. In an extended specification, we will examine whether the effects of targeting differ depending on the host country characteristics. In particular, we will focus on proxies that capture difficulties with obtaining information on the host country or/and doing business in the host country:

$$ln\ (FDI\ inflow_{cit}) = \alpha_1 + \beta_1 Post\ targeting\ _{cit} + \beta_2\ Post\ targeting\ _{cit} * Information\ asymmetry_c + \beta_3\ Post\ targeting\ _{cit} * Transaction\ costs_c + \gamma_{ci} + \gamma_{ct} + \gamma_{it} + \varepsilon_{cit} \qquad (2)$$

We anticipate that in countries where information asymmetries are likely to be greater and transaction costs higher, investment promotion will be more effective (i.e., β_2 and β_3 will be positive).

3.2 Econometric issues

Identifying the relationship between investment promotion efforts and FDI inflows poses some challenges. Perhaps the most important challenge is establishing the direction of causality. It could be argued that the choice of sectors to be targeted is endogenous; IPAs could be targeting sectors which already experienced high inflows or are likely to do so in the future. In the Census, IPAs were asked about who decided which sectors to target.[11] The incentive to target sectors that already have high expected FDI inflows may have been present at the agency board level, but it is harder to make the same case for other entities involved. Of the 97 agencies that responded, only 6 said the decision was entirely left to the agency board, 24 reported the board having some input into the decision, and 67 said the agency board was not at all involved in the decision. Since the majority of the countries in the sample responded that the agency board was not involved in the choice of sectors, we do not view this possibility as a cause for concern.

What determined the choice of priority sectors? According to the data collected through the Census, priority sectors were overwhelmingly chosen as part of the country's efforts to develop these industries—this answer was given by 82 respondents. 34 respondents mentioned that past success in attracting FDI was a factor, while 6 said it was part of a national strategy plan. Other answers included: the country having a comparative advantage in the sector (5 respondents), availability of raw materials (2), spare capacity in the sector (1), efforts to develop linkages (1), global FDI trends (1), increased potential to earn foreign exchange (1), local expertise in the sector (1), import substitution strategy (1) and the success of other countries in the region (1).

We use five different strategies to deal with the potential reverse causality problem. First, we include country-industry fixed effects which take out unobserved time-invariant characteristics specific to country-industry combinations. If, for example, the mining sector in South Africa was chosen for targeting because of the endowment of gold and this endowment is also the reason for

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[11] The entities involved in the decision were: president's office, prime minister's office, ministry of foreign affairs, ministry of finance, ministry of industry, ministry of commerce, agency board or the decision was based on a national strategy plan. In some cases, several entities were involved.

large FDI inflows into the sector, this is controlled for by the country-sector fixed effect. Country-industry fixed effects will also allow us to control for the country's comparative advantage in a given sector. Second, we show that our results are robust to a specification with first, second and third lags. A change in FDI inflows is unlikely to explain a change in policy which precedes it, although the strategy is not robust to forward-looking behavior of policy makers. Third, we investigate whether the sectors targeted were different from other sectors in the years before the targeting started. We find no evidence of relatively successful or unsuccessful sectors (in terms of attracting FDI) being chosen for targeting. Fourth, we show that the results hold even if we exclude targeted sectors in countries that made targeting decisions based on the past success or failure in attracting FDI to that sector. Finally, we perform a strict exogeneity test suggested by Wooldridge (2002, p. 285) and show that it does not reject our empirical strategy.

Another challenge in our analysis is to distinguish the effect of an IPA from other changes in policies (or anything else relevant for FDI inflows) occurring at the same time. We address this challenge by including country-year fixed effects which capture country-specific factors that may influence FDI inflows at a particular point in time. For instance, if country c started special investment promotion efforts in the automotive sector in year t and at the same time simplified registration procedures for foreign investors, to the extent that the latter reform affected all sectors equally, it would be captured by the country-year fixed effect. We also include sector-time fixed effects to capture factors affecting worldwide supply of FDI in a particular sector at a particular point in time. These fixed effects capture global unobserved sector-specific shocks. For example, if international investors suddenly decided to increase investments in the ICT sector, and a country at the same time started targeting the ICT sector, the investment promotion variable could capture the global shock rather than the country's promotion efforts. Inclusion of sector-year fixed effects takes care of this possibility. We also show that our results are not affected by inclusion of country-sector-specific time trends or geographic region-sector-year fixed effects.

3.3 Data

Our data on investment promotion activities come from the 2005 Census we conducted under the aegis of the World Bank's Research Department and in cooperation with the Foreign Investment Advisory Services, the Multilateral Investment Guarantee Agency and the World Association of Investment Promotion Agencies. An electronic survey was sent out to all national investment promotion agencies around the world. After several weeks reminder e-mails were sent out, and after some more weeks phone calls were made to increase the likelihood of responding. As the survey forms came in, the data were carefully checked for inconsistencies and missing information. Then new rounds of phone calls were made to clarify inconsistencies and complete the data. The survey was sent out in December 2005, and by April 2006 most of the information was complete. The survey form gave uniformity needed for comparison across countries, while the information collected through the phone calls provided guidance on interpretation of the responses. This comprehensive process yielded responses from 97 national investment promotion agencies. The sample covers countries across all geographic regions as well as all income levels. Seventy three of the responses received were from developing countries. The sample also includes an additional 27 countries that we regard as very likely to not have an investment promotion agency. These were identified by their absence in different directories of IPAs, lack of websites, by confirmation of national embassies/other national public institutions or by consultations with World Bank country economists. Thus in total, we consider 124 countries.

A potential concern is that high quality agencies are overrepresented in the sample due to self-selection. We cannot rule out this possibility completely, but a glance at our sample reveals a wide representation of countries across all income groups and regions. Also our experience from

collecting the data suggests the opposite. Some developed countries were among the hardest to obtain answers from, while countries in, for example, Sub-Saharan Africa were often extremely helpful in providing as extensive and precise information as possible. Therefore, it is not clear which way a potential sample bias would work. If anything, it could make investment promotion appear less efficient than it actually is.

In the design of the survey, special attention was given to collecting time-varying sector-specific information on investment promotion activities. Agencies were asked if they targeted specific sectors and when targeting started and ended. While this increased the effort needed to collect the data, it allowed for making comparisons within countries and controlling for country-sector-specific heterogeneity.[12]

Our sample covers 124 countries.[13] This includes 56 countries which gave complete timing of the targeting efforts towards at least one sector (we did not include in the sample sectors with incomplete timing information). It also includes 30 countries which were at some point engaged in targeting but did not provide complete timing information (for these countries we included only non-targeted sectors in the sample). Further 11 countries reporting no current or previous targeting efforts can be found in the sample. Finally, the sample includes 21 countries which, to the best of our knowledge, do not have an IPA and 6 countries where we know for sure that no agency exists.[14] The complete list of countries covered by the analysis and the number of observations capturing targeting efforts can be found in the Appendix Table 1. The overall sectoral breakdown of observations is listed in Appendix Table 2.

As evident from Figure 2, sectors most frequently targeted by developing countries included ICT, electrical equipment and machinery. In developed countries, the sectors of choice were ICT, professional services, banking and finance. Wholesale trade was the least popular sector in both groups of countries.

FDI data come from the US Bureau of Economic Analysis (BEA). These data give the stocks of US FDI abroad.[15] We use the first difference of the stocks to calculate flows. The BEA publishes

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[12] One may be concerned about the quality of the recall information for the initial period of the sample. However, restricting the analysis to the last decade of the data (1995-2004) does not change the conclusions of the study.

[13] The number of 124 countries corresponds to the baseline specification in Table 2.

[14] Note that restricting the sample to the 56 countries which provided complete timing information would not change the conclusions of the study. This is also the case for the sample covering the 56 countries mentioned and 30 countries which do not have an IPA.

[15] US direct investment abroad is defined as the ownership or control, directly or indirectly, by one US resident of 10 percent or more of the voting securities of an incorporated foreign business enterprise or the equivalent interest in an unincorporated foreign business enterprise. The data capture the cumulative value of parents' investments in their affiliates (source: http://www.bea.gov/bea/ai/0395iid/maintext.htm).

Data points suppressed by the BEA for confidentiality reasons are treated as missing. Twelve percent of data points are suppressed. We check whether there is a correlation between sector targeting and the suppressed observations by estimating a linear probability model where the dependent variable is equal to one if the information on FDI in the sector-country-year cell has been suppressed, and zero if it is reported. The set of explanatory variables is the same as in our baseline specification (equation 1). We find no statistically significant relationship between the likelihood of an observation being suppressed and sector targeting.

Data points reported as values belonging to the range between -500,000 and 500,000 US dollars are treated as equal to 500,000 dollars. We interpolated missing information on stocks to increase the number of observations. Excluding interpolated observations from the analysis would not change the conclusions of the study.

information on 13 sectors until 1998 and 15 sectors from 1999.[16] We made two changes to the BEA data. We aggregated "Other manufacturing" and "Other industries" into one sector in the pre-1999 data, and "Machinery" and "Computer and electronic products" into one sector in the post-1998 data. The second change was to match sectors over time. Due to a break in the aggregation in 1998 in the BEA data, sector definitions are not exactly the same during the entire period. As our identification strategy is to follow sectors over time and test if post-targeting inflows are significantly higher than pre-targeting inflows (and inflows to non-targeted sectors), we would like to have long time periods before and after targeting. As the break in aggregation appeared around the middle of the period, we would typically have either very few years pre-targeting or very few years post-targeting had we not implemented the matching procedure.

After these two changes, we match BEA sectors to the sector classification used in the Census to collect targeting information. See Appendix Table 3 for the concordance. We have a maximum of 15 sectors per country. The stock data are available from 1989-2004 (first differenced for 1990-2004). The summary statistics are presented in Table 1.

The US is one of the top FDI source countries, so by focusing on US FDI we capture a large share of the world's FDI stock. Figure 3, which compares the stock of US FDI to the stock of FDI from other OECD countries in 2000, demonstrates that US was the dominant source country in Latin America, East Asia and industrialized economies. Additional advantages of using the BEA data are their comparability across countries and access to figures on sales and employment of US affiliates abroad. The sales and employment figures are available 1983-2003. We use these figures in our robustness checks.

In the analysis, we use the log of FDI inflows as our dependent variable. To deal with zeros we add one US dollar to all observations before taking logs. To deal with negative values we follow Blonigen (2004) and Eichengreen and Tong (2005) and set all negative values to 0.1 US dollar before taking logs.

In the extended specification, we include proxies capturing the difficulties associated with obtaining information on the host country and the extent of bureaucratic procedures in the host country. The first proxy is a dummy for host countries where English is an official language. The data come from CEPII.[17] The second measure is the average cultural distance between the US and the host country. We use time-invariant scores on four cultural dimensions constructed by Geert Hofstede based on surveys conducted throughout several decades (starting out in the late 1960s) among workers of multinational firms, commercial airline pilots, students, civil service managers and other groups. The following dimensions are included: power distance, individualism, masculinity and uncertainty avoidance.[18] The figures are available for 56 countries. Each score ranges from 0 to 100. We take the absolute value of the difference between the US and the host country for each of the scores and find the average of the four figures. The variable enters the regressions in the log form.

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[16] From 1999, the BEA-data are classified under the 1997 North American Industry Classification System (NAICS). Previously, data were classified under the Standard Industrial Classification System (SIC).
[17] http://www.cepii.fr/anglaisgraph/bdd/distances.htm,
[18] For a detailed description, see http://www.geert-hofstede.com/hofstede_dimensions.php.
According to these measures, the US ranks high (91 compared to the world average of 43) in terms of individualism, which suggests it is a "society with a more individualistic attitude and relatively loose bonds with others." The US ranks low in terms of uncertainty avoidance (46 versus the average of 64), which indicates a society that has fewer rules and does not attempt to control all outcomes and results and has a greater level of tolerance for a variety of ideas, thoughts, and beliefs.
    This data set has been cited by several economic studies (for instance, Shiller et al. 1992, Cozzi 1998, Flanagan 1999).

In addition to using the average of the indicators, we will also use the index of power distance, which in our view is the most relevant one for companies undertaking FDI. This index captures how cultures differ in terms of the extent to which less powerful members of organizations accept unequal power distribution. A high value of the index correlates with a strong bureaucracy, hierarchical organizations and with low task orientation. Bypassing someone in the chain of command in order to get something done is less acceptable in countries with a high value of the index (Pakistan, Portugal, Venezuela) than in places with a low value (US, Ireland, Canada). In cultures such as the US, Netherlands, and Britain, the manager's role tends to be more that of a facilitator/problem solver than an expert. Managers in these countries do not suffer a severe loss of credibility by virtue of not having precise answers to subordinate's questions. The French, Japanese, Spanish, and Indonesians, on the other hand, are more likely to expect their managers to be experts.[19]

The final proxy used in the regression aims to capture the availability of information about the host country in the US. Following Daude and Fratzscher (2008), we use the value of exports of newspapers from the host country to the US, normalized by the population size of the host country. The information on trade in newspapers is time-varying and expressed in current US dollars. The data come from the UN's COMTRADE database. We use trade flows for SITC codes 6411 "Newsprint" and 8922 "Newspapers, journals, and periodicals".[20]

We use four proxies to capture how burdensome bureaucratic procedures are in a host country. The first two proxies are the number of days required to obtain a construction permit in the host country and the number of day required to start a business in the host country. The figures come from the 2009 *Doing Business Indicators* compiled by the World Bank and are based on the information collected in 2008.[21] The definitions of the *Doing Business Indicators* are as follows.

"Doing Business records all procedures required for a business in the construction industry to build a standardized warehouse. These procedures include submitting all relevant project-specific documents (for example, building plans and site maps) to the authorities; obtaining all necessary clearances, licenses, permits and certificates; completing all required notifications; and receiving all necessary inspections. *Doing Business* also records procedures for obtaining all utility connections. Procedures necessary to register the property so that it can be used as collateral or transferred are also counted. The survey divides the process of building a warehouse into distinct procedures and calculates the time and cost of completing each procedure in practice under normal circumstances. Information is collected from experts in construction licensing, including architects, construction lawyers, construction firms, utility service providers and public officials who deal with building regulations, including approvals and inspections."[22]

"*Doing Business* records all procedures that are officially required for an entrepreneur to start up and formally operate an industrial or commercial business. These include obtaining all necessary licenses and permits and completing any required notifications, verifications or inscriptions for the company and employees with relevant authorities."[23]

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[19] See http://www.orcworldwide.com/readroom/diversity_basics.php.

[20] We use the import figures as reported by the US. If the data are missing, we rely on exports reported by the host country.

[21] The mismatch in the timing of this measure and our FDI data is regrettable, but unfortunately *Doing Business Indicators* are not available for the 1990s. The first version of the database was published in 2004, but its country coverage was limited. Hence, we chose to use the latest available data in which the largest number of countries is included. *Doing Business Indicators* are widely used in the literature, see for instance Ciccone and Papaioannou (2007).

[22] For more information, see http://www.doingbusiness.org/MethodologySurveys/DealingLicenses.aspx

[23] For more information, see http://www.doingbusiness.org/MethodologySurveys/StartingBusiness.aspx

The next two measures capture government ineffectiveness and the extent of corruption. They were compiled by Kaufmann, Kraay and Mastruzzi and are described in detail in their 2009 publication. The measure of corruption captures "perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests." The measure of government ineffectiveness captures "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies." Each measure is a composite index extracting information on governance from 35 different sources. The authors assume that the available individual governance ratings reflect both some true but unobserved level of governance and sampling variations and perception errors. The unobserved "true" level of governance can be backed out statistically (assuming a linear unobserved component specification). The resulting estimates range from –2.5 to 2.5, with a mean of zero and standard deviation of one. The higher the estimate for each country, the better governed the country. For the purpose of our analysis, we multiply the index by -1 so that a higher value corresponds to a higher level of corruption or government ineffectiveness. Both measures are available for 1996, 1998, 2000, and annually for 2002-2008. We use the average value for the period covered by our sample.[24]

4. Results

4.1 Baseline analysis

Taking advantage of information on sectors targeted by IPAs (if any), we use the difference-in-differences approach and examine whether sectors targeted by IPA receive more FDI inflows in the post-targeting period relative to the pre-targeting period and non-targeted sectors. Our goal is not to check whether countries with IPAs engaged in sector targeting receive more FDI than countries that do not follow this approach. Rather, targeting is used as a convenient identification strategy that allows us to ask whether IPAs are successful at bringing the type of FDI they strive to attract.

The estimated specification includes a set of controls. To take into account heterogeneity across sector-country combinations, we include sector-country fixed effects. Rather than including explicit country-level controls, we include in the specification country-year fixed effects. These control for *all* country-specific changes taking place over time. To the extent that changes in the host country policies, regulations and other factors affect FDI inflows to all sectors in the same way, country-year fixed effects will capture them. It is also possible that some global shocks affect the supply of FDI in a particular sector. To take this into account, we add sector-year fixed effects. To the extent global shocks affect flows of FDI into a particular sector in the same way across countries, they will be captured by sector-year fixed effects.

The results, presented in the top panel of Table 2, suggest that investment promotion efforts are associated with higher FDI inflows. The coefficient on the post-targeting dummy is positive and statistically significant in 3 of 4 specifications. While we find no contemporaneous effect, all lagged specifications suggest a positive link between investment promotion and FDI inflows. This

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[24] The corruption index compiled by Kaufmann et al. (2009) was used, for instance, by Javorcik and Wei (2009).

pattern is intuitive as it may take time for investment promotion efforts to bear fruit. The lag may be particularly pronounced when it comes to the effects of marketing campaigns.[25]

In the other panels of the table, we present two robustness checks. First, we show that our results are robust to controlling for region-sector-year fixed effects. Geographic regions are defined based on the World Bank classification and include Latin American and the Caribbean, East Asia and the Pacific, Europe and Central Asia, Sub-Saharan Africa, South Asia, Middle East and North Africa, and developed countries. Thus if, for instance, South Asia becomes a more attractive destination for ICT investment due to an increase in skilled labor availability, these fixed effects will take it into account. Second, we show that our results are robust to controlling for country-sector-specific time trends. So if, for example, India becomes a more attractive destination for ICT investment due to an increasing availability in computer programmers, this trend will be taken into account.

4.2 What about reverse causality?

To investigate the possibility that our results are driven by reverse causality–that is investment inflows determine subsequent targeting done by host countries rather the other way around–we conduct a strict exogeneity test. As suggested by Wooldridge (2002, p. 285), we estimate a specification with a contemporaneous effect of targeting as well as its lead and lag. We do so for the full sample as well as for the subsamples of developing and developed countries. We find a positive and significant effect of lagged targeting in the full sample and the subsample of developing countries (see Table 3). No significant effect is detected for developed economies. More importantly, we find that leads of targeting variables are negative and insignificant in all three models. Moreover, in the first two samples we can reject the hypothesis that the effect of the lead value is the same as the combined effect of the current and past targeting. These estimation results give us confidence that our analysis does not suffer from reverse causality problems.

We also estimate a probit regression modeling the determinants of sector targeting. The dependent variable is equal to one if country c begins targeting industry i at time t, and zero if the industry is not targeted at time t.[26] The purpose of the exercise is to find out whether past FDI inflows or FDI stocks in industry i in country c (lagged one, two or three periods) can predict future targeting of the industry. The model also includes controls for country characteristics, such as log of GDP per capita, log of population size, GDP growth, inflation, restrictions on civil liberties as well as country and year fixed effects.[27] We do not find a statistically significant coefficient on the FDI variable in any of the six specifications (see Appendix Table 4).

As another robustness check, we remove from the sample observations for targeted sectors in countries where the investment promotion agencies reported in the Census that the choice of priority sectors was based on the earlier success in attracting inflows to those sectors or the lack

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[25] When the contemporaneous and the lagged effects enter the same specification, only the latter is statistically significant. A more detailed investigation of the timing of the effects suggests that the effect of targeting increases over time. This gradual increase is very pronounced in the developing country subsample.

[26] Thus observations for targeted sectors in years other than the first year of targeting are not included in the sample.

[27] The GDP and population variables are used as proxies for the market size. They come from the World Bank's *World Development Indicators* (WDI). The inflation rate, provided by the IMF *International Financial Statistics*, is a proxy for macroeconomic stability. As measures of political institutions and business climate we use a time-varying index of civil liberties from Freedom House. It ranges from 1 denoting the freest countries to 7 denoting the least free countries.

thereof. As can be seen in Appendix Table 5, removing these countries leads to a stronger rather than weaker effect of the investment promotion efforts.

In sum, all of the above results suggest that reverse causality is not an issue in our analysis.

4.3 Is the effectiveness of IPAs influenced by information asymmetries?

The theoretical and empirical literature, reviewed in the introduction, suggests that information asymmetries constitute a significant obstacle to capital flows across international borders.[28] One of the core functions of investment promotion is to alleviate the problems associated with the lack of information. If investment promotion is an effective channel of alleviating information asymmetries, it should be more effective in countries where information is harder to obtain.[29]

To examine this question in more detail, we first ask whether the effects of targeting are more pronounced in countries where English is not an official language. As evident from Table 4, this is indeed the case. In both specifications, the coefficient on sector targeting is positive and statistically significant, but its interaction with the dummy for English being an official language is negative and significant.[30] This suggests that investment promotion efforts are more effective in countries where English is not widely spoken, which is consistent with our belief that it is easier to obtain information and learn how to do business in these economies. We cannot reject the hypothesis that investment promotion has no effect in countries where English is an official language.[31]

In the remainder of Table 4, we use the other proxies for information asymmetries. To facilitate the comparison of results across various specifications, we subtract from each proxy its mean calculated over the relevant sample.[32] Thus, for instance in column 3 the interaction term for the country with the average cultural distance vis a vis the US will take on the value of zero. It will take on a positive value for countries more culturally different than the average and a negative value for countries less culturally different than the average.[33]

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[28] Gordon and Bovenberg (1996, p. 1059) argue that "Investors, by living and working in a particular country, know much more about the economic prospects of that country than they do about those in other countries. . . . Foreigners' lack of knowledge can result also in a less efficient use of real resources, due for example to their poorer ability . . . to deal with idiosyncratic aspects of the domestic contract law . . . and local customs governing labor relations."

[29] There is a long standing debate in the literature on whether marketing plays an informative or a persuasive role. While this question has not been resolved, there is ample evidence suggesting that marketing efforts pay off. For instance, using data from a field experiment in South Africa Bertrand et al. (2010) find that advertising content affects demand for loans. They also find that showing a female photo increases demand by about as much as a 200-basis point reduction in the interest rate.

In our study, we do not take a stand on whether IPAs play an informative or persuasive role (they probably do both), we are simply interested in exploring whether their efforts are effective.

[30] Note that our specification does not include the English variable by itself as the model contains country-year fixed effects.

[31] Note that we used the DFITS statistics of Welsch and Kuh (1977) to drop influential observations from the regressions presented in the first two columns of Table 4. We used the cutoff of $2\sqrt{(k/N)}$ suggested by Belsley, Kuh and Welsch (1980).

[32] For instance, the full data set is the relevant sample in Table 4, while in Table 8 developing countries are the relevant sample.

[33] Although the information on cultural distance is not available for all countries, we avoid losing observations for country-sectors which are not engaged in targeting because in those cases *Post targeting*Information asymmetry* equals 0 due to *Post targeting* being equal to 0, and it is not necessary to have non-missing data for cultural distance.

The results, presented in columns 3 through 6, confirm that the effectiveness of investment promotion depends on the cultural distance between the US and the host country. The results for the overall distance and the difference in perceptions of hierarchy (power distance) are quite similar. The interaction term between the dummy for targeted sectors and the cultural distance is positive and significant in all cases. The *Post targeting* dummy itself bears a positive sign (though it is not statistically significant in one specification). These results suggest that investment promotion plays a greater role in attracting FDI to culturally distant countries.

Finally, we turn to the proxy capturing the availability of information about the host country in the US (exports of newspapers). In both specifications, we find that lower availability of newspapers is associated with greater effectiveness of investment promotion, though only the contemporaneous effect is statistically significant.

In sum, we conclude that the evidence presented so far suggests that the positive relationship between investment promotion and FDI inflows works (at least to some extent) through IPAs alleviating information asymmetries.

4.4 Are IPAs more effective in countries with more burdensome red tape?

As mentioned earlier, one of the functions of an IPA is to assist committed investors with obtaining investment permits, licenses, business registration, work permits for expatriate staff and other bureaucratic procedures. Well-functioning IPAs can to some extent compensate for deficiencies of bureaucracies in their countries. If this is indeed one of the channels through which investment promotion works, we would expect to see that investment promotion efforts are more effective in countries with less efficient bureaucracies and more burdensome red tape.

Our results, presented in the first four columns of Table 5, are consistent with this view. We find that targeted sectors receive on average more FDI and that this effect is larger in countries with less effective governments and a higher corruption level.[34] In all specifications, the estimated coefficients are statistically significant. In the next four columns, we show that investment promotion plays a greater role in countries where it takes longer to start a business and to obtain a construction permit.[35] The targeting dummy is positive and significant in all specifications and the interaction term is positive and statistically significant in 3 of 4 cases.

Summing up, our data provide evidence consistent with IPAs stimulating inflows of FDI by alleviating the burden of the red tape.

4.5 What matters more: information provision or help with bureaucratic procedures?

In Table 6, we present specifications where proxies for information asymmetries and transaction costs are included in the same specification. In all regressions, the targeting effect is positive and statistically significant and the interaction terms have the expected signs. Of the 16 interaction terms in 8 specifications, 10 are statistically significant. 4 of these terms pertain to information asymmetries and 6 to transaction costs.

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[34] Recall that by construction both of these proxies have a mean zero.

[35] Recall that to facilitate comparisons, we subtract from the measure of bureaucratic burden the average value for the sample.

Thus we conclude that while investment promotion appears to work both through information provision and assistance with red tape, the preponderance of evidence suggests that the latter channel is more important.

The result that investment promotion is more effective in the presence of information asymmetries or more burdensome bureaucratic procedures is an interesting finding in its own right. Moreover, testing a more nuanced prediction and showing that investment promotion works better where we would expect it to do so suggests that we are indeed capturing the effects of IPA efforts rather than some other factors.

4.6 Is there a difference between developed and developing countries?

Next we investigate whether the effects of investment promotion differ between developed and developing countries.[36] As information on business conditions is less readily available on developing countries and since such economies tend to have more burdensome regulations, we expect to find that investment promotion is more effective in a developing country setting.

As evident from Table 7, we find no evidence of investment promotion being effective in industrialized economies. The estimated coefficient is negative in all specification and in two of them appears to be insignificant. Note that this result is not driven by outliers.

What is more interesting from the perspective of our study is that investment promotion appears to lead to higher FDI inflows in emerging markets. The coefficient on the post-targeting dummy is positive and statistically significant in all specification in the developing country subsample. As time may be needed for the effects of investment promotion to become visible, it is not surprising the coefficients on lagged dummies increase with the length of the lag.

In the next table (Table 8), we show that even within the subsample of developing countries investment promotion is more effective in economies with worse performing governments, countries where it takes longer to obtain a construction permit and places more culturally different from the US. An interaction between the targeting dummy and exports of newspapers does not produce a statistically significant coefficient. These results confirm our earlier conclusions about information provision and lessening of bureaucratic burden being two channels through which investment promotion stimulates inflows of FDI.

We also perform additional checks testing the robustness of the relationship between investment promotion and FDI inflows in developing countries, which we do not report to save space. First, one may be concerned that our findings could be driven by simultaneous opening to FDI and targeting of services industries where entry of foreign investors was restricted in the past. To eliminate this possibility, we exclude from the sample services sectors and utilities and show that this change does not affect our findings. Second, as agglomeration effects may be important in attracting FDI (see Wheeler and Mody 1992, Bobonis and Shatz 2007), we include the lagged FDI stock in the sector. Note that in this way we control for sector-specific agglomeration effects. General agglomeration effects associated with FDI are already captured by country-year fixed effects. Including lagged FDI in our model does not affect our results with respect to investment promotion. Third, the choice of the control group is an important consideration. In our analysis, we have compared targeted sectors before and after targeting with sectors that were not targeted. A potential concern is that inclusion of a large number of low performing (in terms of FDI inflows) sectors could amplify the effect of targeting and thus exaggerate its effect. To evaluate this concern we estimate the effect of targeting on the subsample of 56 countries that targeted at

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[36] The definition of developing countries is based on the World Bank classification. For a list of developing countries, see Appendix Table 1.

least one sector during the period covered by our analysis (for the list see Appendix Table 1). The estimated coefficients on the targeting variable are positive and significant at the 1 or 5 percent level.

An aspect of investment promotion that typically receives high levels of attention from both policy makers and academics is investment incentives. Thus we would like to shed light on whether our findings on IPA effectiveness are driven mostly by information provision or lessening the red tape costs or whether they could be capturing existing financial and fiscal incentives.

In the Census, we collected time-varying information on different types of investment incentives: financial incentives, tax holidays, reduced tax rates and subsidized infrastructure or services. Unfortunately, this information is available only at the country (and not country-sector) level. However, the Census questionnaire did ask whether targeted sectors were eligible for more incentives than other industries and when such policy was in effect. While we recognize that this information is imperfect, we nevertheless find it interesting to check whether the existence of incentives has an effect beyond sector targeting.

In additional regressions, not reported to save space, we augment the specification from column 4 in Table 7 by adding an interaction between the post-targeting dummy and the special incentives dummy. The latter dummy takes on the value of 1 if the agency indicated that the investors in targeted sectors had been eligible at some point in time for more incentives than those entering non-targeted sectors, and zero otherwise. While we find that priority sectors receive more FDI, there is no indication that special incentives boost inflows to targeted sectors. Next, we include a triple interaction between the post-targeting dummy, the special incentives dummy and a dummy for a country offering any type of general incentives at any point in time. Again while our basic result holds, the interaction term is not statistically significant. Then we take into account the timing of special incentives, but doing so does not affect our findings. Finally, we interact the post-targeting dummy with the general incentives dummy. The interaction term is not statistically significant, but the post-targeting dummy is both positive and significant. In sum, we find no evidence of investment incentives leading to additional FDI inflows, which supports our earlier conclusion of information provision being the key channel through which investment promotion works.

In the final exercise, we search for evidence of FDI diversion due to IPA efforts in competing host countries. Evidence confirming the existence of diversion would be suggestive of investment incentives playing a role in IPA efforts. To take into account competition, we include in the regression the number of countries in the same geographic region targeting FDI inflows in the same sector.[37] This sum is weighted either by the GDP or the population size of the relevant countries. The variable enters the regression in the log form.[38] The results, presented in Table 9, show no evidence of FDI diversion due to competition from other countries. While the coefficients on sector targeting are positive and statistically significant, the coefficients on the competition measure never reach the conventional significance levels. We also repeated this exercise focusing on competition from countries in the same income group (low income, lower

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[37] The definition of geographic regions is based on the World Bank classification and includes: East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, South Asia, and Sub-Saharan Africa.

[38] One may wonder whether this analysis does not call for the inclusion of terms capturing spatial interdependence between host countries. However, recent analysis by Blonigen et al. (2007) suggests that the estimated relationships of traditional determinants of FDI are surprisingly robust to the inclusion of measures of spatial interdependence and, after controlling for country-specific dummy variables, estimated effects of spatial terms are often insignificant.

middle income, upper middle income) rather than in the same geographic region. The results, not reported to save space, are similar to those found in Table 9.

In sum, our results suggest that investment promotion efforts are associated with higher FDI inflows to targeted sectors in emerging markets. Lessening of the red tape costs and information asymmetries appear to be the key channels through which investment promotion works.

4.7 Comparing benefits and costs of investment promotion

Our analysis allows us to conduct a back-of-the-envelope cost-benefit calculation. On the benefit side, we find that in the post-targeting period, priority sectors in developing countries tend to receive 155% higher FDI inflows (column 4 in

relative to non-targeted sectors. This effect is statistically significant at the 1% level. While the magnitude of the effect may seem large, it is not implausible. Many sectors experience zero and close to zero inflows. If we consider only positive flows of US FDI, the median value in our developing country subsample is 11 million dollars. Thus, the estimated 155% percent increase would mean an additional annual inflow of 17 million dollars for the median sector-country observation.

A quick look at the amounts multinational corporations actually invest in emerging markets reveals that FDI inflows of this magnitude are not uncommon. For example, hosting one of the world's most successful investment promotion agencies (according to Sachs 2006), Malaysia attracted about 17.5 billion dollars of FDI in 2007, distributed across 949 projects and representing a potential of 98,000 jobs.[39] CzechInvest reports investment projects in which the investors have been in contact with the agency. One example is the US based company IRCR Manufacturing s.r.o. that invested 42 million dollars in the automotive industry in 2001, another is the US based Kimberly-Clark s.r.o. investing 54 million dollars in 2003 and a third is the US-based ExxonMobil Business Support Center Czechia s.r.o., investing 34 million dollars in the sector of financial and accounting operations in 2003. The average size of the 91 US sourced investment projects taking place over the 1993-2007 period in the Czech Republic was 16 million dollars and 211 jobs.[40]

On the cost side, we rely on the 2004 budget figures obtained from the Census and find that an average IPA spent 90,000 per sector targeted. Combining the benefit and the cost side, we conclude a dollar spent on investment promotion leads to 189 dollars of FDI inflows. In other words, bringing a dollar of FDI inflows costs half a cent in investment promotion expenditures.

In an alternative exercise, we focus on the cost of creating a new job in a foreign affiliate. This is also a relevant metric as most policy makers care about creating employment and recent research shows that foreign affiliates tend to pay higher wages than domestic firms to workers with similar characteristics. In Appendix Table 6, we repeat our exercise but change the dependent variable to employment and sales of US affiliates abroad. These data also come from the US Bureau of Economic Analysis but they are more limited in their coverage. We confirm our earlier conclusions. Investment promotion efforts lead to higher FDI inflows in developing countries. In all specifications, we find positive and statistically significant (at the five or one percent level) coefficients. Based on the specification from column 5, we find that targeted sectors see a 68 percent increase in employment relative to non-targeted sectors. This translates into additional 1,159 jobs per sector. Using the above figures on costs of targeting would suggest an investment promotion spending of 78 dollars per job created. This figure suggests that investment promotion

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[39] http://www.mida.gov.my/
[40] http://www.czechinvest.org/en/why-invest-in-the-czech-republic

is an inexpensive policy. It seems even more so, if we keep in mind that the value of productivity spillovers from FDI estimated by Haskel et al. (2007) was equal to 4,300 dollars (in 2000 prices) per job created by foreign affiliates.[41]

How does investment promotion compare to other policies available to host countries? An alternative way to draw in FDI would be to offer foreign investors tax reductions. In a meta-analysis of the empirical literature, Mooij and Everdeen (2003) find that the semi-elasticity of FDI with respect to the host country tax rate is -3.3. Thus a tax reduction of 10 percentage points would lead to an increase in FDI of 39 percent.[42] If the tax reduction applied only to new FDI investment projects, lasted 5 years and the average return on assets (ROA) were equal to 20 percent, the cost in terms of lost corporate tax revenue over the 5 year period would be Δtax*5 years*ROA*FDI =0.2*5*0.2*FDI = 0.2FDI. Thus the benefit-cost ratio would equal to 0.39/0.2 or about 10 dollars of additional FDI per a dollar of foregone tax revenue.[43]

Alternatively, a government could attempt to stimulate employment growth by subsidizing entrepreneurs who create jobs. Scott A. Shane provides a rough calculation of the costs of such policy in the US.[44] A representative survey of new business start-up efforts in the US indicates that the median entrepreneur needs 15,000 dollars to pursue a new business idea and can provide 6,000 dollars. Therefore, 9,000 dollars in additional financing would be needed to overcome this capital gap and allow an entrepreneur to start a business. Data from the Small Business Administration reveal that the average number of employees in a new employer firm is 5.6. Hence, the average cost per a new employee (not taking into account business failures) would be about 2,678 dollars.

The cost-benefit ratio of investment promotion compares favorably to those of alternative policies available to governments. We do caution the readers, however, that our cost-benefit calculations of investment promotion efforts are very rough and should be taken with a grain of salt. On the one hand, they capture only the effect of targeting on flows of US FDI. To the extent that investment promotion has a similar effect on investors from other economies, our analysis will underestimate the benefits of investment promotion activities. On the other hand, there may exist other factors which contribute to the success of investment promotion and whose costs we are not taking into account (for instance, priority sectors may be awarded access to accelerated bureaucratic procedures). Finally, one needs to stress that our analysis captures the average, not the marginal, effect. Thus we are not suggesting that a large increase in investment promotion spending on the part of economies already engaged in such practice will lead to spectacular increases in FDI inflows. Rather, we interpret our results as suggesting that countries not engaged in investment promotion may be benefit from such activities.

5. Conclusion

Given that information asymmetries between host countries and potential foreign investors and the burden of the red tape in host countries act as barrier to investment flows across international

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[41] Admittedly, these estimates pertain to the UK and one can question whether spillovers in developing countries are similar to those found in industrialized countries.

[42] exp(-3.3(Δtax))=exp(-3.3(-0.1))=1.39.

[43] A larger reduction in the tax rate would increase the amount of foregone tax revenue per dollar of additional FDI. If the tax reduction were offered to all foreign investors, rather than just new FDI projects, the cost of policy would increase substantially. We are grateful to an anonymous reviewer for suggesting this exercise.

[44] http://boss.blogs.nytimes.com/2009/07/06/how-much-does-it-cost-to-create-a-job-by-encouraging-entrepreneurship/

borders, an important policy question is: what can aspiring FDI destinations do to reduce such barriers?

The newly collected and very detailed data on sector-specific investment promotion efforts in 124 countries allow us to examine this question. We do so by testing whether sectors explicitly targeted by investment promotion agencies in their efforts to attract FDI receive more investment in the post-targeting period, relative to the pre-targeting period and non-targeted sectors.

The results of our analysis are consistent with investment promotion decreasing information asymmetries, lessening the burden of bureaucratic procedures and leading to higher FDI flows to developing countries. No such link is found for industrialized economies. Our findings suggest that investment promotion can be a potent tool for emerging markets wishing to attract FDI inflows.

The past several years have witnessed a resurgence of interest in industrial policies on the part of developing country governments. In contrast to most industrial policies whose benefits are often disputed, our results suggest that investment promotion is an inexpensive and effective option available to emerging country governments wishing to stimulate economic development.

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Tables

Table 1: Descriptive statistics

	No. of obs.	Mean	Std. dev.
Country-sector-specific variables			
FDI inflow (million current US dollars)	17196	49.20	791.00
Post targeting	17196	0.10	0.30
Country-specific variables			
English as official language	123	0.26	0.44
Cultural distance	49	29.59	11.96
Power distance	49	22.78	15.27
Construction permits	113	228.46	188.88
Starting a business	114	41.30	70.84
Government ineffectiveness	122	0.06	1.02
Corruption	122	0.03	1.04
Exports of newspapers/population of exporter (US dollars/person)	1628	2.52	24.73

Table 2: Baseline specification

	All	All	All	All
Post targeting	0.308			
	(0.341)			
L. Post targeting		0.770**		
		(0.362)		
L2. Post targeting			1.033**	
			(0.406)	
L3. Post targeting				0.968**
				(0.457)
No. of observations	17196	17193	16610	16009
No. of country-sector groups	1570	1570	1570	1568
Within R-squared	0.17	0.18	0.18	0.18
Robustness check: Controlling for region-sector-year fixed effects				
Post targeting	0.362			
	(0.337)			
L. Post targeting		0.764**		
		(0.358)		
L2. Post targeting			0.952**	
			(0.403)	
L3. Post targeting				0.801*
				(0.455)
No. of observations	17196	17193	16610	16009
Within R-squared	0.14	0.14	0.15	0.14
Robustness check: Controlling for country-sector-specific time trends				
Post targeting	0.125			
	[0.374]			
L. Post targeting		0.689*		
		[0.395]		
L2. Post targeting			1.048**	
			[0.444]	
L3. Post targeting				1.057**
				[0.498]
No. of observations	17196	17193	16610	16009
Within R-squared	0.55	0.55	0.55	0.56

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models in the top panel include country-year, sector-year and country-sector fixed effects. All models in the middle panel include country-year, region-sector-year and country-sector fixed effects. Geographic regions are defined based on the World Bank classification. All models in the bottom panel include country-year and sector-year fixed effects as well country-sector time trends

Table 3: Strict exogeneity test.

	All	Developing	Developed
Post targeting	0.095	0.418	-1.248
	(0.654)	(0.628)	(1.972)
L. Post targeting	**1.097***	**0.962***	1.045
	(0.568)	(0.542)	(1.776)
Lead			
F. Post targeting	-0.787	-0.240	-2.273
	(0.507)	(0.492)	(1.483)
Constant	3.188	6.074	5.110**
	(2.624)	(4.861)	(2.457)
No. of observations	15775	11927	3848
Country-sectors	1554	1188	366
R-sq within	0.17	0.19	0.19
Test Post targeting + L. Post targeting t=0 (p-value)	**0.04**	**0.01**	0.91
Test Post targeting + L. Post targeting t= F. Post targeting (p-value)	**0.04**	**0.09**	0.48

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. L denotes the first lag and F denotes a one period lead. All models include country-year, sector-year and country-sector fixed effects.

Table 4: Proxies for information asymmetries

	All	All	All	All	All	All	All	All
	English		**Cultural distance**		**Power distance**		**Exports of newspapers to USA/population**	
Post targeting	**0.805*****		0.912		**1.457****		0.438	
	(0.252)		(0.574)		(0.651)		(0.344)	
Post targeting*Information asymmetry	**-1.261****		**2.355*****		**1.701*****		**-0.017***	
	(0.504)		(0.849)		(0.641)		(0.009)	
L. Post targeting		**0.716*****		**1.511****		**2.025*****		**0.810****
		(0.277)		(0.616)		(0.711)		(0.365)
L. Post targeting* Information asymmetry		**-0.952***		**1.607***		**1.361****		-0.005
		(0.550)		(0.901)		(0.681)		(0.009)
No. of observations	15312	14539	14871	14868	14871	14868	17170	17165
No. of country-sector groups	1529	1528	1358	1358	1358	1358	1570	1570
Within R-squared	0.45	0.45	0.18	0.18	0.18	0.18	0.17	0.18

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects. All proxies for information asymmetry (with the exception of English) have been demeaned.

Table 5: Proxies for transaction costs

	All	All	All	All	All	All	All	All
	Government ineffectiveness		Corruption		Starting a business (no. of days)		Construction permits (no. of days)	
Post targeting	0.633*		0.621*		1.218***		0.933**	
	(0.360)		(0.358)		(0.442)		(0.405)	
Post targeting*Transaction costs	1.159***		1.080***		1.198***		1.589**	
	(0.359)		(0.327)		(0.405)		(0.633)	
L. Post targeting		1.003***		0.993***		1.271***		1.201***
		(0.383)		(0.380)		(0.464)		(0.419)
L. Post targeting* Transaction costs		0.688*		0.648*		0.664		1.213*
		(0.391)		(0.358)		(0.432)		(0.673)
No. of observations	17166	17163	17166	17163	17091	17088	17091	17088
No. of country-sector groups	1568	1568	1568	1568	1561	1561	1561	1561
Within R-squared	0.17	0.18	0.17	0.18	0.17	0.18	0.17	0.18

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects. All proxies for transaction costs have been demeaned or have a mean of zero by construction.

Table 6: Proxies for information asymmetry and transaction costs

	All	All	All	All	All	All	All	All
Proxies for information asymmetry	**Exports of newspapers to the US/population**		**English**		**Cultural distance**		**Power distance**	
Proxies for transaction costs	**Government ineffectiveness**		**Corruption**		**Construction permits (no. of days)**		**Starting a business (no. of days)**	
Post targeting	**0.680***		**1.107*****		**1.380***		**2.800*****	
	(0.360)		(0.397)		(0.775)		(0.755)	
Post targeting*Information asymmetry	-0.009		**-2.288*****		**1.974****		0.938	
	(0.009)		(0.815)		(0.949)		(0.677)	
Post targeting * Transaction costs	**1.020*****		**0.994*****		1.170		**2.078*****	
	(0.379)		(0.329)		(1.302)		(0.592)	
L. Post targeting		**1.014*****		**1.306*****		**1.439***		**2.635*****
		(0.383)		(0.421)		(0.794)		(0.795)
L. Post targeting* Information asymmetry		-0.000		**-1.456***		**1.670***		0.924
		(0.009)		(0.872)		(1.000)		(0.727)
L. Post targeting* Transaction costs		**0.698***		**0.605***		-0.204		**1.067***
		(0.416)		(0.360)		(1.412)		(0.621)
No. of observations	17140	17135	16995	16992	14871	14868	14871	14868
No. of country-sector groups	1568	1568	1553	1553	1358	1358	1358	1358
Within R-squared	0.17	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects. All proxies for information asymmetry (with the exception of English) and transaction costs have been demeaned or have a mean of zero by construction.

Table 7: Developed versus developing countries

	Developed	Developed	Developed	Developing	Developing	Developing
Post targeting	**-1.913***			**0.935***		
	(0.998)			(0.330)		
L. Post targeting		-0.892			**1.159***	
		(1.106)			(0.346)	
L2. Post targeting			-0.525			**1.377***
			(1.291)			(0.387)
No. of observations	4184	4181	4088	13012	13012	12522
No. of country-sector groups	367	367	367	1203	1203	1203
Within R-squared	0.19	0.19	0.19	0.19	0.19	0.19

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects.

Table 8: Developing countries and information asymmetries

	Developing	Developing	Developing	Developing	Developing	Developing	Developing	Developing
	Government ineffectiveness		**Construction permits (no. of days)**		**Power distance**		**Exports of newspapers to the US/population**	
Post targeting	**1.243***		**1.490*****		**3.464*****		**0.942*****	
	(0.375)		(0.395)		(0.774)		(0.330)	
Post targeting*Information asymmetry	**0.956***		**1.720****		**2.295****		2.572	
	(0.509)		(0.669)		(0.932)		(1.823)	
L. Post targeting		**1.380***		**1.634*****		**3.784*****		**1.178*****
		(0.403)		(0.405)		(0.866)		(0.347)
L. Post targeting* Information asymmetry		0.471		**1.546****		**2.250****		2.066
		(0.533)		(0.683)		(0.994)		(2.270)
No. of observations	12982	12982	13012	13012	10832	10832	13012	13012
No. of country-sector groups	1201	1201	1203	1203	1004	1004	1203	1203
Within R-squared	0.19	0.19	0.19	0.19	0.21	0.21	0.19	0.19

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects. All proxies for information asymmetry and transaction costs have been demeaned or have a mean of zero by construction.

Table 9: Competition from other countries in the same geographic region

	Developing	Developing	Developing	Developing	Developing	Developing
	Targeting by competitors (GDP weighted)			Targeting by competitors (population weighted)		
Post targeting	0.971***			0.949***		
	(0.338)			(0.334)		
Competition	0.158			0.132		
	(0.158)			(0.214)		
L. Post targeting		1.140***			1.129***	
		(0.355)			(0.350)	
L. Competition		-0.164			-0.247	
		(0.150)			(0.214)	
L2. Post targeting			1.341***			1.351***
			(0.396)			(0.391)
L2. Competition			-0.143			-0.193
			(0.157)			(0.229)
No. of observations	12479	12463	11981	12847	12834	12345
No. of country-sector groups	1174	1174	1173	1187	1187	1174
Within R-squared	0.19	0.19	0.19	0.19	0.19	0.19

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects.

Figures

Figure 1: Number of IPAs in existence
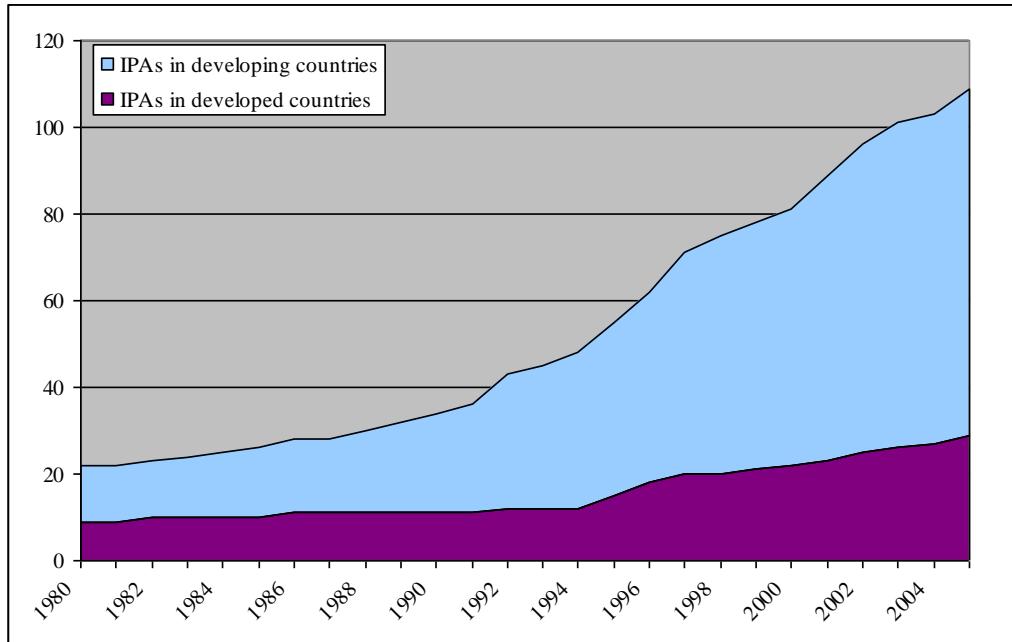
Figure 2: Frequency of targeting by sector
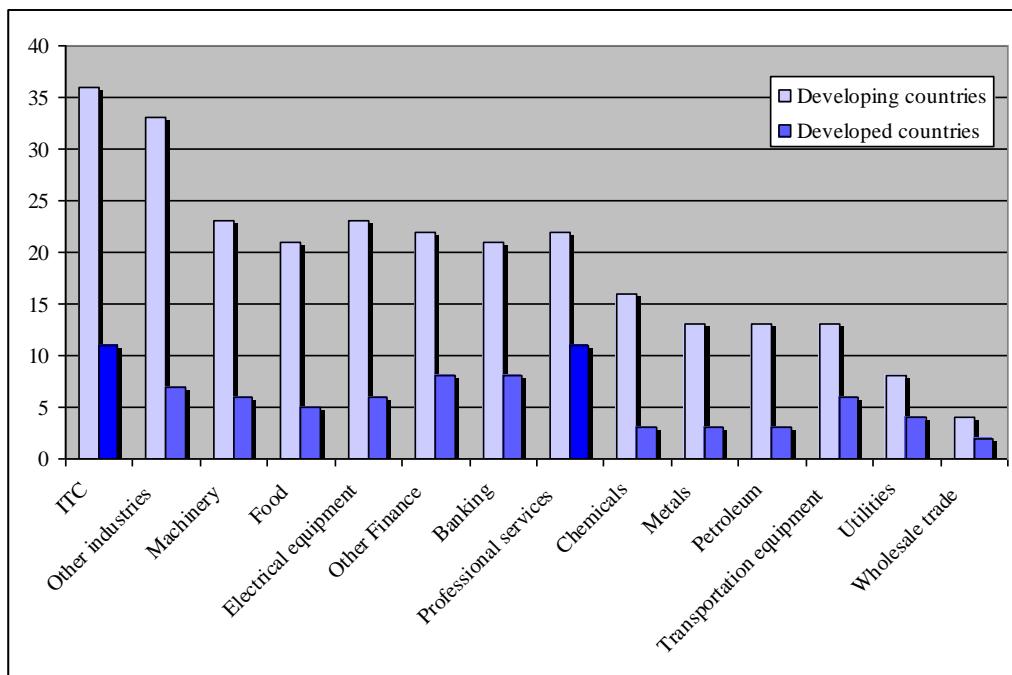
Figure 3: US FDI stock versus FDI stock from other OECD countries in year 2000
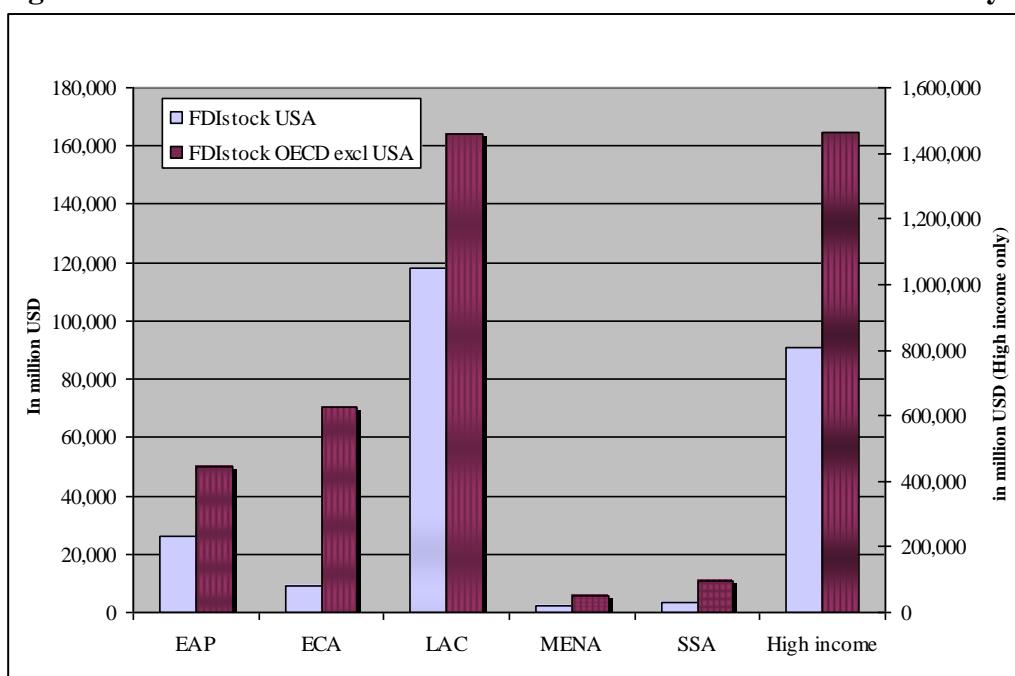
Note: Figure based on bilateral OECD data, FDI stocks in million USD, year 2000. Regional breakdown corresponds to the World Bank classification of developing countries: Latin American and the Caribbean (LAC), East Asia and the Pacific (EAP), Europe and Central Asia (ECA), Sub-Saharan Africa (SSA), South Asia (SA) and Middle East and North Africa (MENA). High income countries do not include the US.

Appendix

Appendix Table 1: Countries included in the analysis

	Survey respondents											Existence of IPA could not be confirmed		No IPA exists	
No		Targeted	Total	No		Targeted	Total	No		Targeted	Total	No	Total	No	Total
1	Albania	20	129	34	Guatemala	58	165	67	Pakistan	0	60	98 Andorra*	70	119 Congo, Rep.	188
2	Algeria	0	175	35	Guinea	97	161	68	Palau	0	177	99 Brunei*	180	120 Kuwait*	176
3	Argentina	0	180	36	Guyana	0	65	69	Panama	4	49	100 Cameroon	183	121 Liechtenstein*	171
4	Armenia	25	70	37	Hungary	24	98	70	Paraguay	0	163	101 Central African Rep	70	122 Norway*	175
5	Aruba*	30	161	38	Iceland*	40	170	71	Peru	26	147	102 Chad	189	123 Somalia	189
6	Australia*	172	187	39	Iran, Islamic Rep.	0	187	72	Poland	0	37	103 Cuba	174	124 St. Kitts and Nevis	189
7	Bangladesh	0	60	40	Ireland*	0	76	73	Portugal*	121	166	104 Djibouti	179		
8	Belize	0	160	41	Israel*	0	104	74	Romania	0	163	105 Equatorial Guinea	153		
9	Bhutan	0	29	42	Italy*	0	79	75	Samoa	30	189	106 Ethiopia	188		
10	Bosnia and Herzegovina	55	128	43	Jamaica	14	78	76	Saudi Arabia*	0	95	107 Eritrea	93		
11	Botswana	20	170	44	Japan*	0	188	77	Senegal	65	165	108 Gabon	178		
12	Brazil	0	155	45	Jordan	129	162	78	Serbia and Montenegro	43	106	109 Haiti	173		
13	Bulgaria	59	104	46	Kazakhstan	64	123	79	Singapore*	0	179	110 Iraq	14		
14	Cambodia	58	81	47	Kenya	0	141	80	Slovak Republic	0	107	111 Kyrgyz Republic	70		
15	Canada*	84	178	48	Korea, Rep.	0	188	81	Slovenia	110	150	112 Libya	177		
16	Chile	98	151	49	Lao PDR	0	59	82	Solomon Islands	0	13	113 Mali	174		
17	China	0	177	50	Latvia	28	88	83	South Africa	115	140	114 Sudan	189		
18	Colombia	0	79	51	Lebanon	103	176	84	St. Vincent and the G	50	189	115 Suriname	162		
19	Congo, Dem. Rep.	50	180	52	Lesotho	0	85	85	Sweden*	119	153	116 Togo	189		
20	Costa Rica	96	176	53	Lithuania	85	110	86	Switzerland*	0	173	117 Turkmenistan	129		
21	Cyprus*	40	173	54	Macedonia, FYR	0	60	87	Taiwan*	0	79	118 Uzbekistan	123		
22	Czech Republic	53	108	55	Madagascar	180	180	88	Thailand	0	50				
23	Côte d'Ivoire	133	174	56	Malta*	0	66	89	Tunisia	68	161				
24	Denmark*	0	131	57	Mauritania	100	184	90	Turkey	0	166				
25	Ecuador	43	163	58	Mauritius	99	178	91	Uganda	150	180				
26	Egypt, Arab Rep.	0	137	59	Mexico	18	141	92	United Kingdom*	0	189				
27	El Salvador	120	163	60	Moldova	0	35	93	Uruguay	0	169				
28	Fiji	41	156	61	Mozambique	35	114	94	Vanuatu	108	178				
29	Finland*	46	164	62	Netherlands*	25	107	95	Venezuela, RB	64	151				
30	France*	40	92	63	Netherlands Antilles*	35	163	96	Zambia	0	171				
31	Georgia	0	65	64	New Zealand*	97	156	97	Zimbabwe	0	123				
32	Ghana	82	165	65	Nicaragua	74	163								
33	Greece*	124	183	66	Oman	78	159								
	Group total										13051	3057		1088	
	Total													17196	

Note: Sample corresponding to column 1, Table 2. These countries either responded to the World Bank Census or they are very likely not to have an IPA. Those who responded to the Census gave the full timing (start and end year of the targeting) for at least one targeted sector, or they informed that did not practice sector targeting. (Sectors with incomplete timing information are excluded from the sample.) The column "Targeted" indicates the number of sector-years observations for the post-targeting period used in the estimation. "Total" is the total number of observations on the country included in the estimations. Developed countries, classified according to the World Bank definition as of July 1st 2006, are marked with an asterisk.

Appendix Table 2: Sectors included in the analysis

Sector	Number of observations
Petroleum	1,370
Utilities	526
Food	1,353
Chemicals	1,430
Metals	1,435
Machinery	1,389
Electrical equipment	1,449
Transportation equipment	1,429
Wholesale trade	1,612
Banking	1,186
Other Finance	1,356
Services	473
ICT	445
Professional services	491
Other industries	1,252
Total	17,196

Note: The number of observations corresponds to the regression of column 1, Table 2.

Appendix Table 3: Aggregation across sectors and time, and matching Census sectors with BEA data

Sector	Targeted sectors matched	BEA-data	Aggregated	Time period in BEA-data
Petroleum	Mining and Quarrying	Petroleum		1989-1998
		Mining		1999-2004
Utilities	Electricity, gas and water provision	Utilities		1999-2004
Food	Food products	Food and kindred products		1989-1998
		Food		1999-2004
Chemicals	Petroleum, chemical, rubber, plastic products	Chemicals and allied products		1989-1998
		Chemicals		1999-2004
Metals	Metal and metal products	Primary and fabricated metals		1989-2004
Machinery	Machinery; Computers and electronic equipment	Industrial machinery and equipment		1989-1998
		Machinery	Yes	1999-2004
		Computer and electronic products	Yes	1999-2004
Electrical equipment	Computers and electronic equipment	Electronic and other electric equipment		1989-1998
		Electrical equipment, appliances, and components		1999-2004
Transportation equipment	Vehicles and other transport equipment	Transportation equipment		1989-2004
Wholesale trade	Trade and repairs	Wholesale trade		1989-2004

Appendix Table 3 cont.

Sector	Targeted sectors matched	BEA-data	Aggregated	Time period in BEA-data
Banking	Financial intermediation; Back office services	Banking		1989-1998
		Depository institutions		1999-2004
Other Finance	Financial intermediation; Real estate and business activities; Back office services	Finance (except banking), insurance and real estate		1989-1998
		Finance (except depository institutions) and insurance		1999-2004
Services	Hotels and restaurants (until 1998); Real estate and business activities; Software; Biotechnology; Back office services	Services		1989-1998
ICT	Transport and telecommunications (from 1999); Real estate and business activities; Software; Back office services	Information		1999-2004
Professional services	Software; Biotechnology	Professional, scientific, and technical services		1999-2004
Other industries	Agriculture, Fishing and Forestry; Textiles and apparel; Wood and wood products; Construction; Hotels and restaurants (from 1999); Transport and telecommunications (until 1998)	Other industries	Yes	1989-2004
		Other manufacturing	Yes	1989-1998

Note: Aggregated means that we have combined the sectors into one.

Appendix Table 4: Explaining the choice of sectors to be targeted. Probit.

	All	All	All
L.FDI flow	-0.006		
	(0.005)		
L2.FDI flow		0.000	
		(0.005)	
L3.FDI flow			-0.008
			(0.005)
No. of observations	4274	4079	3842
L.FDI stock	0.000		
	(0.005)		
L2.FDI stock		0.005	
		(0.005)	
L3.FDI stock			0.005
			(0.006)
No. of observations	4914	4295	4097

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is equal to one if country c begins targeting industry i at time t, and zero if the industry is not targeted at time t. LX means lagged X periods. Other controls include GDP per capita, population size, GDP growth, inflation, restrictions on civil liberties, country and year fixed effects. Population, GDP per capita, FDI flow and FDI stock enter in the log form.

Appendix Table 5: Removing cases of targeting determined by previous success or failure in attracting FDI to the sector

	All	All	All	All
Post targeting	**0.866***			
	[0.488]			
L. Post targeting		**1.373***		
		[0.514]		
L2. Post targeting			**1.166**	
			[0.564]	
L3. Post targeting				0.839
				[0.640]
No. of observations	15285	15282	14750	14204
No. of country-sector groups	1389	1389	1389	1387
Within R-squared	0.19	0.20	0.20	0.20

Note: Standard errors are reported in parentheses. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects.

Appendix Table 6: Using US affiliate sales and employment as dependent variables

	US affiliate sales				US affiliate employment			
	Developing	Developing	Developing	Developing	Developing	Developing	Developing	Developing
Post targeting	**1.033***				**0.520***			
	[0.363]				[0.143]			
L. Post targeting		**1.096***				**0.483***		
		[0.402]				[0.158]		
L2. Post targeting			**1.054**				**0.505***	
			[0.452]				[0.186]	
L3. Post targeting				**1.164**				**0.507**
				[0.534]				[0.223]
No. of observations	3087	3034	2976	2917	3360	3295	3227	3159
No. of country-sector groups	227	226	225	225	233	233	233	233
Within R-squared	0.37	0.37	0.37	0.37	0.40	0.39	0.39	0.39

Note: Standard errors are reported in brackets. ***, **, * denotes significance at the 1, 5 and 10% level, respectively. The dependent variable is the log of inflow of US foreign direct investment into industry i in country c at time t. Post targeting is equal to one if industry i was targeted by country c at time t, and zero otherwise. LX means lagged X periods. All models include country-year, sector-year and country-sector fixed effects.