

Investment Promotion and FDI Inflows: Quality Matters

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Abstract

Information asymmetries constitute a significant obstacle to capital flows across international borders, and in particular to flows of foreign direct investment (FDI) to emerging markets. Many governments aim to reduce information barriers by engaging in investment promotion activities. Despite potentially large benefits of FDI and popularity of investment promotion intermediaries (IPIs), relatively little is known about their effectiveness. This study uses data collected through the Global Investment Promotion Benchmarking (GIPB) exercise to examine whether higher quality of IPI services translates into higher FDI inflows. The analysis, based on information on 156 countries, suggests that countries with IPIs able to handle investor inquiries in a more professional manner and IPIs possessing higher quality Web sites tend to attract greater volume of FDI. These results are robust to using sector-level data and instrumental variable approach.

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1. Introduction

The benefits of global economic integration have become increasingly evident over the last decades. Increased movement of goods, services, people and capital across international borders has helped many developing countries achieve fast and sustained economic growth. Many observers argue that foreign direct investment (FDI) has been a key ingredient in this process by facilitating transfer of productivity-enhancing techniques and knowledge from developed to developing countries (e.g., Hoekman and Javorcik 2006).

The theoretical and empirical literature suggests that information asymmetries constitute a significant obstacle to capital flows across international borders.¹ Informational asymmetries between domestic and foreign investors have been hypothesized to be 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, Grier, and Warnock 2005).² The negative effects of information asymmetries on capital flows have been documented in empirical studies (see 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 also the reason why the theoretical model by Gordon and Bovenberg (1996) suggests that a capital-importing country would raise welfare by subsidizing foreign direct investment (FDI) and other capital inflows from abroad.

Being aware of the fact that lack of information constitutes a barrier for inflows of FDI, many governments engage in investment promotion activities. The purpose of such activities is to reduce transactions costs facing foreign investors by providing information on the host country, helping foreign investors deal with bureaucratic procedures, and offering fiscal or other incentives. There are more than 189 IPIs at the national level and over a thousand at the sub-national level. Public funding of investment promotion activities is justified on the grounds that

¹ 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. When foreigners try to acquire a firm in the country, they can easily end up being overcharged by domestic owners, who have access to better information not only about that specific firm, but also about future government policies affecting the firm. . . . 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.”

² For evidence on home bias, see for instance French and Poterba (1991), Tesar and Werner (1995).

the presence of FDI generates knowledge externalities. This belief is confirmed by recent empirical evidence suggesting that FDI leads to positive productivity spillovers to local firms in the supplying industries.³

The small existing literature on investment promotion suggests that investment promotion is a cost effective way of attracting FDI to developing countries (Harding and Javorcik 2011). At the same time the results for industrialized countries appear to be mixed. While Bobonis and Shatz (2007) and Charlton and Davis (2006) provide evidence suggesting that investment promotion is associated with higher FDI inflows into developed countries, Head, Ries and Swenson (1999) and Harding and Javorcik (2011) do not find any significant effect of investment promotion efforts in developed countries.

The main shortcoming of the above literature is its reliance on crude measures of investment promotion, such as presence of IPIs in the investor's home country or information on sectors targeted by a particular host country. These measures do not take into account the fact that IPIs vary widely in terms of the quality of services they provide. Simply put, not all IPIs are equally good at providing relevant business data to prospective investors.

This study aims to fill this gap in the literature by using data collected by the World Bank's Foreign Investment Advisory Services through the Global Investment Promotion Benchmarking (GIPB) series 2006-2012 to assess how much the quality of IPI work may affect FDI inflows. GIPB data are particularly suitable for the purpose of testing the importance of the quality of investment promotion. They capture how well IPIs perform in facilitating site selection by providing potential investors with information needed to determine the location for their project. GIPB assesses two aspects of IPI facilitation. The first one is the quality of the agency's Web site, which is rated based on its content, architecture, design and promotional effectiveness. Web sites are judged on whether they contain relevant, clear and credible information presented in an attractive and user-friendly way. The second rating focuses on the way IPIs handle direct project inquiries from investors. This rating captures competence and responsiveness of the agency's staff, including timeliness, quality and credibility of informational content.

³ See studies by Javorcik (2004a), Blalock and Gertler (2008), Javorcik and Spatareanu (2008, 2009, 2011); and literature reviews by Görg and Strobl (2001) and Görg and Greenaway (2004).

Our empirical analysis suggests that these differences in IPI quality translate into different levels of FDI inflows. In other words, countries with IPIs which appear to perform better at their core function attract more FDI. We find a positive and statistically significant relationship between the average inflow of FDI during years 2000-10 and the average quality of the national IPI. In the analysis, the IPI quality is measured using the GIPB results obtained by GIPB06, GIPB09 and GIPB12.⁴ The positive relationship between IPI performance and FDI inflow is obtained controlling for the average level of GDP per capita, GDP growth, population size, inflation and political stability observed in the host country during the period considered. The analysis is based on 156 countries for which the necessary data are available. The effect of IPI performance is statistically significant at the one or the five percent level.

The magnitude of the estimated effect is economically meaningful. A country with the IPI quality score of 60% received on average 25% higher FDI inflows than a country with an IPI receiving the score of 45% (controlling for the country-specific characteristics mentioned above). In other words, a one unit increase in the GIPB score was associated with a 1.5% increase in FDI inflows. Thus, for example, holding everything else equal, countries with agencies with the average GIPB performance score of the Latin America and Caribbean region received 40% more FDI than countries where the GIPB score was the average for Sub-Saharan Africa.

A series of robustness checks confirms our main conclusions. First, we show that the results are robust to focusing on just developing countries. Second, we show that the findings hold when we control for various aspects of the business climate. Third, we find that using sector-specific information supports our findings. And finally, we demonstrate that our results hold when we instrument for the quality of IPIs.

Two conclusions emerge from this analysis. First, good investor facilitation matters. But it is not enough to set up an IPI and expect a huge boom in FDI inflows. Successful investment promotion requires professionalism, effort and commitment to customer service. It requires maintaining an up-to-date, attractive and user-friendly Web site which includes relevant and useful information that an investor requires during the site selection process. Providing the necessary data to support this decision process makes a difference. Second, the GIPB initiative

⁴ For summary of these results see GIPB reports at www.globalinvestmentpromotion.com. If an agency was not rated in all three years, the available information was used to compute the average performance score.

and results can be a valuable guiding-tool for IPIs striving to achieve excellence and secure more FDI flows. The GIPB criteria specify what high quality of inquiry handling and Web sites mean, and its assessment process can provides useful feedback on what areas need improvement.

The paper is structured as follows. The next section explains functions of investment promotion, reviews evidence on its effectiveness and documents large differences in IPI quality across countries. Section 3 describes and presents the empirical results at the national level, country-sector level as well as the instrument variable approach. The last section presents the conclusions.

2. What do we know about investment promotion?

2.1. What is investment promotion?

In order to attract foreign investors, many countries have set up investment promotion agencies (IPIs). There are more than 189 IPIs at the national level and over a thousand at the sub-national level. Their main role is to reduce the costs of undertaking FDI by providing information to potential investors and by alleviating the burden of bureaucratic procedures. Information provision takes the form of marketing campaigns, participation in international conferences and fairs, setting up informational websites and actively pursuing investors via phone, mail or personal contacts. It might also take the form of assisting investors with site visits and introducing them to potential joint venture partners, customers and suppliers. Alleviating the burden of red tape takes place through assisting committed investors with the registration process, license applications or any other formalities that may be required. For instance, Singapore's IPI is a one stop shop in terms of bureaucratic procedures. The agency will either deal directly with the investor's registration request or it will guide the investor in the next steps. This reduces the set up costs and hence the costs of investing in Singapore.

Investment promotion can affect the choice of a foreign investment site at all stages of the decision-making process. A process of a site selection usually starts with drawing a long list of potential locations. This list includes 8 to 20 economies and often contains: (i) the most popular FDI destinations, (ii) countries located in proximity to the investor's existing operations, and (iii) emerging FDI destinations. The third category presents an opportunity for countries which so far have had a limited success in attracting FDI. By means of advertising, presentations at trade shows or pro-active contacting of potential investors IPIs can increase the chances of

their country being included in the long list. When the long list is then narrowed down to about 5 potential locations, IPIs again play an important role. Short listing is usually done without visiting sites under consideration, therefore, the accessibility of the information about potential host countries plays a crucial role. Agencies that provide up-to-date, detailed and accurate data on their websites, and agencies that are willing to invest time in 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, investor's visit to the host country, also gives IPIs the opportunity to emphasize the advantages of locating in their country, answer questions, show off potential investment sites and facilitate contacts with local business community. Finally, IPIs can play a role in the last stage of the process by providing information on investment incentives and offering help with the registration process.

2.2.Does investment promotion work?

The work of Harding and Javorcik (2011) provides evidence on the effectiveness of investment promotion efforts. The authors use data collected by the World Bank's 2005 Census of Investment Promotion Agencies covering 109 IPIs around the world. Particularly useful for their research purposes is the detailed information on sectors denoted as priority in national investment promotion efforts. The Census gathered information on which sectors were targeted by IPIs and when this targeting started and stopped. Sector targeting is viewed by investment promotion professionals as the most effective way of attracting FDI. It is believed that efforts tailored to the needs of investors operating in a particular sector will work better than attempts to target all potential investors.

Harding and Javorcik combine the information on sector targeting with the BEA data on US FDI abroad. The focus on US FDI is driven by the fact that the BEA is the only comprehensive source of FDI data with country-sector-time variation and extensive coverage of developing countries. Considering developing countries is of interest since many of them struggle with attracting FDI. Moreover, not having a proper set of developing countries in the sample would threaten the external validity of the econometric approach. The final sample consists of 124 countries over the period 1990-2004. This is more than the number of countries covered by the Census because some economies are not engaged in investment promotion.

Using a difference-in-differences specification, the authors ask whether sectors explicitly targeted by IPIs received more FDI than non-priority sectors during the same time period. Their analysis relies on within country-sector variation over time as the empirical specification controls for country-sector, country-year and sector-year fixed effects.

The results suggest that sectors targeted by IPIs receive on average more than twice as much FDI inflows than non-targeted sectors. The budget information collected in the IPI survey allows for a back-of-the-envelope comparison between the costs and benefits of investment promotion: one dollar spent on investment promotion raises FDI inflows by 189 dollars and that one extra job in an US affiliate requires 78 dollars spent on investment promotion.⁵

The results further suggest that investment promotion works better in countries where English is not an official language and in countries which are measured to be culturally distant from the US. Investment promotion has also larger effects in countries with less effective or corrupt governments and in countries where it takes longer to start a business or obtain a construction permit. Finally, investment promotion is effective mainly in developing countries. All these findings support the view that investment promotion reduces information asymmetries between foreign investors and host countries and that it alleviates the burden of red tape.

Harding and Javorcik rely on data measuring the mere presence of investment promotion efforts. The data utilized in this study allow us to take into account also the quality of the information provision of IPIs. As documented in the next subsection, there are large differences in the performance of IPIs in this respect.

⁵ As emphasized in the paper, this cost-benefit calculation should be treated with caution. On the one hand, the 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, the 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 were not accounted for (for instance, access to accelerated bureaucratic procedures for targeted sectors). Further, the analysis captures the average, not the marginal, effect. In other words, the results should not be interpreted as suggesting that a large increase in investment promotion spending in countries already engaged in such practice will lead to huge increases in FDI inflows. Instead, the results should be viewed as indicating that countries not involved in investment promotion may benefit from such activities.

2.3. Differences in IPI quality

The results of GIPB 2012 reveal huge differences in performance of various IPIs. The Web sites of only three IPIs have received close to perfect scores (95-97%). While the top 50 Web sites received scores above 80%, 24 IPIs received a positive score below 30% and 13 agencies obtained a zero score. A zero score means that an agency has no online presence. Web sites received low scores if they were not available in English, which is generally recognized as the language of international business.

The quality of responses to project inquiries received much lower ratings (see Chart 1). The top two scores were 81 and 88%. The vast majority of agencies received a rating below 50%, which means they are of limited assistance in providing the information that the foreign investor needs. In many cases, IPIs were not contactable by the foreign investor researching from overseas. Interestingly, IPIs with highly rated Web sites vary widely in how well they handle inquiries. There are quite a few agencies whose Web site obtained a score above 80% and who received a score below 40% (or even 20%) for inquiry handling.

3. Does IPI quality matter?

3.1. Analysis based on aggregate data

Our analysis of the link between the quality of IPI services and FDI inflows relies on the following data. Our dependent variable is the average FDI inflow received by country *c* during the 2000-10 period as reported in the IMF's *International Financial Statistics* and expressed in the log form. The choice of time period is determined by the availability of data on IPI quality which is measured as the average GIPB score obtained in GIPB 2012, GIPB 2009 and GIPB 2006 exercises.⁶ All the available scores are used, which means that if a particular agency was rated only once, we assume that this rating captured its performance during the 2000-10 period. We distinguish between the total score, the Web site score and the inquiry handling (IH) score. The IH score is the average of the two IH scores obtained in each exercise. We also include the

⁶ These are the only waves of GIPB exercise conducted.

difference between the two IH scores, as the lack of consistency in IH quality presumably deters foreign investors. Our sample covers 156 countries.⁷

Our empirical model controls for a set of host country characteristics: GDP per capita (average value for 2000-10, expressed in logs), GDP growth (average value for 2000-10), population size (average value for 2000-10, expressed in logs), inflation (average value for 2000-10), and political stability (average value for 2000-09). The last variable comes from the Worldwide Governance Indicators (WGI) project, while all other controls are from the World Bank's *World Development Indicators* database. For summary statistics, see Appendix Table 1 at the end of this paper.

The results of the analysis, reported in Table 1, suggest that there exists a positive and statistically significant relationship between IPI quality and FDI inflows. This is true when we use the total GIPB score, the IH score, or the Web site score. The difference between the IH scores (proxy for lack of consistency in the service quality) does not appear to matter. The Web site score carries a higher significance level (1%) than the IH score (10%) and is more robust to different specifications.

The magnitude of the estimated effect is economically meaningful. A country with the IPI quality score of 60% received on average 25% higher FDI inflows than a country with an IPI receiving the score of 45%.⁸ In other words, a one unit increase in the GIPB score was associated with a 1.5% increase in FDI inflows. As illustrated in Chart 2, GIPB scores vary widely by region. Thus, for instance, holding everything else equal, countries with agencies with the average GIPB performance score of the Latin America and Caribbean region received 40% more FDI than the flows attracted to countries where the GIPB score was at the level equal to the average for Sub-Saharan Africa, 26% more than countries with an average GIPB score of South Asia, 22% relative to Middle East and North Africa, and 4% relative to Europe and Central Asia.

One may be concerned that the results in Table 1 are driven by differences in average score between developed and developing countries. This does not appear to be the case. We find

⁷ Note that we excluded Suriname, which having experienced only FDI outflows, was an outlier in the sample. Including Suriname would not change the conclusions of the analysis, and it would increase the magnitudes of the estimated coefficients of interest thus strengthening our conclusions.

⁸ This statement is based on column 1 in Table 1.

a positive relationship between IPI quality in the full sample as well as in the subsample of developing countries. The same is true when we consider the IH score and the Web site score. Table 2 presents the estimation results for the subsample of developing countries. As before, we find that the overall IPI quality and the Web site quality are positively and significantly correlated with the amount of FDI inflows. Although the IH quality bears a positive sign in most specifications, it never appears to be statistically significant.

To examine whether our results are really capturing the quality of IPI rather than the general quality of the business environment, we conduct a series of robustness checks. We do so by adding to the baseline specifications controls for various aspects of the business climate, which include: the number of days needed to start a business, the number of days needed to obtain a construction permit, and the number of days needed to register a property. All of these variables come from the World Bank's *Doing Business Database* and pertain to 2003-2010. The second set of controls captures government effectiveness, control of corruption, regulatory quality, rule of law, voice and accountability. These measures were compiled at the World Bank by Kaufmann, Kraay and Mastruzzi and are described in detail in their 2009 publication. 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. The measures are available for 2000 and annually for 2002-2009. We use the average value in our model.

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 effectiveness 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." Rule of law encapsulates "perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police,

and the courts, as well as the likelihood of crime and violence.” Regulatory quality summarizes “perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.” Voice and accountability measure reflects “perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.”⁹

The various measures are highly correlated, therefore, they enter the specification one by one. In Table 3, we show that the link between FDI inflows and the overall IPI quality is robust to controlling for each of the eight aspects of business environment considered. In all regressions, the coefficient on IPI overall quality is positive and statistically significant (panel A). Its magnitude remains pretty stable across different specifications. As illustrated in Panel B, the results for the IH quality are reasonably robust as well. Its coefficient is positive and statistically significant in five of eight specifications. In the case of Web site quality, the positive relationship between FDI inflows and the variable of interest holds and is statistically significant in all eight specifications (Panel C).

3.2. Analysis based on country-sector data

In an alternative empirical strategy, we use data on inflows of US FDI disaggregated by host country and sector.¹⁰ In this difference-in-differences approach we compare flows to sectors treated as priority by IPIs in their investment promotion efforts (targeted sectors) to non-targeted sectors, which allows us to control for unobservable host country heterogeneity. We interact the dummy for targeted sectors with the measures of IPI quality. In this specification, we normalize the quality measures by subtracting the average value for the sample. More formally, we estimate the following model:

$$\ln(FDI\ inflow_{ci}) = \alpha_1 + \beta_1 Sector\ targeted_{ci} + \beta_2 Sector\ targeted_{ci} * IPI\ quality\ normalized_c + \gamma_c + \gamma_i + \varepsilon_{ci}$$

⁹ See <http://info.worldbank.org/governance/wgi/resources.htm> for more information.

¹⁰ We focus on US FDI because information on total FDI inflows is not available at the country-sector level.

The dependent variable is the natural log of the average inflow of US FDI into sector i in country c during the 2000-2010 period. The data come from the US Bureau of Economic Analysis (BEA) which publishes the stocks of US FDI abroad disaggregated into 15 sectors.¹¹ We use the first difference of the stocks to calculate flows. $Sector\ targeted_{ci}$ equals one if country c targeted sector i during this time period and zero otherwise. The information on targeted comes from the World Bank's Census of Investment Promotion Agencies conducted in 2005 and is described in detail in Harding and Javorcik (2011). We assume that sectors targeted at the time of the Census (2004) continued being targeted until 2010. If a sector was targeted during some (but not all) years during 2000-04 (for which time-varying information is available) we define $Sector\ targeted$ as the fraction of the time period when targeting was in place. γ_c and γ_i are country and industry fixed effects, respectively. The former make the inclusion of country-level controls superfluous. The model is estimated on a sample of countries that have or have not practiced sector targeting.

The results of the analysis, presented in Table 4, indicate that the IPI quality matters for FDI inflows. The estimated coefficients should be interpreted as follows. The normalized IPI quality equals zero for the average country in the sample. Thus in a country with the average IPI quality investment promotion does not seem to have made a difference to the inflows of FDI.¹² However, in countries with above average IPI quality, investment promotion efforts have paid off as priority sectors received more FDI than non-targeted industries. This is true when IPI quality is measured using the overall score, IH quality or Web site quality. The results for the overall quality and the IH score also hold in the developing country subsample (Table 5).

3.3. Instrumental variable approach

Are countries successful at attracting FDI because of their good performing IPIs? Or do IPIs in popular FDI destinations perform better because of their frequent contacts with foreign

¹¹ US direct investment abroad is defined as the ownership or control, directly or indirectly, by one US resident of 10% 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 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.

¹² This is based on the sum of the coefficients for $Sector\ targeted$ and $Sector\ targeted * IPI\ quality\ normalized$. For the average country the interaction term drops out ($IPI\ quality\ normalized$ equals zero) and the coefficient on $Sector\ targeted$ is not statistically significant.

investors? It is certainly possible that IPIs in some economies get better at their jobs as they build up experience interacting with foreign investors, though, it is also possible that high demands on IPI staff may result in lower quality of service provided to each individual investor.

To address this issue we apply the instrumental variable approach to our aggregate regression. Our main instrument for IPI quality is the percentage of agency staff with private sector experience. Employees who have previously worked in the private sector are likely to better understand the needs of investors and their presence is likely to lead to a higher quality of IPI services. The second instrument is a dummy equal to one if the agency paid wages at or above the level offered in the private sector. Our next instrument takes advantage of various organizational forms of IPIs. While some IPIs have the status of a ministry sub-unit, others are autonomous public bodies, semi-autonomous agencies reporting to a ministry, joint public-private entities or fully private entities. We define a dummy equal to one if the agency is a quasi-government entity, i.e. if it is either an autonomous public body or semi-autonomous agency reporting to a ministry, and zero otherwise. Wells and Wint (2000) argue that IPIs set up as subunits of ministries or private entities are less effective than IPIs with a quasi-government status. The latter status gives an agency freedom from government staff recruiting procedures and pay scales thus allowing the agency to hire motivated staff with better understanding of private sector needs. At the same time, the link to the government facilitates flow of feedback from foreign investors to relevant government agencies and aids agency's efforts to lobby on behalf of foreign investors. If the IPI changed its status during the period considered, we use the percentage of years it had the quasi-government status. The final two instruments are dummies capturing whether the agency's activities were evaluated by external entities and whether an evaluation of the agency took place at least once a year. It is likely that IPIs whose performance is rigorously evaluated are more likely to perform better. We use at the most two instruments at a time because otherwise missing values would severely reduce the size of the sample.

The results from the instrumental variable approach are consistent with a causal relationship between IPI quality and the magnitudes of FDI inflows. Table 6 presents the results for the overall IPI quality based on various sets of instruments. As seen in the first stage, a higher percentage of agency employees with private sector experience translates into a higher quality of the agency. The higher quality in turn leads to more FDI inflows. These two relationships are statistically significant in all five specifications. F-statistics suggest that our instruments are

reasonable predictors of the IPI quality. The Sargan test does not cast doubt on the validity of the instruments.

The results for IH quality (not reported to save space) are equally strong. Again, the first stage suggests that higher wages paid by the agency translate into higher quality of responses to investor inquiries. And as before we find that a higher IPI quality is positively related to FDI inflows. The results are weaker when the Web site quality is considered because the instruments do not do a good job at predicting the quality of the agency's Web site. Nevertheless, the coefficient on the Web site quality is statistically significant at the five percent level in one specification and at the 15 percent level in two specifications.

4. Conclusions

In response to global competition for FDI, most countries have set up IPIs as a key part of their strategy to attract foreign investors. Investment promotion is a relatively uncontroversial part of the industrial policy toolkit, and according to recent research (Harding and Javorcik 2011) it is an effective and cost-efficient way of increasing inflows of FDI, at least in developing countries.

However, not all IPIs are equally good at their core function, namely information provision. According to the GIPB initiative, IPIs vary widely in terms of the quality of information they provide on their Web sites and in response to direct inquiries from potential investors. These differences in quality of IPI services translate directly into differences in FDI inflows. Our study reaches this conclusion based on the analysis of aggregate FDI flows to 156 countries during the 2000-10 period. These conclusions are confirmed in the analysis of more disaggregated country-sector level data. They are also robust to the instrumental variable approach.

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Chart 1. Distribution of IPI scores

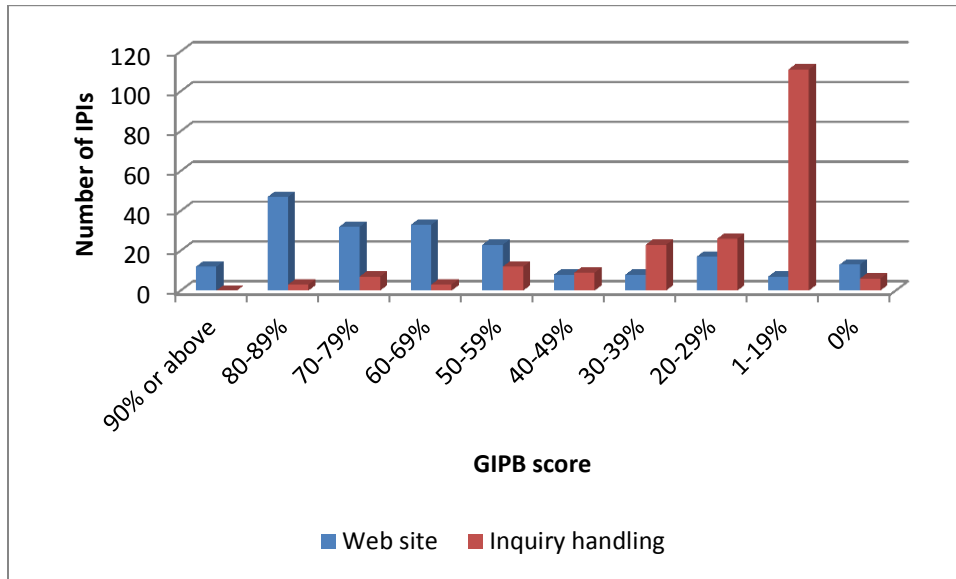


Chart 2. GIPB 2006-2012 Scores by Region

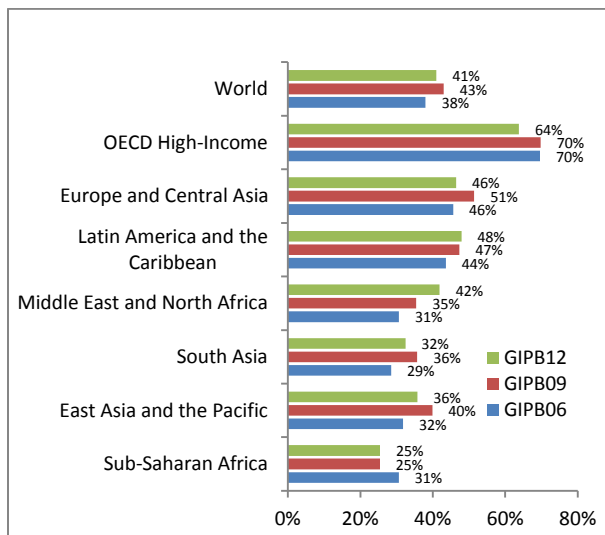


Table 1. Baseline specification. All countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IPI quality	0.015*** (0.006)							
Inquiry handling (IH) quality		0.010* (0.005)			0.005 (0.007)	0.012* (0.006)	0.003 (0.006)	
Difference bt IH scores			0.001 (0.007)		-0.006 (0.007)	-0.005 (0.007)		-0.004 (0.007)
Web site quality				0.012*** (0.004)	0.011** (0.005)		0.011** (0.005)	0.013*** (0.005)
GDP per capita	0.983*** (0.082)	1.036*** (0.079)	1.097*** (0.073)	0.988*** (0.081)	0.976*** (0.083)	1.034*** (0.079)	0.980*** (0.082)	0.989*** (0.081)
GDP growth	12.720*** (3.781)	12.795*** (3.864)	11.650*** (3.866)	11.908*** (3.756)	12.200*** (3.831)	12.753*** (3.872)	12.272*** (3.826)	11.719*** (3.777)
Population	0.733*** (0.045)	0.742*** (0.045)	0.751*** (0.046)	0.732*** (0.045)	0.728*** (0.045)	0.740*** (0.046)	0.732*** (0.045)	0.730*** (0.045)
Inflation	-0.748 (1.033)	-0.731 (1.047)	-0.644 (1.059)	-0.706 (1.032)	-0.780 (1.038)	-0.773 (1.051)	-0.726 (1.035)	-0.735 (1.035)
Political Stability	0.110 (0.133)	0.108 (0.136)	0.137 (0.136)	0.131 (0.133)	0.121 (0.134)	0.107 (0.136)	0.122 (0.134)	0.134 (0.133)
Constant	-0.146 (0.835)	-0.331 (0.843)	-0.648 (0.836)	-0.223 (0.828)	-0.064 (0.846)	-0.255 (0.852)	-0.167 (0.836)	-0.174 (0.833)
Observations	156	156	156	156	156	156	156	156
R-sq	0.83	0.83	0.83	0.84	0.84	0.83	0.84	0.84

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-averages over the period 2000-2010. The dependent variable is the log of the mean of aggregate inflow of foreign direct investment from all source countries. IPA quality, Inquiry handling quality and Web site quality are measured on a scale from 0 to 100. GDP per capita and Population are included in the log form. Political stability ranges from -2.5 to 2.5, with a mean of zero and standard deviation of one. A higher value means more stability. The measure is available until 2009.

Table 2. Baseline specification. Developing countries

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IPI quality	0.011* (0.006)							
Inquiry handling (IH) quality		0.005 (0.006)			0.002 (0.008)	0.009 (0.008)	-0.002 (0.007)	
Difference bt IH scores			-0.001 (0.008)		-0.010 (0.010)	-0.008 (0.010)		-0.009 (0.008)
Web site quality				0.009** (0.004)	0.011** (0.005)		0.010** (0.005)	0.011** (0.005)
GDP per capita	1.128*** (0.095)	1.177*** (0.093)	1.211*** (0.089)	1.124*** (0.093)	1.127*** (0.095)	1.176*** (0.094)	1.130*** (0.095)	1.131*** (0.093)
GDP growth	13.314*** (3.886)	13.338*** (3.988)	12.669*** (3.945)	12.663*** (3.850)	12.551*** (3.962)	13.510*** (3.998)	12.382*** (3.958)	12.365*** (3.859)
Population	0.771*** (0.052)	0.776*** (0.052)	0.777*** (0.053)	0.768*** (0.052)	0.764*** (0.052)	0.773*** (0.053)	0.768*** (0.052)	0.764*** (0.052)
Inflation	-1.164 (0.954)	-1.150 (0.967)	-1.121 (0.971)	-1.132 (0.948)	-1.235 (0.960)	-1.252 (0.976)	-1.116 (0.953)	-1.212 (0.951)
Political Stability	0.156 (0.138)	0.152 (0.140)	0.157 (0.141)	0.161 (0.137)	0.172 (0.138)	0.159 (0.141)	0.163 (0.138)	0.172 (0.138)
Constant	-1.563 (1.004)	-1.715* (1.015)	-1.824* (1.011)	-1.558 (0.996)	-1.483 (1.007)	-1.635 (1.021)	-1.581 (1.002)	-1.508 (0.997)
Observations	114	114	114	114	114	114	114	114
R-sq	0.82	0.82	0.82	0.82	0.83	0.82	0.82	0.83

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-averages over the period 2000-2010. The dependent variable is the log of the mean of aggregate inflow of foreign direct investment from all source countries. IPA quality, Inquiry handling quality and Web site quality are measured on a scale from 0 to 100. GDP per capita and Population are included in the log form. Political stability ranges from -2.5 to 2.5, with a mean of zero and standard deviation of one. A higher value means more stability. The measure is available until 2009. The definition of developing countries is based on the 2011 World Bank country classification.

Table 3. IPI quality with controls for different aspects of business climate. All countries

Panel A: IPI Quality								
	Starting business	Construction permits	Registering property	Voice & accountability	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
IPI quality	0.015** (0.006)	0.015*** (0.006)	0.015*** (0.006)	0.014** (0.006)	0.015** (0.006)	0.011* (0.006)	0.018*** (0.006)	0.017*** (0.006)
Business climate	-0.096 (0.118)	0.107 (0.155)	0.002 (0.081)	0.088 (0.149)	0.002 (0.215)	0.301 (0.205)	-0.299 (0.205)	-0.151 (0.178)
Observations	154	154	153	156	156	156	156	156
R-sq	0.83	0.83	0.84	0.84	0.83	0.84	0.84	0.84
Panel B: Inquiry Handling Quality								
	Starting business	Construction permits	Registering property	Voice & accountability	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All	All	All	All	All	All	All	All
Inquiry handling quality	0.009* (0.006)	0.010* (0.006)	0.010* (0.006)	0.008 (0.006)	0.009 (0.006)	0.005 (0.006)	0.012** (0.006)	0.011* (0.006)
Business climate	-0.124 (0.119)	0.076 (0.157)	-0.005 (0.082)	0.148 (0.150)	0.093 (0.215)	0.397* (0.204)	-0.213 (0.205)	-0.109 (0.181)
Observations	154	154	153	156	156	156	156	156
R-sq	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Panel C: Web Site Quality								
	Starting business	Construction permits	Registering property	Voice & accountability	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All	All	All	All	All	All	All	All
Web site quality	0.012** (0.005)	0.013*** (0.004)	0.012*** (0.004)	0.011** (0.005)	0.012** (0.005)	0.009* (0.005)	0.014*** (0.005)	0.013*** (0.005)
Business climate	-0.089 (0.119)	0.130 (0.155)	-0.003 (0.080)	0.115 (0.144)	0.034 (0.210)	0.322 (0.195)	-0.277 (0.202)	-0.112 (0.175)
Observations	154	154	153	156	156	156	156	156
R-sq	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-averages over the period 2000-2010. The dependent variable is the log of the mean of the aggregate inflow of foreign direct investment from all source countries. IPA quality, Inquiry handling quality and Web site quality is measured on a scale from 0 to 100. All specifications include the following controls: log GDP per capita, GDP growth, log population, inflation and political stability. The set of business climate measures includes: the number of days required to start a business, obtain a construction permit or register a property (all in logs), an index of voice & accountability, government effectiveness, regulatory quality, rule of law and control of corruption. The latter indices range from -2.5 to 2.5, with a mean of zero and standard deviation of one. They are available until 2009. Higher values imply greater stability, more voice and accountability, etc.

Table 4. Sector-level regressions. All countries.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sector targeted	0.129 (0.589)	0.243 (0.578)	0.521 (0.572)	0.186 (0.594)	0.184 (0.594)	0.242 (0.579)	0.184 (0.593)	0.176 (0.594)
IPA quality x Sector targeted	0.091*** (0.030)							
Inquiry handling (IH) quality x Sector targeted		0.087*** (0.029)			0.074* (0.043)	0.087*** (0.032)	0.074* (0.041)	
Difference bt IH scores x Sector targeted			0.057 (0.039)		-0.001 (0.045)	0.001 (0.044)		0.020 (0.043)
Web site quality x Sector targeted				0.069** (0.028)	0.018 (0.040)		0.018 (0.040)	0.064** (0.030)
Constant	6.793*** (0.579)	6.792*** (0.579)	6.880*** (0.580)	6.821*** (0.580)	6.789*** (0.580)	6.793*** (0.579)	6.789*** (0.579)	6.824*** (0.580)
Observations	1167	1167	1167	1167	1167	1167	1167	1167
Countries	115	115	115	115	115	115	115	115
R-sq	0.23	0.23	0.22	0.23	0.23	0.23	0.23	0.23

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-sector averages over the period 2000-2010. The dependent variable is the log of the mean of sectoral inflow of foreign direct investment from the U.S. Sector targeting captures the share of the years sector *i* was targeted by country *c* over the period, assuming that if a sector was targeted in 2004 it was kept targeted until 2010. IPA quality, Inquiry handling quality and Web site quality is measured as the deviation from their (global) mean, implying that the effect of the sector targeting variable is representative for the country with the average quality. Each specification includes country and sector fixed effects, the former making country-controls superfluous.

Table 5. Sector-level regressions. Developing countries.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sector targeted	0.017 (0.663)	0.194 (0.677)	-0.063 (0.660)	-0.115 (0.661)	0.114 (0.689)	0.124 (0.681)	0.159 (0.687)	-0.073 (0.661)
IPA quality x Sector targeted	0.079* (0.043)							
Inquiry handling (IH) quality x Sector targeted		0.091** (0.045)			0.059 (0.062)	0.062 (0.056)	0.081 (0.056)	
Difference bt IH scores x Sector targeted			0.128* (0.067)		0.072 (0.085)	0.074 (0.082)		0.106 (0.077)
Web site quality x Sector targeted				0.047 (0.033)	0.004 (0.042)		0.012 (0.041)	0.022 (0.038)
Constant	5.502*** (0.644)	5.502*** (0.643)	5.540*** (0.643)	5.514*** (0.644)	5.514*** (0.644)	5.515*** (0.644)	5.500*** (0.644)	5.529*** (0.644)
Observations	864	864	864	864	864	864	864	864
Countries	84	84	84	84	84	84	84	84
R-sq	0.21	0.21	0.21	0.21	0.22	0.22	0.21	0.21

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-sector averages over the period 2000-2010. The dependent variable is the log of the mean of sectoral inflow of foreign direct investment from the U.S. Sector targeting captures the share of the years sector *i* was targeted by country *c* over the period, assuming that if a sector was targeted in 2004 it was kept targeted until 2010. IPA quality, Inquiry handling quality and Web site quality is measured as the deviation from their (global) mean, implying that the effect of the sector targeting variable is representative for the country with the average quality. Each specification includes country and sector fixed effects, the former making country-controls superfluous. The definition of developing countries is based on the 2011 World Bank country classification.

Table 6. Instrumental variable results (IPI quality)

	(1)	(2)	(3)	(4)	(5)
1 st stage: dependent variable = IPI quality					
GDP per capita	6.975*** (1.214)	6.807*** (1.239)	7.167*** (1.242)	7.263*** (1.277)	7.057*** (1.335)
GDP growth	-133.997* (79.168)	-156.872* (79.758)	-127.957 (79.741)	-112.948 (81.243)	-139.186* (81.940)
Population	0.509 (0.859)	0.400 (0.857)	0.362 (0.881)	0.330 (0.884)	0.570 (0.894)
Inflation	19.754 (25.283)	21.204 (25.189)	20.485 (25.363)	16.922 (28.243)	13.731 (29.090)
Political Stability	-0.948 (1.958)	-1.533 (1.988)	-1.148 (1.979)	-1.054 (1.975)	-0.732 (2.024)
% private sector exper.	0.110** (0.042)	0.110** (0.042)	0.111** (0.042)	0.110** (0.043)	0.088* (0.047)
Quasi-gov't status		0.982 (2.735)			
Annual evaluation			1.990 (2.555)		
External evaluation				3.611 (2.503)	
Well paid staff					3.364 (3.171)
Constant	-15.068 (15.479)	-11.480 (15.800)	-15.359 (15.522)	-17.245 (15.624)	-16.270 (16.186)
2nd stage: dependent variable = ln FDI flow					
IPI quality	0.086** (0.040)	0.087** (0.038)	0.076** (0.036)	0.064** (0.031)	0.091** (0.044)
GDP per capita	0.403 (0.320)	0.430 (0.300)	0.473 (0.289)	0.553** (0.249)	0.314 (0.357)
GDP growth	27.935** (10.884)	31.341*** (11.307)	26.163*** (10.012)	23.584*** (9.144)	27.407** (11.367)
Population	0.651*** (0.090)	0.661*** (0.088)	0.654*** (0.084)	0.664*** (0.079)	0.673*** (0.095)
Inflation	-2.864 (2.778)	-2.969 (2.729)	-2.642 (2.594)	-2.942 (2.544)	-4.316 (3.180)
Political Stability	0.019 (0.205)	0.079 (0.206)	0.011 (0.192)	0.012 (0.178)	0.054 (0.217)
Constant	1.876 (1.635)	1.277 (1.596)	1.785 (1.530)	1.710 (1.407)	2.109 (1.762)
Observations	87	86	87	86	83
Part. R-sq Shea	0.08	0.08	0.08	0.10	0.07
F-stat	6.76	3.60	3.66	4.12	2.94
p-value	0.01	0.03	0.02	0.02	0.05
Sargan	n.a.	0.284	0.77	1.28	0.24
p-value	n.a.	0.59	0.38	0.26	0.63

Notes: Standard errors are reported in parentheses. ***, **, * denote statistical significance at the 1, 5 and 10% level, respectively. All variables are based on country-averages over the period 2000-2010. The dependent variable is the log of the mean of aggregate inflow of foreign direct investment from all source countries. IPA quality, Inquiry handling quality and Web site quality are measured on a scale from 0 to 100. GDP per capita and Population are included in the log form. Political stability ranges from -2.5 to 2.5, with a mean of zero and standard deviation of one. A higher value means more stability. The measure is available until 2009. The instruments are from the 2005 World Bank IPA survey. % private sector experience measures the percentage of the IPI staff who have private sector experience. The other instruments are dummy variables taking the value of one if the IPI was a quasi-governmental agency, performed annual evaluation of its activities, external evaluations of its activities and paid their staff at or above the level of the private sector, respectively, and zero otherwise.

Appendix Table 1. Descriptive statistics

	mean	sd	min	max
FDI flow (level)	7.488e+09	2.207e+10	1703981.750	1.879e+11
IPA quality	44.332	18.851	1.000	87.000
Inquiry handling quality	28.125	18.869	1.750	79.500
Web site quality	60.551	22.060	0.000	95.000
GDP per capita	8910.700	13014.347	113.906	78322.508
GDP growth	0.042	0.023	-0.021	0.159
Population	38882160.752	1.392e+08	47476.791	1.299e+09
Inflation	0.068	0.080	-0.003	0.803
Political Stability No Violence	-0.032	0.874	-2.215	1.467
Observations	156			

	mean	sd	min	max
Starting business days	38.268	32.321	2.000	244.667
Construction permits days	215.622	139.831	37.667	1179.000
Registering Property days	72.795	81.601	2.000	524.143
Voice & Accountability	0.019	0.893	-1.616	1.613
Government Effectiveness	0.041	0.912	-1.429	2.114
Regulatory Quality	0.079	0.856	-1.572	1.859
Rule of Law	-0.017	0.921	-1.607	1.880
Control of Corruption	0.005	0.956	-1.476	2.348
Observations	153			