Does language choice attract foreign direct investment (FDI), and if so, how? We argue that language—a dynamic instrument for reducing transaction costs—can influence investors’ decision to allocate capital. Potential host countries attract investments by coordinating their domestic language policies—especially those in education—to match the language of the potential FDI investor. We subject our argument to three different tests: (i) a cross-sectional sample of all global Organization for Economic Co-operation and Development investments that employs a newly constructed language-in-education measurement; (ii) a newly assembled time-series cross-sectional data set of all Chinese FDI abroad; and (iii) a detailed case study that uses process tracing to explain Chinese FDI in Indonesia. The results from these tests demonstrate a significant and robust relationship between language and FDI.

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Although Spain once colonized the Philippines, Spanish has “largely vanished from everyday use” throughout the archipelago (Inquirer 2010). Yet in February 2010, Spain and the Philippines signed an agreement for Spain to help reincorporate the Spanish language into the Filipino education curriculum and make this language available on a large scale. Not coincidentally, this agreement came 2 months before Spanish business executives visited Manila to “explore investment ventures” (Philippines Department of Trade and Industry 2010). This pattern of language policy changes preceding foreign investment decisions did not happen only in the Philippines. A number of other countries actively adopted language policies in hopes of attracting foreign capital. In this article, we ask: Does language attract foreign direct investment (FDI), and if so, how?

Our theory builds on an economic argument about transaction costs. Potential receiver-states attract FDI by decreasing transaction costs for foreign investments. We argue that language policies—specifically language-in-education ones—are instrumental to achieve this objective. Potential receiver-states strategically choose to teach the official language of an FDI sender-state. FDI from the sender-state can increase as a result of this policy change. Scholars recognize the international economic effect of sharing a common language. In fact, language is featured prominently in FDI models (Bénassy-Quéré, Coupet, and Mayer 2007; Leblang 2010). Often, the variable measures whether two countries share a common official language using data from Centre d’Études Prospectives et d’Informations Internationales (CEPII).

We have three concerns with the CEPII measure. First, if language is an instrument to reduce transaction costs, then we cannot focus solely on whether two countries share an official language. Doing so ignores the large set...
of non-official languages that these countries’ citizens may know and use. In other words, governments do not have to designate a language as official for it to function as a prominent vehicle for communication. In this study, we shift focus from official languages to the languages taught in schools, which the government can more easily manipulate. Such language-in-education policies can be contentious because they reflect the government’s vision of the future (Kaplan and Baldauf 1997; Albough 2009).

Second, language remains a static measurement. CEPII’s common official language variable is time invariant. But, language is a dynamic instrument. Governments use language policies to achieve various political objectives over time. The Philippines is one example of a government actively changing language-in-education policies to facilitate international economic exchange. A related third problem concerns data construction. CEPII uses Ethnologue and the CIA World Factbook. While both sources are valid, CEPII relies on the most current editions of each publication. To assume that current language(s) and language policies match those from the past is inaccurate and problematic. To address all three concerns, we introduce a new language-in-education variable focused on the teaching of foreign/second languages over time.

This article proceeds as follows. We first review existing theories explaining FDI flows. Then, highlighting the approach that states reduce transaction costs to increase their attractiveness to foreign investors, we articulate a theory linking language-in-education policies to FDI. In the following sections, we analyze this theory using three different tests. The first is a cross-sectional sample of all Organization for Economic Co-operation and Development (OECD) investments globally (2002) that employs a newly constructed language-in-education measurement. The second is a new time-series cross-sectional data set of all Chinese FDI abroad (2005–2009). The third is a detailed case study of Chinese FDI in Indonesia. The results from these tests demonstrate that language policies—specifically language-in-education policies—are dynamic instruments for attracting FDI. We highlight the contributions of the article and discuss the implications of our findings in the last section.

**Determinants of FDI**

Originally designed to model trade flows (Anderson and Van Wincoop 2003), the gravity model has become a regular fixture in the FDI literature (Bénassy-Quéré et al. 2007). In this model, the principal factors that account for bilateral investment flows are the economic size of the two states and the geographical distance between them. Larger economies are more likely to send and receive direct investments. The distance between states can also impede economic exchanges. The gravity model stands in contrast to the traditional framework for analyzing FDI flows, which focuses on ownership, location, and internalization (OLI) (Dunning 1977).

Scholars have incorporated other factors into the gravity model that facilitate or impede FDI flows. These extragravity factors fall into two categories. The first, mirroring research in the economic development literature, focuses on the quality of governance institutions (Globerman and Shapiro 2003; Bénassy-Quéré et al. 2007). Democratic institutions can increase FDI flows by lowering the political risk of investment (Jensen 2003, 2008; Li and Resnick 2003; also see Addison and Heshmati 2004).

International institutions such as bilateral investment treaties (Elkins, Guzman, and Simmons 2006) and preferential trade agreements (PTAs) can also promote FDI by creating a mechanism for credible commitment (Büthe and Milner 2008).

The second category captures the relationship between sending and receiving states. The geographical distance between two states—a key component of the gravity model—is an example. Neighboring states are expected to have close economic relations. Distance measures represent neither the value nor the cost of foreign investments but the barriers to carrying out economic transactions. Accordingly, these measures of bilateral relationships frequently capture the transaction costs of FDI. In addition to physical distance, scholars have examined the cultural distance between states (Bandelj 2002). Scholars frequently operationalize this concept as a common language or common legal heritage shared by two states. States with the same languages or legal structures are more likely to engage in economic exchanges (Linnemann 1966).

Contrary to domestic and international institutions (which politicians can influence), physical distance and cultural distance appear to be largely exogenous. For example, common language is often regarded as a static political fact (Hsiao and Hsiao 2004). In one exception, Lien et al. examine the effects of Chinese language institutes on international economic flows (Lien, Oh, and Selnier 2012). Leblang also identifies a dynamic relationship between culture and economics. Diaspora networks can influence FDI by providing familiarity and information flows between two countries (Leblang 2010). On the whole, however, scholars have overlooked how states can manipulate this cultural affinity. Education is an effective tool for increasing affinity between states. In particular, language-in-education policies can decrease transaction costs by producing entrepreneurs and workers that are competent in the language of FDI-sending states. In the next section, we develop this argument in greater detail.

**Language as a Dynamic Instrument**

*FDI across Languages*

States manipulate economic policies and participate in international institutions to reduce the monetary costs of investments, thereby increasing the net value of FDI (Hines 1995; Blonigen and Figlio 1998; De Mooij and Ederveen 2001). States can also lower costs of investments by increasing their commitment to liberal investment policies and reducing the uncertainty of net investments to foreign investors (Büthe and Milner 2008; Froot and Stein 1991:1204–1205). In a similar manner, we argue that states can pursue particular language policies to reduce the transaction costs of economic investments. FDI-receiving states can alter their citizens’ proficiency in the languages of prominent FDI-sending states. When a greater portion of the receiver-state’s population is familiar with the language of the sender-state, more investments are likely. Language is far more dynamic than previously credited in the FDI literature and can be an effective tool for attracting FDI. Citizens can learn new languages, and governments can adjust language-in-education policies over time to minimize transaction costs.

Language differences between entrepreneurs and laborers in FDI-sending and FDI-receiving states can...
create friction at two stages in their economic transactions: (i) search and contracting and (ii) management and operations. First, foreign investors need to search for potential firms and opportunities in the receiver-state. They also need to secure a contract that embodies the negotiated terms of a transaction. Language differences can lead domestic entrepreneurs to communicate ineffectively with foreign counterparts and prevent the parties from finding mutually beneficial opportunities. Second, once a contract is in effect, the investing firm needs to oversee and manage everyday operations. Foreign firms typically import managers from their home countries to manage the workers in host countries, and language differences between managers and workers can hamper smooth operations. The first type of friction (at the search and contracting stage) is generally more common, as FDI typically seeks out countries with abundant endowment in unskilled labor (Yeaple 2003), implying lesser need for language abilities of workers.

The parties can resolve these frictions in a number of ways. First, the foreign investor and the domestic partner may choose not to take any extraordinary measures. In any FDI-receiving state, a subset of the population likely already knows the languages of FDI-sending countries. Second, the parties can hire translators to facilitate communication. Third, the parties can rely on a third-party language (for example, English) to communicate. Fourth, foreign investors can expend resources and train their personnel to learn the FDI-receiving state’s language. Fifth, entrepreneurs and workers in the potential receiver-state can learn the languages of the FDI-sending state.

From the perspective of states seeking to attract FDI, the last option is the most attainable. By increasing the domestic population familiar with the FDI-sending state’s language, FDI-seeking states can reduce the associated transaction costs. Lower transaction costs increase the likelihood and the amount of investment. In this argument, however, we do not assume that the existence of transaction costs from language frictions is the underlying motivation for FDI. A transaction cost approach anticipates that firms will engage in investing abroad to lower particularly high or persistent costs (Williamson 1975:84). By contrast, we assume that other motivations for investments exist, such as the benefits of OLI (Dunning 1977), but that language differences constitute frictions that FDI senders seek to minimize whenever possible.

For example, consider Singapore where four languages are considered official: Chinese, Malay, Tamil, and English. Despite this linguistic diversity, the increasing use of English has empowered the city-state to be a competitive economic hub. In the initial years after gaining independence, with only 21% of the population claiming literacy in the English language (Dixon 2005), top government officials traveled to cities such as London and New York to lobby foreign investors. Along with strategic port access, the potential for an English-speaking workforce proved pivotal in their sales pitch (Lee 2000:150–152; Wang 2007). Today, English is the native household language of more than 40% of the population (Dixon 2005). As a reward for this increase in English proficiency, Singapore is the world’s top logistics center with an expanding economy at 14.5% GDP growth (Adam and Tan 2011).

If teaching a potential FDI-sending state’s language attracts FDI, then we might also believe the converse: The intentional discontinuation of a sender-state’s language should hinder FDI. Prior to 1970s, in Malaysia, students could learn both Chinese (as a minority language) and English (as the colonial language). In fact, English was a common medium of educational instruction. But with the adoption of the New Economic Policy (1970–1990s), Malay became the singular language of education, Chinese faced substantial reductions, and English was replaced in the curriculum (Ganguly 2003). These changes had negative implications for foreign investments (Eman 1987:406). Many middle class professionals—especially the Chinese—permanently moved abroad (Lee 2000:142). This “brain drain” paralleled a decreased proficiency in English among Malays. By the 1990s, Malaysia found itself struggling to “stay relevant and competitive in the increasing globalized knowledge economy” (Lee 2007:139).

**Language Policies and FDI**

In general, shifts in language-in-education policies are more common than changes in official languages (see Marschan-Piekkari, Welch and Welch 1999). For instance, South Korea officially introduced English as a second language into its education curriculum in 1997. But, the initial scope was limited to the third grade. This changed in 2002, when English learning was expanded through the sixth grade (Butler 2004). The development of English in Taiwan’s education curriculum was also incremental. In 1998, it was introduced in select areas. By 2001, it had expanded nationwide (Marschan-Piekkari et al. 1999).

There are two types of language-in-education policy (Liu 2011). The first involves language as a medium of instruction. When a language is a medium, it is used to teach non-language classes (for example, history and math) and to carry out the broader educational curriculum. The status of English in Singaporean schools is one example. With the exception of the “mother tongue” classes (Chinese, Malay, and Tamil), all subjects are taught in English (Ganguly 2003; Tan 2007). By contrast, the second type of policy involves languages taught as a foreign/second language. A language is considered “foreign” or “second” if it is recognized as a class subject by the education ministry. The reincorporation of Spanish into the Philippine curriculum is an example of a foreign/second language. Although Filipino students now have the option to take Spanish classes, the larger curriculum remains in Filipino and English (Tupas 2007).

While both policy types are important, we focus on foreign/second languages. Because of lower political and financial barriers, states are more likely to offer a foreign language as a subject matter than to employ it as a medium of instruction. Moreover, the choice of a foreign language as a medium of instruction is highly contentious and often incites divisive domestic political conflicts. In short, the foreign/second language policy more closely represents the theoretical logic examined in this study. Following the hypothesis that language-in-education policy is a strategic instrument for attracting FDI, we predict the following:

FDI-receiving states teaching a foreign/second language that matches the FDI-sending state’s official language(s) receive more FDI from the sender-state than receiver-states that do not teach matching foreign/second languages.

Moreover, we expect that longer temporal lags in proficiency of the matching language will have greater effects
on FDI flows. First, since subject matter instruction can take place as early as the primary level of education, students receiving language training will require some time before they enter the workforce with the requisite language familiarity. Second, as each year passes, a new cohort of students having received instruction graduates. As the lags increase, the proportion of the population familiar with the language of concern also increases.

**Empirical Analysis**

Ideally, we would test the proposed mechanism of transaction cost reduction as well as the observed outcome of FDI flows. However, there is no systematic data on all FDI opportunities that firms explored irrespective of their actual investments. We would need these data to directly examine change in investment costs. In the absence of such data, we test the hypothesis using three different types of evidence on observed FDI flows. First, we employ a cross-sectional analysis using FDI outflows from OECD member states to other states around the world. This analysis confirms an overall pattern consistent with our argument. Second, we run an analysis of FDI outflows from China to all other states. This test shows that our argument is more than simply an English language effect and demonstrates the longitudinal effects of language policy variation. Lastly, a case study of Indonesia’s efforts to attract—and increase—Chinese FDI through language-in-education policy reforms illustrates the causal mechanism underlying our argument.

The main empirical challenge is the possibility of simultaneous causation: Language policies may follow FDI inflows from sender-states. We address this concern in two ways. First, we empirically examine the lagged effects of language policies. More specifically, we employ lags that far exceed the conventional statistical approach. If proficiency in the foreign language is indeed the mechanism at play, we would expect FDI effects to be substantively larger after sufficient time has passed for educated students to integrate into the workforce. Second, theoretically, even if states implemented language-in-education policies in response to extant FDI levels from a particular sender-state, it is important to observe whether there is an increase in future FDI inflows. It is reasonable to assume that states do not begin teaching a foreign language at random and that existing economic activity motivates changes in educational practices. We focus on whether and how language policy choices retain extant investments and attract more FDI. This would also demonstrate that having a population conversant in language X can make a state more attractive to FDI-sending states that speak X and also that states can strategically manipulate their language-in-education policies to influence subsequent FDI flows.

**Test 1: Cross-Sectional FDI Outflows from OECD States**

**Research Design**

The unit of analysis is the sender-state–receiver-state dyad. The sample contains all dyads of 26 OECD member states (sender-states) and 143 receiver-states that received non-negative outflows from the sender-state. There are three reasons to focus on OECD members. First, OECD FDI flows are the most important cases since its members contribute the most outward FDI globally. For example in 2004, of the total US dollars (USD) 407 billion in FDI flows, USD 261 billion originated from an OECD member state. Second, for empirical analysis, the inclusion of non-relevant dyads (for example, Hungary–Uruguay) would magnify the number of cases where FDI flows are zero. The inclusion of these negative cases—when there is no theoretical reason for the outcome to be positive—can bias the estimates (Mahoney and Goertz 2004). Put differently, not every state can invest in other states, but every state can receive FDI. Consequently, we do consider all states in our list of receiver-states. Third, systematic cross-national bilateral FDI data are available only for investments from OECD countries.

The dependent variable is FDI flow. FDI data were compiled from the OECD database. Foreign investments are measured in dollars and logged. We add one to observations with a zero value before taking the logarithm. The migrant-related variables, which critically influence FDI flows according to Leblang (2010), are available only for limited time periods and restrict our analysis to the year of 2002.

The main explanatory variable measures the teaching of foreign/second languages (hereafter referred to as “foreign/second language” variable). A language is considered a foreign/second language if the state’s education ministry designates it as a subject. Students learn this language for some allotted period in the educational curriculum. Conceptually, this parallels other substantive classes in the curriculum, such as history and math. Foreign/second language is coded as one if the sender-state’s official language matches one of the receiver-state’s foreign/second languages, and zero otherwise.

The foreign/second language variable is coded using various sources, Jacques Leclerc’s (2011) database on language policies (L’aménagement linguistique dans le monde), which covers all countries over time, provided the initial information for most entries. We cross-checked the information from this database and in some cases supplemented it with older editions of *International Handbook of Education Systems* and *Ethnologue*. This second step was critical for capturing any differences between current and past language policies.

As discussed above, we expect the lags of language-in-education policies to be critical to the outcome of increased FDI. Accordingly, we create lags of varying lengths. The models contain 1-, 10- and 20-year lags. While we do not have specific hypotheses about each lag length, we anticipate that longer lags will have greater effects on the FDI flows. The foreign/second language variable is partially correlated with CEPII’s common official language variable (0.42 and 0.45). The relatively low correlation highlights that this measure of language familiarity is substantively different from the prevalent static official language measures. Table 1 presents correlations between the foreign/second language variables and other variables that may be correlated—the common official language measure, the common civilization measure, and the migrant stock measures.

A cross tabulation of the foreign/second language and the CEPII common official language variables illuminates the empirical contribution of our variable. In 1,444 observations, both variables are zero, and in 147 observations, both are one. By contrast, in 69 observations, common official language is zero, while foreign/second language is one. These are cases in which the official language variable fails to capture the ability of citizens in an

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FDI-receiving state to use the foreign language in question. Moreover, in 250 observations, while the official language is coded as one, foreign/second language is not. These are cases in which receiving states’ citizens are not taught the foreign language in question, despite the fact that the two countries share an official language. Because an official language might simply be the language of a particular ethnic group, the majority of the country’s population may not be conversant in it without explicit training. We also account for the lack of effects that a common official language has on FDI flows in our analysis.

A simple correlation reveals that the foreign/second language variable is more closely associated with international economic flows than the common official language variable. The correlation between foreign/second language and bilateral trade flows is 0.20, whereas the correlation between common official language and bilateral trade flows is −0.02. Similarly, the correlation between foreign/second language and FDI flows is 0.29, whereas the correlation between common official language and FDI flows is 0.08.

We also include three broad sets of control variables: factors based on the gravity model (distance, contiguity, and economic size); measures of pre-existing affinity between states (bilateral trade, official language, common civilization, legal heritage, and migrant stock in one state from the other); and institutions that can decrease transaction costs between states (shared GATT/WTO membership, dual taxation treaty, preferential trade agreement, common currency peg, and alliance). Lastly, we control for the level of democracy in receiver-states.

**Distance**—The data for geographic distance come from the CEPII database and measure the distance between two states’ capitals at 100-kilometer increments. The variable is logged. Like GDP, distance is a key term in the gravity model and typically considered a key measure for capturing transaction costs in both the FDI and trade literature (Bevan and Estrin 2004).

**Contiguous borders**—Following the logic of distance in gravity models, a dichotomous variable is included to capture whether the sender–receiver dyads are neighbors. The variable is coded as one for neighboring dyads and zero otherwise.

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**Table 1. Table of Correlations, Test 1**

<table>
<thead>
<tr>
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<th>(4)</th>
<th>(5)</th>
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<tbody>
<tr>
<td>Foreign/Second Language (t−1)</td>
<td>0.989</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Foreign/Second Language (t−10)</td>
<td>0.943</td>
<td>0.954</td>
<td></td>
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<tr>
<td>Foreign/Second Language (t−20)</td>
<td>0.420</td>
<td>0.426</td>
<td>0.451</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Common Official Language</td>
<td>0.242</td>
<td>0.250</td>
<td>0.229</td>
<td>0.0566</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common Civilization</td>
<td>0.218</td>
<td>0.222</td>
<td>0.213</td>
<td>0.0973</td>
<td>0.483</td>
<td></td>
</tr>
<tr>
<td>Sender Migrant Stock in Receiver</td>
<td>0.342</td>
<td>0.342</td>
<td>0.328</td>
<td>0.155</td>
<td>0.289</td>
<td>0.601</td>
</tr>
<tr>
<td>Receiver Migrant Stock in Sender</td>
<td></td>
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(Note: (1) Foreign/Second Language (t−1); (2) Foreign/Second Language (t−10); (3) Foreign/Second Language (t−20); (4) Common Official Language; (5) Common Civilization; (6) Sender Migrant Stock in Receiver.)

FDI—GDP for both sender- and receiver-states was sourced from the World Bank database. Larger states both send and receive more foreign investments. Given the non-normal distribution of GDP across countries, we log GDP of both states in dyads.

**Bilateral trade**—Trade within the dyad captures existing economic exchange levels between the states. States that trade more with each other are more likely to engage in FDI, even after controlling for gravity model factors. The measure is logged. The data are from the IMF’s Direction of Trade Statistics (DOTS), updated by Goldstein, Rivers, and Tomz (2007).

**Common Official Language**—This is the language measure that scholars predominantly use in the literature. It is coded as one if an official language for the states in a dyad matches and zero otherwise. The data are from CEPII, and we implicitly consider this measure as a competing hypothesis (that is, the relationship between the common official language and FDI flows).

**Common civilization**—When two countries are culturally divided, there are larger transaction costs, higher uncertainty about business practices, and greater unease about the prospects for doing business (Kogut and Singh 1988; Habib and Zurawicki 2002; Siegel, Licht, and Schwartz 2013). By contrast, when two countries are culturally similar, their citizens are more likely to engage in economic transactions (Guiso, Sapienza, and Zingales 2005; White and Tadesse 2008; Siegel et al. 2013). To control for this cultural proximity, we use Russett, Oneal, and Cox’s (2000) civilization categories.

**Common legal heritage**—La Porta, Lopez de Silanes, Shleifer, and Vishny show a strong correlation between the historical origins of a country’s judicial system and international economic outcomes (La Porta, Lopez-de-Silanes, Shleifer, and Vishny 1999). Common legal heritage may also account for colonial factors related to economic cooperation. The data were compiled from La Porta et al. This variable is dichotomous and coded as one if the states share a common legal heritage, otherwise coded as zero.

**Migrant stock**—Leblang demonstrates that migrant stocks meaningfully improve information flows and thus investment flows between states (Leblang 2010). We include his measures of migrant stocks, incorporating both the stock in the FDI-receiving state from the sender-state and the stock in the FDI-sending state from the receiver-state. Both measures are logged.

**Common WTO membership**—Blomstrom and Kokko note a direct relationship between World Trade Organization (WTO) membership and FDI. “[T]he WTO regulates FDI incentives in its agreements on Subsidies and Countervailing Measures (SCMs) and Trade-Related Investment Measures (TRIMs)” (Blomstrom and Kokko 2003:19). WTO membership status can be found on WTO’s Web site. The variable is coded as one if both states are member of the WTO, otherwise coded as zero.

**Dual tax treaty**—Taxes can inhibit FDI flows (De Mooij and Edelwein 2001). To redress this issue, states have passed domestic laws, created special tax-free economic zones, and signed international agreements to reduce transaction costs. Dual tax treaties are signed to minimize...
FDI-related costs and to overcome the problem of double taxation. The data are from the United Nations Conference on Trade and Development (UNCTAD). The variable is coded as one if both states are signatories to a dual taxation treaty, and otherwise coded as zero.

Shared PTA—FDI may covary with trade flows and trade agreements (Makki and Somwaru 2004). The data come from Goldstein et al. (2007). The variable is dichotomous and coded as one if the sender-state and receiver-state share an agreement, otherwise coded as zero.

Common exchange rate peg—Exchange rate volatility has been identified as a transaction cost. States can use fixed exchange rates to stabilize a state currency against that of another state. Fixed exchange rates typically make trade and investment easier and more predictable between two states. The data are from Klein–Shambaugh Nature of Exchange Rate Regimes Data (Klein and Shambaugh 2008). The variable is coded as one if the states share a common exchange rate peg, otherwise as zero.

Alliance—Security externalities may exist between allied states, which facilitate investment as well as trade flows. Using the Alliance Treaty Obligations and Provisions (ATOP) data (Leeds, Ritter, Mitchell, and Long 2002), we code dyads that belong to a common alliance as one and those that do not as zero.

Democracy—Lastly, scholars have identified democracy as a key factor for attracting FDI inflows because of the regime type’s ability to commit to sound economic policies (Jensen 2008). To measure regime type, we use POLITY data (Marshall and Jaggers 2008). We adopt the convention of combining the two scales into one single index, which ranges from −10 to 10, with 10 being the most democratic.

Table 2 presents summary statistics of all the variables. The theory posits a direct, positive relationship between foreign/second language variable and FDI levels. We estimate the model using ordinary least squares (OLS) and control for unobserved receiver-state-specific variation with fixed effects. To deal with the potential bias of FDI-receiving states’ inflows from multiple sender-states, we cluster the standard errors on the receiver-states.

Results and Discussion
Table 3 summarizes the results. As discussed above, we vary the lags for the foreign/second language variable from 1 year (Model 1) to 10 years (Model 2) to 20 years (Model 3). Several variables are statistically significant across all three models. Distance has the expected negative effect. States invest less in other states that are farther away. Interestingly, contiguity also has a negative effect. We believe, however, that this captures a geographical trend rather than an economic one: Dominant sender-states tend not to be contiguous with receiver-states, rather than firms being resistant to invest in neighboring states. Receiver-states with larger economies receive more FDI, although sender-states’ economic size does not systematically affect their FDI outflows. Supporting Leblang’s (2010) findings, when a greater migrant stock from receiver-states exists in sender-states, more FDI occurs from the latter to the former. In terms of international institutions, the presence of shared WTO membership, dual taxation treaties, and a common peg for fixed exchange rates increases FDI flows from sender- to receiver-states.

The foreign/second language variable is statistically significant across all three models. Although the 10-year lag shows a slightly smaller effect than the 1-year lag, there is an overall increase in the effect of the foreign/second language education over time. Note that the common official language variable is not significant in any of these models. Because it is such a static measure, the official languages match in only 129 dyads in the analysis. By contrast, the language-in-education policy of a receiver-state matches the official language of a sender-state in 345 dyads. The common official language variable fails to account for variation in FDI flows even in the absence of the foreign/second language measure. This suggests that education policy can manipulate economic actors’ knowledge of languages, which in turn has a large impact on foreign economic relations.

Moreover, the foreign/second language education variable is substantively significant. Because the dependent variable is log-transformed, we interpret exponentiated coefficient estimates as percentage changes in FDI flows. With the 1-year lag, a state that provides instruction in the FDI-sending state language state receives 177% more investments than a state that does not provide such instruction. With the 20-year lag—that is, a state that began offering instructions of the foreign/second language 20 years ago—the state receives 219% greater investments than a state that has not provided such instruction. Admittedly, language-in-education policy changes can produce some immediate benefits by signaling that an FDI-receiving state intends to provide favorable investment conditions. However, the largest impact of these policies occurs in the long run as the proportion of entrepreneurs and workers familiar with the foreign language increases over time. Including all three lags of the variable maintains the size and the significance of the 20-year lag while rendering the other two lags non-significant.²

² The results are available from the authors.
Despite the control variables we include, the findings may result from an omitted variable. Given that the longest lag of the language variable is 20 years, if an omitted variable indeed exists, it is likely a time-invariant factor. The only reasonable dyad-specific factor we exclude from our model is colonial legacy. This variable is collinear with other more important variables—GATT/WTO membership, dual taxation treaty, and the receiver democracy score—but these likely constitute post-treatment variables with respect to colonial legacies. To test for the effect of colonial legacy between two states, we exclude these three variables. We report the results in a supplementary appendix (Table S1), and the results support our findings. The coefficient on the 20-year lagged language variable is indeed larger than in Model 3, although the 10-year lagged variable is negative and significant.

These results withstand a variety of other robustness checks. While we do not report these checks due to space constraints, the results all support our argument. First, rather than creating long lags of the dichotomous explanatory variable, we test the argument with a continuous measure that tracks the number of years that language instruction receives greater FDI. Second, FDI sender-states can also be receiver-states in the data set. This captures the general pattern that OECD FDI outflows generally go to other OECD countries. Excluding OECD receivers of FDI does not substantively alter the results. Third, the United States might be a special case on the basis of its large economy and its usage of English—the de facto international lingua franca. Excluding the United States as both an FDI-sending and receiving state does not alter the results, suggesting that the English language is not driving our argument. Last, pushing this logic further, we exclude the main English-speaking OECD states from our sample (Australia, Canada, Great Britain, New Zealand, and the United States). The effects of the foreign/second language variable become larger after this exclusion. The coefficient estimate doubles in size, which suggests that non-English foreign/second language instruction has a stronger effect on attracting FDI flows from OECD states that use the languages in question.

While these results support our argument, there are still two concerns. Theoretically, English language instruction in schools is common in most countries regardless of their colonial origins. As such, it is possible that while a potential receiver-state (for example, Hungary) does not learn the official language of a sender-state (for example, Japan), their shared knowledge of English might be sufficient to reduce transaction costs, thereby facilitating FDI. Empirically, the analysis excludes some of the larger non-OECD economies, for example, Brazil, Russia, India, and China (BRIC). If potential receiver-states use language strategically to attract FDI, we should observe an increasing educational emphasis on the official languages of these non-OECD countries. In the next section, we address both of these concerns.

**Test 2: Chinese Language and Chinese FDI**

In this section, we shift our analysis to China. Specifically, we examine whether potential receiver-states attract more Chinese FDI when they incorporate Mandarin Chinese into their educational curricula. We focus on China because it is the only BRIC country where the official language is not a former colonial language. This allows us to eliminate colonial connections (for example, Brazil–Mozambique, Russia–Ukraine, and India–South Africa) as a reason for investment decisions. Moreover, outside of China, only one state has Chinese as an official language: Singapore. These conditions ensure that educational incorporation of the Chinese language is driven by economics, rather than cultural affinity, and that the estimated effects of language policies are not confounded by deeper cultural factors.

**Research Design**

The Chinese Ministry of Commerce has data on Chinese FDI (excluding Hong Kong) by receiver-states from the
years 2004 to 2010 (2010 Statistical Bulletin of China’s Outward Foreign Direct Investment). All FDI outflows are recorded in millions and in current USD. All numbers have been transformed and standardized to constant USD. In general, Chinese FDI levels have exponentially increased with each passing year. In 2004 (the first year of the sample), the average FDI across the 158 receiver-states is 7.65 million. By 2010 (the last year of the sample), the same statistic had increased to 110.66 million. Given the non-normal distribution of the variable, we log FDI.

The explanatory variable is Chinese language instruction in FDI receiver-states. The Chinese language case is unique in another sense: Compared to English or French, there is a dearth of Mandarin Chinese teachers. While the global Chinese population is large, the majority of native Chinese speakers with proficiency in Mandarin reside predominantly in China (inclusive of Hong Kong, Macau, and Taiwan). Moreover, the Chinese diaspora population is dialectically heterogeneous, and not all individuals are fluent in Mandarin. This is most evident among immigrant populations from Hong Kong (Cantonese), Taiwan (Taiwanese), and Southeast Asia (Cantonese, Hokkien, etc.). Put differently, a Chinese heritage does not automatically translate into the ability to speak or teach Mandarin Chinese. This suggests that the global supply of native Mandarin Chinese teachers is quite limited. In contrast, a country that needs native English or French teachers has many potential countries from which to recruit these individuals. This is not to say that China is the only country that produces Chinese language teachers, but it is most certainly the largest and primary supplier of these teachers.

Recognizing this situation, the Chinese Ministry of Education has overseen the development of the Chinese National Office for Teaching Chinese as a Foreign Language (herein referred to as “Hanban”). Hanban has established a number of Confucius Institutes (CI) internationally to promote Mandarin Chinese and help foreigners to learn the language. Using the Hanban database, we can determine whether there is a CI in a receiver-state, and if so, we can determine the year the first institute was established. We are interested in whether a CI exists and not the number of CIs. Although established with a clear mission, CIs are still a relatively new phenomenon and their influence is heterogenous. For example, Hungary has three CIs. The largest, the one in Budapest, employs thirty native Mandarin Chinese teachers, and some of these instructors teach fulltime in other cities. This is not the case for the other Hungarian CIs in Miskolc and Szeged. Additionally, the Budapest CI is poised to become the central institute for all CI activities in Central and Eastern Europe. Given these measurement validity concerns, we operationalize Chinese Language as dichotomous. The variable is coded as one if the receiver-state has a CI in year t.

With a few exceptions, the list of control variables remains the same as that in our previous analysis. Distance is measured as the distance between Beijing and the receiver-state’s capital. GDP for the receiver-state is reported in constant USD. As with the OECD sample, both Distance and GDP have been logged. The next five variables are all dichotomous: Contiguous Borders (Department of State), Common Legal Heritage (La Porta et al. 1999), Common WTO Membership (World Trade Organization), Dual Tax Treaty (Lane and Milesi-Ferretti 2004), and Shared PTA (World Trade Organization). Democracy, as with the first analysis, is measured using the combined 21-point POLITY index.

There are a few distinctions between this model and the previous one. First, we leave out the GDP of the sender-state, as China is the only sender in this sample. Similar logic dictates the omission of common official language. Second, we exclude the migrant stock variables and the alliance variables because they are unavailable for this sample. Third, we do not control for common exchange rate peg because the Chinese RMB is pegged against a basket of currencies. Finally, we drop common civilization given the rarity of the event. Only four countries share a common civilization with China: North and South Korea, the Philippines, and Vietnam (Russett et al. 2000). This relationship is already captured by distance and contiguity measures. Table 4 presents summary statistics of all the variables.

**Results and Analysis**

We estimate the model using GLS with standard errors clustered by receiver-state. The results are presented in Table 5. Since we expect the effects of teaching Mandarin Chinese (Chinese Language) may take time to take place, we run a number of models with a different lag specification, starting with no lag (Model 4) and ending with a 5-year lag (Model 9). Across all six models, the coefficient for Chinese Language is in the expected direction: positive. With one exception, the coefficient is always statistically significant. Moreover, as shown in Figure 1, the effects of teaching Chinese have the most sizable impact in the long term. For instance, the presence of a CI 5 years before can increase present-day Chinese investment levels by a shocking ninefold (from USD 23.18 million to USD 213 million). These results strongly corroborate those from the cross-sectional OECD test: When some portion of the population can speak the FDI-sending state’s language, this reduces the need for costly translation services. All else being equal, FDI-sending states prefer minimal transaction costs.

These results indicate a strong and robust relationship between countries with CIs and Chinese FDI. There are, however, three alternative explanations that we need to address. The first concerns the possibility of a spurious relationship: CIs are established in countries where China wants to invest. While China may strategically target countries for future FDI, this cannot theoretically explain why

<table>
<thead>
<tr>
<th>Table 4: Summary Statistics, Test 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>(logged) FDI flow</td>
</tr>
<tr>
<td>Chinese Second Language (t)</td>
</tr>
<tr>
<td>Chinese Second Language (t−1)</td>
</tr>
<tr>
<td>Chinese Second Language (t−2)</td>
</tr>
<tr>
<td>Chinese Second Language (t−3)</td>
</tr>
<tr>
<td>Chinese Second Language (t−4)</td>
</tr>
<tr>
<td>Chinese Second Language (t−5)</td>
</tr>
<tr>
<td>(logged) Distance</td>
</tr>
<tr>
<td>Contiguous Borders</td>
</tr>
<tr>
<td>(logged) GDP: Receiver</td>
</tr>
<tr>
<td>Common Legal Heritage</td>
</tr>
<tr>
<td>Common WTO Membership</td>
</tr>
<tr>
<td>Dual Tax Treaty</td>
</tr>
<tr>
<td>Shared PTA</td>
</tr>
<tr>
<td>Receiver-State Democracy</td>
</tr>
<tr>
<td>N</td>
</tr>
</tbody>
</table>
it would initially develop CIs if language were not an important consideration.

The second alternative explanation involves the effects of signaling. In the OECD analysis, the foreign/second language education coefficient was significant in both the 1- and 20-year lagged models. The magnitude of the later model suggested that the effects of coordinating language-in-education policies with the sender-state’s official language are more pronounced in the long run. However, it is possible that potential receiver-states use their foreign/second language education to signal favorable investment conditions. The results from the China model indicate that this mechanism may be at work. Since no other country (except Singapore) uses Chinese as an official language, the choice to teach Chinese sends a clear signal to Chinese firms that a potential receiver-state wishes to increase its affinity to them. To take a hypothetical example, consider Hungary passing legislation to teach Korean—a language spoken in only the Koreas. Hungary would be sending a definitive signal that it seeks greater interactions with Korean investors. Yet, if Hungary adopted similar legislation to teach English, this signal would be noisier, as English is the official language of multiple countries. Consequently, this mechanism seems more relevant to China and other countries (for example, Korea) whose official languages are not globally common.

To examine which of these two mechanisms—signaling versus transaction costs—has a greater impact on FDI levels, we run a model that includes both the contemporaneous and the 5-year lag of Chinese Language. The results in Model 10 (Table 6) show that when controlling for the two periods simultaneously, the coefficient for the contemporaneous coefficient is in the negative direction and loses significance. In contrast, the coefficient for the 5-year lag remains positive ($b = 1.083$) and statistically significant. These results suggest that signals to Chinese foreign investors are important, but their effects are muted when we take the long-term benefits of reduced transaction costs into consideration. This finding supports our

![Fig 1. Effects of Teaching Chinese on Chinese Foreign Direct Investment](image-url)
Table 6. Assessing Alternative Explanations

<table>
<thead>
<tr>
<th></th>
<th>Model 10 (Signaling vs. Transaction Costs)</th>
<th>Model 11 (Instrument: Lagged Chinese)</th>
<th>Model 12 (Number of Institutes)</th>
<th>Model 13 (Number of Years Matching)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confucius Institute</td>
<td>-0.007 (0.287)</td>
<td>0.353 (0.183)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confucius (t–5)</td>
<td>1.083 (0.640)*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Years Confucius (t–1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(logged) Distance</td>
<td>-0.285 (0.293)</td>
<td>0.086 (0.292)</td>
<td>0.174 (0.245)</td>
<td>0.094 (0.247)</td>
</tr>
<tr>
<td>Contiguous Borders</td>
<td>0.755 (0.774)</td>
<td>0.792 (0.316)**</td>
<td>0.954 (0.363)**</td>
<td>0.827 (0.375)**</td>
</tr>
<tr>
<td>(logged) GDP</td>
<td>0.261 (0.080)**</td>
<td>0.101 (0.49)**</td>
<td>0.091 (0.054)*</td>
<td>0.114 (0.054)**</td>
</tr>
<tr>
<td>Common Legal Heritage</td>
<td>-0.671 (0.478)</td>
<td>-0.201 (0.263)</td>
<td>-0.187 (0.292)</td>
<td>-0.194 (0.295)</td>
</tr>
<tr>
<td>Common WTO Membership</td>
<td>-0.172 (0.352)</td>
<td>-0.221 (0.222)</td>
<td>-0.196 (0.259)</td>
<td>-0.181 (0.261)</td>
</tr>
<tr>
<td>Dual Tax Treaty</td>
<td>-0.106 (0.393)</td>
<td>-0.016 (0.239)</td>
<td>0.067 (0.285)</td>
<td>0.017 (0.281)</td>
</tr>
<tr>
<td>Shared PTA</td>
<td>0.611 (0.307)**</td>
<td>0.230 (0.211)</td>
<td>0.293 (0.256)</td>
<td>0.265 (0.257)</td>
</tr>
<tr>
<td>Democracy</td>
<td>-0.018 (0.023)</td>
<td>-0.014 (0.014)</td>
<td>-0.024 (0.015)</td>
<td>-0.021 (0.015)</td>
</tr>
<tr>
<td>Dependent Variable (logged)</td>
<td>0.450 (0.082)**</td>
<td>0.606 (0.057)**</td>
<td>0.525 (0.041)**</td>
<td>0.527 (0.041)**</td>
</tr>
<tr>
<td>Constant</td>
<td>5.874 (3.060)**</td>
<td>3.539 (2.233)</td>
<td>4.158 (2.490)*</td>
<td>4.327 (2.561)*</td>
</tr>
<tr>
<td>N</td>
<td>177</td>
<td>502</td>
<td>502</td>
<td>502</td>
</tr>
<tr>
<td>Wald $\chi^2$</td>
<td>182.63***</td>
<td>57.78***</td>
<td>566.87***</td>
<td>451.73***</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.5139</td>
<td>0.5114</td>
<td>0.5134</td>
<td>0.5107</td>
</tr>
</tbody>
</table>

(Note. Robust standard errors reported and clustered by receiver-states. * $p < .100$, ** $p < .050$, *** $p < .010$.)

claim that receiver-states can—and do—coordinate language-in-education policies to attract FDI.

The third alternative explanation that merits attention is endogeneity. Countries may manipulate their language-in-education policies in response to existing FDI. To address this issue, we employ an instrumental variable regression estimator. Specifically, we use the lagged Chinese Language variable as an instrument. While the correlation between current and lagged Chinese Language is high, the results from a simple regression including both variables suggest that the lagged value is not a significant determinant of FDI flows ($p = .64$). This confirms the sufficiency of lagged Chinese Language to meet the exclusion criterion. As shown in Model 11, using an instrumental variable allows the results for Chinese Language to remain consistent with those in Table 5. Taking into consideration any possible endogeneity, the presence of a CI has a significant and positive effect on FDI levels.

Admittedly, the use of a dichotomous measure ignores the variation across CIs. As an alternative, we use two different count measures. The first measure, consistent with Lien et al. (2012), is the logged number of CIs (plus one) in country $i$ in year $t$. We log this number due to its non-normal distribution: The United States in 2010 has more than 60 CIs. By contrast, the rest of the world has a median of one CI and a mean of two in the same year. The second count measure examines the number of years that a country has had a CI. This measure not only provides another test of the overtime transaction-cost-reduction mechanism, but it also allows us to disaggregate the effects of older CIs from those of the younger institutes. The results in Models 12 and 13 confirm the overall claims of this article: FDI levels increase when languages match, and FDI increases as the proportion of population proficient in the matched language increases.\(^5\)

\(^5\) The results are robust to different lags and a raw count measure.

Test 3: Chinese FDI in Indonesia

We now process-trace the China–Indonesia dyad from the previous section and examine the link between teaching Mandarin Chinese and Chinese FDI. We chose Indonesia for two reasons. First, Indonesia is an example of what Seawright and Gerring (2008:301–302) would call an extreme case: Chinese FDI levels in Indonesia are high. From a relative standpoint, Indonesia has generally attracted more than one standard deviation of the average global Chinese FDI. From an absolute standpoint, Chinese FDI in Indonesia has steadily increased in recent years (2010 Statistical Bulletin of China’s Outward Foreign Direct Investment). Figure 2 shows both trends. While the economic sectors involved have been diverse, some of the largest investments have been in energy. Chinese companies are heavily involved with Indonesia’s energy development program, which is currently in its second iteration. In the first program, nine out of the ten projects were Chinese-managed (Xinhua 2011).

Second, Indonesia is a deviant case (Seawright and Gerring 2008:302–303). We should observe low levels of Chinese FDI, and yet, we observe substantial investments. For instance, despite both countries’ location in East Asia, the geographical distance between Beijing and Jakarta is approximately the same as Beijing and Tehran. Augmenting this distance is the absence of a shared border, a lack of common cultural heritage, and incongruence in regime type. In addition to not sharing a common civilization, Indonesian–Chinese ethnic relations have also been hostile for a long time.

During Suharto’s tenure in Indonesia (1965–1998), China–Indonesia relations were antagonistic. Domestically, the Indonesian government repressed the Chinese minority. In 1965, following a failed coup allegedly masterminded by the Indonesian Communist Party (PKI), the Suharto-led military pursued an anti-communist purge. Since many Chinese in Indonesia were supposedly PKI members, the purge took on an ethnic dimension. The exact numbers vary, but as many as 1.5 million were killed in this purge. When Suharto assumed legal power in 1968, his fear of the “possibility of [communist] subversion and infiltration” characterized many of his domestic policies (Soeharto 1991:230). His government created specific intelligence security bodies to monitor the Chinese and any possible communist activities.

Additionally, the Indonesian government tried to eliminate any semblance of a distinct Chinese culture. The
government required Chinese surnames to be replaced with Indonesian names, curtailed Chinese New Year celebrations, and prohibited public displays of the Chinese language. Most importantly for our analysis, the Indonesian government shut down Chinese schools and banned the teaching of the Chinese language. In the wake of the 1997–1998 East Asian financial crisis, the Chinese community was targeted once again. There were reports of arson against Chinese-owned businesses and sexual attacks on Chinese women. With escalating violence, ethnic Chinese fled Indonesia en masse with their assets, which were in excess of USD 20 billion (Napier 1999).

Internationally, China–Indonesia relations were just as cold. Although Indonesia was technically non-aligned during the Cold War, the general global perception was that Indonesia was in the Western camp. Moreover, many Indonesians believed that China had supported the PKI in the 1960s (Soeharto 1991). Given Indonesia’s historic hostility toward its own Chinese minority and toward China itself, the choice of Chinese firms to invest in Indonesia is very puzzling. We assume that a country lacking many of the positive attributes for Chinese investment—such as geographical proximity, border contiguity, and historical/cultural affinity—would have very low levels of FDI from China, yet Chinese FDI is quite high in Indonesia.

What explains Chinese FDI levels in Indonesia? The answer, we argue, is newer language-in-education policies, specifically the teaching of Mandarin Chinese. Since Suharto’s removal from office (1998), the Indonesian government has re-introduced Chinese into its educational curricula. Currently, Chinese is an optional class taught two or three times a week at the kindergarten-grade 12 (K-12) levels. Similar language instruction exists at the university level. Today, one out of every five universities, including Indonesia University in Depok and Gadjah Mada University in Yogyakarta, offers Chinese language and culture—compared to only 5% one decade ago (Tsai 2010). At Batam International University in Riau Province, proficiency in Chinese or English is strongly encouraged. And at Sin Tjong University, Chinese, English, and Indonesian are all mediums of instruction (Handoko 2008). Outside formal educational institutions, many private language centers offer Chinese and English (Handoko 2008). The first CI was established in Jakarta in 2007. Since then, six other CIs have opened throughout the country (Confucius Institute 2011).

For the ethnically Chinese–Indonesians, learning Mandarin Chinese is not simply a cultural attempt to “rediscover or salvage their Chineseness” (Handoko 2008:15). There is also an economic component that makes learning Chinese akin to learning English. For instance, “Chinese is growing in importance in terms of business activities in Indonesia with more and more companies listing ability to speak Mandarin Chinese as one of their requirements for employment” (Handoko 2008:14). Companies like to recruit Chinese majors (Tsai 2010). Similarly, in a rice-growing region of Java, Chinese is an obligatory subject because “Indonesian authorities now realize that there is huge economic advantage in reaching and learning from its economic compatriots... [W]ithout it and a global reach [Indonesian is] not going to make it” (Money Morning 2012).

There is a clear link between teaching Chinese and Chinese FDI in Indonesia. But are the language-in-education policies preceding or following the investments? While the two go hand-in-hand, evidence supports the former theory. In 2000, when Indonesia’s aggregate FDI inflow was negative (Thee 2006), President Abdurrahman Wahid reversed many of his predecessor’s anti-Chinese policies, including the no-Chinese-in-the-classroom ban. Since 2005, Chinese FDI in Indonesia has steadily increased from USD 11.8 million to 205 million (see Figure 2). The effect of the first CI (2007) is even more dramatic. Prior to 2007, Chinese FDI levels were largely within one standard deviation of the global average, but since 2007, investment levels have skyrocketed. This suggests that language policies have been instrumental—and successful—in attracting Chinese FDI. Consequently, in 2012, Indonesian President Susilo Bambang Yudhoyono (SBY) and Chinese President Hu Jintao met in Beijing to discuss increasing bilateral partnership. They negotiated improving this partnership by expanding “cultural and people-to-people exchanges by increasing cooperation in the area of education...” (Xinhua 2012). In turn, SBY stated that Indonesia would “welcome Chinese companies to increase investment in the country and participate in the major infrastructure projects” (Xinhua 2012). Cai Jincheng, director of Bahasa Indonesia and Malay Language Study Program at Guangdong University, echoed this.
position, arguing that “by mastering the languages of each country [China and Indonesia] through cultural exchange program, people in both countries would take the benefit from smooth communications aimed at boosting up the economic ties” (Xinhua 2010).

Language-in-education policies are clearly important and useful instruments to attract FDI. When a potential receiver-state teaches the sender-state’s language, this reduces transaction costs, thereby making the former more attractive for investments. However, how does the importance of language compared to alternative explanations? In the large-$N$ analysis of Chinese FDI, only one control variable was statistically significant across all model specifications: GDP of the receiver-state. The size of Indonesia’s economy—much of it due to natural resources—has been a large factor in FDI inflows. It is, after all, the fifteenth largest economy in the world today (Central Intelligence Agency 2012). Note, however, that the substantive effect of receiver-state GDP is smaller than that of the foreign/second language variable in the large-$N$ analysis. In other words, Chinese Language alone accounts for 0.10 of the variance; in contrast, logged GDP accounts for 0.09. Second, a model that focuses only on GDP explains less variance than one that includes Chinese language learning. In short, our objective is not to trivialize the effects of GDP, but to demonstrate that teaching Chinese has had a positive effect on Chinese FDI flow in Indonesia independent of its economic size.

We also consider the effects of ethnic politics. The social and political climate in Indonesia under Suharto was hostile to Chinese investment. As discussed above, the Chinese minority in Indonesia faced political repression, and China–Indonesia relations were tepid at best. Poor cultural relations and a repressed diaspora network should have deterred investments. Given these conditions, specific policies that improved Indonesia’s climate for Chinese investment—particularly teaching the Chinese language—have been important. Figure 3(a) provides the evidence. In spite of the historical and cultural clashes, Indonesia has attracted Chinese FDI levels far beyond theoretical expectations. And while Indonesia’s GDP is sizeable, there are simply too many residual effects that cannot be explained by GDP alone (as illustrated in Figure 3b). Here, we argue that Chinese language instruction—captured by the presence of CIs—has played an important role in reducing long-term transaction costs.

Conclusion
The Trinidad government passed a bill in 2005 that made Spanish a mandatory class in schools and basic Spanish proficiency a requirement for all civil servants. Economic factors drove this choice to elevate Spanish. There were two major considerations. First, by “adopt[ing] the language of Venezuela, the hemisphere’s biggest oil producer, Trinidad hope[d it would be able] to strengthen its own oil and natural gas industries” (Davies 2005). Second, once Trinidad secured a seat on the Free Trade Area of the Americas, having a workforce “linguistically competent” in Spanish would yield sizable economic benefits (Davies 2005). This development in Trinidad is one of many examples of governments using language to attract FDI. Specifically, when governments coordinate their language-in-education policies to match the official language of a sender-state, this can reduce economic transaction costs, thereby encouraging FDI.

In addition to explaining the behavior of governments like Trinidad’s, this article makes a twofold contribution. Theoretically, we argue that language constitutes a dynamic instrument rather than a static policy. A language need not be “official” to reduce transaction costs. What matters instead is that a state’s future workforce learns this language in school and becomes proficient in it to some degree. In this manner, the predominant focus on countries’ official languages in the literature has been misplaced. Empirically, we introduce a new variable that improves the widely employed yet grossly static CEPII measurement. Analyses of international economic flows will likely find more significant effects of languages when they use our language-in-education measure rather than the official language measure that does not vary over time.

The findings in this article also provide an impetus for future research. The current analysis can benefit from extending the coverage of countries. While our analysis was limited by the availability of bilateral FDI data, such data are becoming available. Greater availability of south–south FDI data will enable a wider analysis of the role that BRIC languages play in the international economy. Another avenue might consider the reverse mechanism of the one we advance in this article. Rather than using language-in-education policies to attract FDI, do governments also use similar policies to retain extant FDI? Put differently, do the linguistic origins of FDI already in the country shape language-in-education policies? As addressed above, the possibility of this reverse mechanism
does not pose an endogeneity challenge to our argument and analysis. Moreover, unlike our analysis, analyzing this mechanism will require data on FDI stocks rather than flows. This question is an important one to address on its own right, especially given the possibility of foreign influence on domestic policies.

Lastly, the implications of this research extend beyond analyses of international economic exchanges. The role of languages and language policies is an understudied phenomenon in international relations. Proficiency in a shared language is a basic necessity for political actors across countries to interact smoothly, even in the presence of interpreters. For central decision makers, shared language proficiency can shape international diplomacy. For bureaucrats, it can affect international bargaining and negotiations. And for the broader public, it can influence people’s level of understanding and perception of other countries. Further research into these phenomena will enhance our understanding of international relations as well as of the role that language and language policies play.

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Moonhawk Kim et al. 343


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Southeast Asia Language Policy in Malaysia. In Institutions and Foreign Direct Investment Inflows to Developing Countries. International Organization 57 (1): 175–211.


Supporting Information

Additional Supporting Information may be found in the online version of this article:

Table S1. Colonial Legacy and FDI.