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Working Paper

The effects of trade, aid, and investment on China's image in developing countries

Discussion Paper Series, No. 646

Provided in Cooperation with:

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Suggested Citation: Eichenauer, Vera Z.; Fuchs, Andreas; Brückner, Lutz (2018) : The effects of trade, aid, and investment on China's image in developing countries, Discussion Paper Series, No. 646, University of Heidelberg, Department of Economics, Heidelberg, <https://doi.org/10.11588/heidok.00024209>

This Version is available at:

<http://hdl.handle.net/10419/179275>

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**The Effects of Trade, Aid, and Investment
on China's Image in Developing Countries**

Vera Z. Eichenauer, Andreas Fuchs and Lutz Brückner

March 2018

The Effects of Trade, Aid, and Investment on China's Image in Developing Countries

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Abstract: One goal of China's Go Out policy is to create goodwill in countries around the world. At the same time, China's growing economic engagement has provoked much criticism. This paper is the first to study whether these activities change the attitudes of individuals in developing countries towards China at both the national and subnational level. Using repeated cross-sectional survey data from the Latinobarómetro, we analyze whether and how growing amounts of exports, foreign aid, and foreign direct investment from China to Latin America affect opinions on China within 18 Latin American countries over the 2002-2013 period. We run instrumental-variables regressions by exploiting exogenous variation in the supply of Chinese exports, aid, and investment proxied by China's market penetration of developing countries outside Latin America. In contrast to the widespread criticism, we do not find evidence that China's growing economic activities in the respective countries deteriorate average attitudes towards China—neither at the national nor the provincial level. However, our results show that the young, educated, and economically privileged population develops more positive views of China. We interpret this as evidence that China's economic engagement creates winners and losers.

JEL classification: F14, F15, F21, F35, F61, O54, P33

Keywords: public opinion, exports, development assistance, foreign direct investment, China, Latin America, anti-Sinicism, soft power

Acknowledgements: We thank Tilman Brück, Axel Dreher, Kai Gehring, Arevik Gnuzmann-Mkrtchyan, Rubén Gonzalez-Vicente, Rajshri Jayaraman, Sarah Langlotz, Pierre-Guillaume Méon, Albert Park, Brad Parks, Maria D. Tito, and Joseph Wright; as well as seminar participants at Heidelberg University (January 2016), the National University of Singapore (March 2016), the University of Zurich (September 2016), and the University of Goettingen (June 2017). The paper also hugely benefited from comments from participants at the following workshops and conferences: the Workshop on Foreign Direct Investment and Multinational Corporation at the University of Mainz (November 2015), the Annual Meeting of the European Public Choice Society at the University of Freiburg (March 2016), the Spring Meeting of Young Economists at the ISCTE-IUL Lisbon (March 2016), the Annual International Conference of the Research Group on Development Economics of the German Economic Association at Heidelberg University (June 2016), the Development Economics Conference “Göttinger Schule” at the University of Goettingen (July 2016), the Beyond Basic Questions Workshop at the University of Salzburg (July 2016), the International Political Economy Society Conference in Durham (November 2016), and the Workshop “Experiments in Foreign Aid Research: Views from Donor and Recipient Publics” of the University of California in Washington, DC (April 2017). Lutz Brückner is grateful for support from the City University of Hong Kong and the Hong Kong University of Science and Technology, where part of this research was carried out. Vera Z. Eichenauer and Andreas Fuchs are grateful for generous support from the German Research Foundation (DFG) in the framework of the project “The Economics of Emerging Donors in Development Cooperation” at Heidelberg University (DR 640/5-1 and FU 997/1-1). We further thank Jamie Parsons for proofreading earlier versions of this article.

1. INTRODUCTION

One of the keys to a country's international success is its image abroad. First, favorable opinions held by foreign citizens pay off economically. Economic research suggests that countries trade more with countries with which their citizens have stronger affinity (Disdier and Mayer 2007) and a higher level of trust (Guiso et al. 2009). Trade ties are also stronger if citizens admire a trading partner's global influence (Rose 2016, forthcoming).¹ Conversely, a bad image can also impose economic costs on countries by causing foreign consumers to launch boycotts (Antoniades and Clerides 2015; Heilmann 2016; Pandya and Venkatesan 2016). Second, favorable attitudes held by a foreign country's populace also appear to enable closer cooperation in non-economic dimensions of foreign policy (Nye 2004; Goldsmith and Horiuchi 2012). Public opinion is of importance since a foreign country's citizens can exert influence on political decisions regarding international cooperation by approving or disapproving of the actions of their respective political leaders (Milner and Tingley 2013). Highlighting the role of public opinion, Goldsmith et al. (2014: 90) expect that the United States and China "increasingly seek to pursue their international interests through currying favor among foreign elites and publics" to avoid the economic costs that would arise from violent conflict.

Despite the economic and political benefits associated with "soft power," the formation of attitudes towards foreign countries is poorly understood. The significant growth in Chinese economic presence in Latin America over the last two decades make this an ideal case to study the link between the international economic activity and public opinion formation in developing countries. Since the turn of the millennium, China has developed from being a minor actor with virtually no presence in Latin American countries to being one of their most important economic partners.² China's sudden arrival on this continent stands in contrast to its widespread and sustained expansion in Africa and Asia since the 1950s (Dreher and Fuchs 2015).

Unsurprisingly, China's emergence in Latin America is the subject of fierce debate among policymakers and analysts. The wide range of perceptions held about China's development impact in middle- and low-income countries is summarized as "monster or messiah" (Sun 2014) or "angel or devil" (Santiso 2007) by scholars and policymakers. Latin American media outlets also paint a mixed picture of China's economic engagement. While China has been praised for its business potential, concerns related to sustainability, the environment, trade inequality, and intellectual property rights receive considerable negative news coverage (Ospina Estupinan 2017). Under the assumption that individuals alter attitudes in response to China's growing economic activities, we expect to observe that China's sharply growing trade, aid, and investment affect local citizens' attitudes towards China.

¹ Similarly, Guiso et al. (2009) find poor bilateral trust levels to reduce portfolio and direct investment between countries.

² Most notably, China's OFDI in Latin America increased 200-fold between 2003 (US\$ 15 million) and 2012 (US\$ 3 billion).

Using representative repeated cross-sectional survey data from the Latinobarómetro, we analyze whether the growing amounts of exports, foreign aid, and foreign direct investment from China to Latin America affect individuals' opinions of China across 18 countries over the 2002-2013 period. The relationship between public perceptions and economic cooperation is likely to be reciprocal: economic cooperation can influence perceptions and vice versa.³ To account for the endogeneity of China's economic activities abroad, we construct instrumental variables from the interaction between a time-varying exogenous variable with a variable that varies along the cross-sectional dimension (e.g., Werker et al. 2009; Nunn and Qian 2014). Inspired by the "China shock" instrument of Autor et al. (2013), time variation of the instrument stems from the market penetration of developing countries outside Latin America with Chinese exports, aid, and investments, respectively. To account for potential confounding factors, our regression specification includes standard individual-level parameters, time-varying country-specific economic and political characteristics, and year- and country-fixed effects. To benchmark our results for China, we also analyze the link between the United States' foreign economic activities and Latin American attitudes towards the United States.⁴

To the best of our knowledge, this paper is the first multi-country study to investigate the causal effects of China's economic activities on its public perception in developing countries.⁵ In doing so, we contribute to the literature on attitudes towards international integration (Scheve and Slaughter 2001; Baker 2003; Mayda and Rodrik 2005; Kono 2008; Mansfield and Mutz 2009, Chilton et al. forthcoming; and many more). The studies closest to ours are Kleinberg and Fordham (2010) and Hanusch (2012). The former find some evidence of a significant negative association between Chinese exports and unfavorable views of China in a sample of 47 countries. The latter shows that Chinese exports correlate negatively with favorable public opinion about China in Africa but finds the opposite to be true for Chinese investment. Since both papers only rely on cross-sectional variation, both sets of results might be biased, for example, because China chooses the location of its economic activities based on favorable public opinion. Our paper offers a decade-long analysis with a causal identification strategy. It is also the first quantitative analysis of opinions towards China in Latin America; the existing scholarly contributions rely on qualitative evidence only (Hearn 2012; Cornejo et al. 2013).

To foreshadow our findings, our causal estimates show no average effects of China's economic activities—be it trade, aid, or investment—in the respective countries on attitudes towards China. This

³ Hearn (2012) investigates resentment towards Chinese communities in Mexico and Cuba. He concludes that the frequent public reservations towards China have prevented these two countries from strengthening their bilateral ties with Beijing. Cornejo et al. (2013) focus on Mexican perceptions and conclude that, although opinions regarding the People's Republic are heterogeneous, the general lack of trust towards China represents an obstacle for closer cooperation.

⁴ Dietrich et al. (2018) discuss the role of public opinion for the United States. They highlight that "the maintenance of [its] global image [is] a central pillar of foreign policy, akin to elite-level diplomacy and the manufacturing of armaments."

⁵ Work by Blair and Roessler (2016) on Liberia shows that respondents in closer proximity to Chinese aid and investment projects have better perceptions of China but their data does not allow them to analyze variation over time.

null finding is robust to a battery of robustness checks where we introduce various changes to the sample, measurement of our variables, lag structure, and estimation method. This also holds when we analyze the effects of Chinese aid at the provincial rather than national level. We find more nuanced effects when analyzing the effects of Chinese activities for different strata of the population. Chinese aid and investment contribute to the formation of a more positive image among the educated and economically privileged population. China's economic engagement also appears to contribute to more polarized opinions on China: more individuals develop either *very* positive or *very* negative opinions on China. We interpret this as suggestive evidence that China's economic engagement creates winners and losers. Finally, in contrast to Chinese aid and opinions on China, we find that US aid is positively associated with opinions of the United States.

Sensitivity towards the Chinese economic presence is high among the Latin American public. Chinese investors have a reputation of holding low labor and environmental standards. In some instances, this has led to protests.⁶ Critics denounce that Chinese investors bring their own laborers and thus do not contribute to—or even crowd out—domestic employment (Bräutigam 2009: 227ff). These developments provoked statements such as those made by Neil Dávila, then president of Mexico's federal agency for the promotion of foreign commerce and investments: “We do not want to be China's next Africa” (Fumento 2014: 1). Carlos Zúniga, a Nicaraguan Central America Free Trade Agreement (CAFTA) negotiator, referred to China as “an awakening monster that can eat us” (cited as in Gallagher and Porzecanski 2010: 1). The dramatic increases of Chinese exports to Latin America have also given rise to concerns about potential adverse effects such as the competitive pressure on local companies and the potentially negative implications for domestic employment (e.g., Jenkins et al. 2008; Sargent and Matthews 2009; Jenkins 2012).⁷ According to Gallagher and Porzecanski (2010: 51), China “threatened” 92 percent of all Latin American manufacture exports in 2009 in the sense that Latin American manufacturers' market share of those products increased at a slower rate than China's (in some cases it even decreased). Chinese goods are often perceived as being associated with bad quality as well as with poor safety standards. This is why Mildler (2010: 1) even refers to the label Made in China as a “mark of shame” (see also Ramo 2007). If such negative perceptions of China dominate among the citizens throughout Latin America, we would expect a deterioration of attitudes towards China as its economic presence increases.

⁶ A recent example is a Chinese plan to build a 278 km-long canal through Nicaragua for US\$50 billion. The Economist (2014) reports that this ambitious project might impair the livelihoods of thousands of local residents and destroy the country's largest domestic water reservoir. Latin American workers also protest against the labor standards of Chinese firms and against the hiring of migrant workers from China, such as in the case of the Shougang Hierro mine in Peru (Romero 2010; Parish-Flannery 2012).

⁷ In fear of a flood of low-cost products from the People's Republic, policymakers across Latin America have reacted by imposing trade restrictions for some Chinese imports. According to Kotschwar (2014), between 2008 and 2013, Latin American countries launched a total of 75 trade restrictions against China. This accounts for 70 percent of Latin America's total trade restrictions that were introduced against foreign products during that period.

At the same time, there are reasons why China's economic engagement could translate into an improvement of attitudes towards China over time. This could be caused either directly by economic benefits of trade, aid and investment that accrue to Latin American citizens, or indirectly by the effects observed by peers or portrayed in the media. First, regarding trade, economic theory suggests that consumers benefit as imports expand the variety of available products and yield lower prices (Krugman 1979; Feenstra and Kee 2009: 245f). According to the IMF, the strong increases of raw commodities exports to China were associated with significant terms-of-trade improvements for countries such as Brazil and Chile (Elson 2014), contributing to their robust GDP growth during the past decade.⁸ Second, economists have argued that foreign investments can generally enlarge the existing stock of knowledge via training, skill diffusion, and other forms of knowledge transfer (e.g., DeMello 1997). Such human capital development and potential spillovers from higher salaries paid by foreign firms to the work force employed locally would yield benefits for the domestic economy (Blomström and Kokko 1998; Zhang 2001; Görg and Greenaway 2004). If such beneficial effects are apparent and salient to citizens, they could cause an improvement of China's image. Third, turning to foreign aid, the Chinese government uses aid projects explicitly to promote friendship with foreign countries (Lum 2009). Some Chinese aid projects, such as the China-Peru Friendship Center in Lima, even carry this purpose in their titles. As argued by Goldsmith et al. (2014), in order to affect opinions, aid needs to be need-oriented, long-lasting and visible. An important precondition is that the recipient population associates the aid project with the donor country (Dietrich et al. 2018). Ultimately, it is an empirical question whether individuals perceive an impact, attribute any consequences to Chinese economic activities, and—if opinions are affected—whether positive or negative effects dominate in the formation of their opinions.

In the remainder of the paper, we proceed as follows: Section 2 introduces the data and explains our instrumental-variables approach to estimate the causal effects of China's economic activities on individual attitudes towards China. In Section 3, we present our main results at the national level and test the robustness of these findings. We also analyze the effects of Chinese aid on opinions towards China at the provincial level. A comparison with the United States' economic activities in Latin America serves as a benchmark. The final section concludes and highlights the implications from our findings.

2. DATA AND EMPIRICAL STRATEGY

2.1 Dependent variable

In order to empirically test how attitudes towards China change in response to the country's growing economic engagement in Latin America, we employ data drawn from eleven waves of the representative survey Latinobarómetro (Corporación Latinobarómetro 2015). The data cover the years 2002 to 2011 and

⁸ At the same time, concerns about a potential overreliance of Latin American countries on their raw commodity exports to China loom large (Jenkins 2012; Kotschwar 2014). With the fall of commodity prices since 2014, the vulnerability of Latin America's industries has become visible (Gruss 2014).

the year 2013. They consist of eleven repeated cross-sections with individual respondent data nested in 178 different clusters at the country-year level.⁹ Interviewers conducted face-to-face interviews on an (almost) annual basis in 18 Latin American countries. Country samples are (sub)nationally representative.¹⁰ The sample size at the country-year level varies between 458 and 1,095 respondents during the time period under analysis.

Our dependent variable is based on the following question: “Do you have a very good, good, bad, or very bad opinion of {x}?” where “{x}” is replaced by either China or—for comparison—the United States.¹¹ Following common practice (e.g., Mayda and Rodrik 2005; Kleinberg and Fordham 2010), we exclude in our main analysis all respondents who answered “Don’t know” and “No answer” when asked about their opinion on China.¹² Figure 1 compares Latin Americans’ perceptions of China to the region’s hegemon, the United States. The countries above the 45-degree line, mostly Central American countries, are those that have a relatively better opinion of the United States, while those below the line, including the two largest Latin American countries Brazil and Mexico, are relatively more sympathetic to China. As can be seen from Figure 2, attitudes also show considerable variation over time.

For our baseline specification, we recode respondents’ answers on the four-step scale in a binary variable *ChinaOpinion*, which takes the value of one when the respondent’s opinion on China is very good or good, and zero if it is bad or very bad. This procedure is in line with other empirical papers analyzing individual-level survey data (e.g., Mayda and Rodrik 2005; Kleinberg and Fordham 2010) and takes into account that participants’ answers tend to center around the median as they prefer moderate responses to extreme ones.¹³ The average probability of Latin American respondents holding a favorable opinion about China is 77 percent. Favorability rates for China are highest in Honduras, followed by Paraguay and Nicaragua over the 2002-2013 period (see column 1 of Table 1). Venezuela ranks in the 4th position of the China sympathizers, which is in line with expectations in light of the country’s socialist stance.

⁹ A panel structure would be preferable for this kind of analysis but such data are not available at the individual level. Yet, since the samples in each country-year cluster are drawn randomly from the respective cluster sample population, the independence assumption about the data distribution holds (Wooldridge 2010: 146). Note also that there are no survey data available for the Dominican Republic in 2002 and 2003. Thus, we obtain 178 instead of 180 clusters. Data for 2012 are not available.

¹⁰ See the website of the Latinobarómetro (<http://www.latinobarometro.org/latContents.jsp>; last accessed on 12 November 2017) for details on the survey methodology.

¹¹ Some survey waves also include questions about the respondents’ opinion on certain other countries, such as Spain, Japan, and the European Union. However, apart from China and the United States, no entity is covered in all waves.

¹² This is the case for one quarter of all respondents in our sample. We also tested whether China’s economic engagement affects whether people have an opinion on China. This is not the case (results available upon request).

¹³ Below we test the robustness of our results to this decision by altering the definition of our dependent variable.

2.2 Variables of interest

China's economic presence in Latin American is apparent to citizens through its exports, foreign aid, and investments. Data on *Chinese exports* in US dollars are obtained from UN Comtrade (2015) via the World Bank's World Integrated Trade Solution (WITS) database. Information on *Chinese aid* in US dollars originate from AidData (Dreher et al. 2017; see also Strange et al. 2017). The database covers Chinese development projects that would comply with OECD standards on either Official Development Assistance (ODA) or Other Official Flows (OOF).¹⁴ Finally, data on *Chinese OFDI* stocks in US dollars come from the annual Statistical Bulletin of China's Outward Foreign Direct Investment published by the Ministry of Commerce (MOFCOM 2010, 2012, 2013).

We divide all three variables of interest by the GDP of the respective Latin American country to relate China's economic activities to the size of the respective economy (see Kleinberg and Fordham 2010 and Hanusch 2012 for a similar approach; GDP data from World Bank 2016). We use the average of the one- and two-year lag of the respective variables for three reasons. First, by using lags, we assure that the survey does not predate China's economic activities. Second, the usage of lags averaged over two years allows us to smooth our variables of interests: all three activities, and aid commitments in particular, are very volatile. Third, new Chinese OFDI and aid projects are agreed upon several months before the actual project starts and it takes time until the population can experience the effects.¹⁵ In analogy to the China case, we also construct corresponding variables on *US exports*, *US aid*, and *US OFDI* (data from UN Comtrade 2015 and OECD 2017).

Columns 3-8 of Table 1 rank the Latin American countries by the absolute amount of Chinese and US exports, OFDI, and aid, respectively, and shows the associated financial values (in millions of constant 2010 US dollars). Brazil heads the lists of Chinese exports and investments, while most of Chinese aid flows into Venezuela. Mexico is the most important destination of US exports and investment, while Colombia is the United States' favorite aid recipient in Latin America.

2.3 Control variables

We include control variables both at the country and at the individual level. At the country level, we employ three variables to capture the economic situation of China's partner countries: a country's logged *GDP per capita*, *unemployment* rate (both from World Bank 2016), and logged *inflation* rate (data from

¹⁴ We include only projects that have at least reached the commitment stage, i.e., we exclude pledged, canceled and suspended projects, and remove so-called umbrella projects to assure that financial values are not double-counted (see Dreher et al. forthcoming for a similar approach). The data are highly correlated with data from Gallagher and Myers (2014) on economic loans. Since their loan data are less comprehensive than a general official finance database and only available since 2005, we use the AidData data instead. To give an impression of the sectoral composition of the data, we list the 25 largest projects in Online Appendix A1.

¹⁵ At the same time, the lag length should not be too long as opinions might already be affected by announcements of investment and aid projects. We look at various lag lengths in our robustness check section.

IMF 2014). Moreover, we include *trade openness*, i.e., the sum of exports and imports as share of GDP (World Bank 2016), to account for a country's dependence on international trade.¹⁶

In addition, we include three political variables at the country level. First, we add a binary variable *left government* that takes a value of one if the chief executive's party is communist, socialist, social democratic, or any other type of left-wing (data from Beck et al. 2001, own update). This variable aims to capture the possibility that individuals living in countries governed by a left-wing government might develop more favorable views on communist China. Second, we add a country's level of *democracy* using data from the Polity IV Project (Marshall et al. 2013). Fuchs-Schündeln and Schündeln (2015) find that individuals' support for democracy increases the longer they live in a democracy. Accordingly, Latin Americans living in more democratic societies might thus develop a less favorable view of autocratic China. Third, we add a binary variable *Chinese leader visit*, which takes a value of one in the years of a visit of a high-ranking Chinese leader (see Online Appendix A2 for definition and sources). Chinese leader visits are often associated with huge investment and financing deals and typically receive a lot of media coverage (Lin et al. 2017; Fuchs forthcoming) and could thus alter locals' perceptions.

At the individual level, we account for a set of variables that are commonly employed in analyses of individual perceptions (see, for example, Mayda and Rodrik 2005; Bjørnskov et al. 2013; data from Corporación Latinobarómetro 2015). *Age* is a continuous variable that measures the respondent's age in years. *Female* is a binary variable coded one if the respondent is a woman. *Employed* is a binary variable coded one if the respondent is currently employed or self-employed. Students' perceptions of China might differ from the average non-employed citizens and we thus include a binary variable *student*. The variable *education* proxies for the respondent's educational level on a seven-point scale. It ranges from zero for illiterate respondents to six for those with a completed university degree. *Wealth* is a continuous variable based on the respondent's ownership or access to nine basic goods, including drinking water, a refrigerator, and television. Finally, *urban* is a binary variable coded one if the respondent lives in a city with more than 50,000 inhabitants. The expected effects of many of these variables on attitudes towards China are ambiguous. While more educated people are typically more internationalist, expectations are less clear when it comes to wealth. As Zixiao and Zweig (2009: 470) note, a poor individual "may have a favourable attitude towards China's increasing economic power, because it means he can buy manufactured goods cheaply; but he also has reasons to harbor an unfavourable attitude towards China, because it might threaten his job."

In addition to those commonly included socio-demographic variables, we include two supplementary controls, which are potentially relevant for individuals' perceptions of China (Gries and

¹⁶ Since one may argue that these country-level controls constitute "bad controls" in the terminology of Angrist and Pischke (2008), we show results where we exclude them in the robustness check subsection below. Our findings do not hinge on their inclusion.

Crowson 2010; Hanusch 2012). First, we create an index variable based on respondents' evaluation of the *current economic situation* of their country on a five-point scale. Second, we gauge respondents' political attitude by constructing the variable *left orientation* that ranges from zero for individuals considering themselves to be at the far right to ten for those at the far left.¹⁷

The resulting sample includes up to 163,103 observations. Online Appendix A2 provides detailed definitions and sources of all variables used. We show the corresponding correlation matrices in Online Appendix A3. Table 2 provides the corresponding descriptive statistics. The average respondent is 38 years old, lives in an urban area (63 percent), is slightly right-leaning (4.70), and has access to five of nine assets in our wealth index. She or he is almost equally likely to be a man or woman as well as to be employed or not. 77 percent of respondents express a favorable opinion on China, which is slightly larger than the corresponding value for the United States (74 percent).

2.4 Regression models

Our regression analysis proceeds in three steps: We start with pooled ordinary least squares (OLS) with year-fixed effects, add country-fixed effects, and finally obtain causal estimates using Two-Stage Least Squares (2SLS). We estimate our binary dependent variable *ChinaOpinion* using a linear probability model to facilitate the interpretation of coefficients.¹⁸ Formally, our first model specification reads

$$ChinaOpinion_{i,j,t} = \beta ChinaActivity_{j,[t-1,t-2]} + C'_{j,t-1}\gamma + X'_{i,j,t}\delta + \eta_t + \varepsilon_{i,j,t} \quad (1)$$

where *ChinaOpinion*_{*i,j,t*} is the opinion of individual *i* about China in country *j* in the survey conducted in year *t*; *ChinaActivity*_{*j,[t-1,t-2]*} refers to the averages of the once-lagged and twice-lagged values for Chinese exports, foreign aid, or OFDI, respectively;¹⁹ *C*_{*j,t-1*} represents the once-lagged country-level controls; and *X*_{*i,j,t*} captures the individual-level controls. Moreover, year-fixed effects, denoted by η_t , are included to account for year- and survey-wave-specific events, including those shocks common to all Latin American countries.²⁰ Regressions based on equation (1) exploit between-country variation, which will enable us to compare our results with cross-sectional evidence in Kleinberg and Fordham (2010) and Hanusch (2012). Standard errors are clustered at the country-year level, i.e., at the level of aggregation of the variable of interest.

¹⁷ The survey question on political views allowed for the answer “none,” which received the second most responses from the survey participants. In order to not lose these observations, we replace the “none” answers by the average political view in a given country-year.

¹⁸ Results using logit or probit are very similar (results available on request).

¹⁹ Results are similar when using different lag specifications as we discuss below.

²⁰ To provide an example, these fixed effects capture the average changes in attitudes towards China during the 2008 Olympic Games in Beijing (Gries et al. 2010).

Second, we add country-fixed effects ζ_j . The inclusion of these fixed effects allows us to mitigate the potential omitted-variables biases. For example, they capture time-invariant historical factors or cultural ties with China that could explain differences in attitudes between countries.²¹

Third, we address the potential endogeneity of China's economic activities with respect to public opinion. The use of fixed effects does not solve the omitted-variable bias caused by unobserved variables that vary over countries and time. For example, the 2008 Beijing Olympics could have stimulated Latin American imports of consumer goods from China, and, at the same time, a country's citizens might come to view China more positively for reasons unrelated to China's economic engagement such as the success of their country's Olympic athletes. This implies that, although better opinions on China are observed, this finding should not be attributed to an intensification of Chinese economic activities.

Moreover, the causal direction might also run from opinions to economic engagement. For example, individuals might be more likely to buy Chinese goods as they feel an affinity towards China (see again Disdier and Mayer 2007), China might invest more in countries where it is welcomed by the local population, or China might purposely aid a country whose individuals have relatively negative attitudes towards China to improve its image. We thus interpret the coefficients on the *ChinaActivity* variables in regression models based on equation 1 as conditional correlations rather than causal effects.

To obtain causal effects of China's economic activities on attitudes towards China, we construct instrumental variables and estimate 2SLS models. Our instrumental variables are inspired by Autor et al. (2013). Autor et al. argue that the growth in China's trade is largely driven by the supply of Chinese goods rather than changes in demand. Most importantly, China's WTO accession has been crucial for the dismantling of trade barriers and advances in the competitiveness of Chinese producers. The authors exploit that these supply shocks have common drivers. They instrument growth in US imports from China with Chinese import growth in high-income markets other than the United States. By doing so, they aim to identify the component that is exogenous from the perspective of the penetrated market, i.e., the United States.

Analogously, we use the export penetration of Chinese goods in non-Latin American developing countries to construct a time-varying variable exogenous to Latin America to instrument *Chinese exports*. We introduce variation across countries by interacting this export penetration variable with the geographic distance between Beijing and the capital of the respective Latin American country (data from Mayer and Zignago 2011). We expect a negative effect for the interaction variable in the first stage: Chinese goods are likely to penetrate markets in geographically closer Latin American countries, *ceteris paribus*, to a larger extent than those in more remote countries as the supply of Chinese goods increases.²²

²¹ Note that we cannot use country-year-fixed effects because our variables of interest are defined at this level.

²² Our results hold when we replace geographic distance by maritime distance. We also experimented with an interaction of the export penetration variable with China's Cold War trade with a particular country. Specifically, we use the average historic trade during the leadership of Mao Zedong (1955-76) as a share of the partner country's

We thus follow a growing number of scholars that construct time- and country-varying instrumental variables from the interaction between a time-varying exogenous variable with a variable that varies along the cross-sectional dimension.²³ Controlling for the main effect of the two interacted variables through year- and country-fixed effects, the resulting country- and time-variant interaction term is an exogenous instrument under fairly weak conditions (Bun and Harrison 2014; Nizalova and Murtazashvili 2016). Our identifying assumption is that opinions on China in countries with different distance to Beijing will not be affected differently by changes in Chinese export supply other than via the impact of exports.

A critical reader may raise the following two concerns that are—as we will argue—not valid. First, it has been argued that Chinese demand shocks are likely correlated across developing countries. However, this would not threaten our identification since the time-fixed effects in our model capture such variation that is common to all sample countries. Second, one may be concerned that our observed effects are driven by general trade openness of Latin American countries rather than China’s increasing supply of export goods. While this is unlikely to be the case given the importance of China’s WTO accession and the other factors that affect China’s export supply, we address this concern by including trade openness as a control variable and further add the interaction between trade openness and distance to our set of controls. Since this (insignificant) variable does not alter our qualitative results, we are confident that our instrument is China-specific and not capturing general trade openness.²⁴

Our instruments for *Chinese aid* and *Chinese OFDI* follow the same logic. We interact China’s penetration of non-Latin American developing countries with flows of aid and OFDI, respectively, with a variable that varies across countries. In the spirit of Nunn and Qian (2014), we use the probability of receiving Chinese aid when we instrument *Chinese aid* and the probability of receiving Chinese OFDI flows when we instrument *Chinese OFDI*. These probabilities are computed as $\frac{1}{14} \sum_{t=2000}^{2013} 1(\text{Chinese aid}_{jt} > 0)$, and $\frac{1}{14} \sum_{t=2000}^{2013} 1(\text{Chinese OFDI}_{jt} > 0)$, respectively. We expect that countries that have a higher likelihood of receiving Chinese aid [OFDI] to benefit more from an increased supply of Chinese aid [OFDI]. Simply put, more aid and investment flows to Beijing’s close partners when the Chinese government decides to spend more on foreign aid and investment flourishes. We thus expect to obtain a positive coefficient on the instrumental variable in the first stage. The endogeneity of the probability of receiving aid [OFDI] is not of concern in this setting as the country-

GDP as an exogenous country-varying variable (data from Barbieri et al. 2009; Barbieri and Keshk 2012). For this alternative instrumental variable, we expect a positive coefficient in the first stage as countries with long-term trade relationships, and thus a more intimate understanding of China, should be more capable of reaping benefits from increased Chinese wealth. Since our results are qualitatively similar to those obtained from the interaction of the export penetration variable with distance, we do not report these results in detail but they are available upon request.

²³ See, among others, Werker et al. (2009), Nunn and Qian (2014), Chauvet and Erhart (2015), Dietrich and Wright (2015), Dreher and Langlotz (2015), Ahmed (2016), and Lang (2016).

²⁴ Detailed regression results available upon request.²⁵ Note that data on Chinese OFDI starts in 2003, but since we use the moving average of the first and second lag, we can compute this variable of interest only for the time period 2005-2013.

fixed effects fully capture this endogeneity. Our identifying assumption is that opinions on China in countries with differing probabilities of receiving aid [OFDI] from Beijing will not be affected differently by changes in Chinese aid [OFDI] supply other than via the impact of aid [OFDI].

Summing up, our first-stage regression reads as follows:

$$ChinaActivity_{j,[t-1,t-2]} = \beta_1 \left(\frac{1}{N} \sum_{c=1}^N ChinaActivity_{c,[t-1,t-2]} \cdot cs_j \right) + C'_{j,t-1} \gamma_1 + X'_{i,j,t} \delta_1 + \zeta_{1,j} + \eta_{1,t} + \varepsilon_{1,i,j,t} \quad (2)$$

where c denotes each of N developing countries outside Latin America, and cs_j stands for the part of the interacted variable that varies across Latin American countries, i.e., the logged distance to Beijing for *Chinese exports*, the probability of receiving an aid project for *Chinese aid*, or the probability of receiving an OFDI project for *Chinese OFDI*. The corresponding second-stage regression equation is then

$$ChinaOpinion_{i,j,t} = \beta \widehat{ChinaActivity}_{j,[t-1,t-2]} + C'_{j,t-1} \gamma + X'_{i,j,t} \delta + \zeta_j + \eta_t + \varepsilon_{i,j,t} \quad (3)$$

where $\widehat{ChinaActivity}_{j,[t-1,t-2]}$ refers to the fitted values for Chinese exports and aid, respectively, that result from our first-stage regressions.

Such an instrumental-variables strategy corresponds to a difference-in-differences estimation strategy with a continuous treatment. Intuitively, the first difference considers how opinions on China change in years with a large supply of Chinese goods, aid, and investments compared to years when the supply of these international economic activities is small. The second difference considers how this change in opinions differs in close partner countries of China relative to less important partners. As with every difference-in-differences estimation, the parallel-trends assumption has to hold. Figure 3 allows us to examine two potential sources of inferential error when using a panel-data instrumental-variables strategy based on a continuous difference-in-differences estimator: (i) no parallel contemporaneous trends in the outcome variable for geographically close and distant countries (column 3 of panel A) and for high- and low-probability countries (column 3 of panels B and C), respectively, and (ii) a (non-linear) longer-run trend that dominates the year-on-year variation (Christian and Barrett 2017). As can be seen from the three graphs in column 3 of Figure 3, the variation in the outcome variable is largely parallel for two groups based on a sample split at the median of the respective cs_j , i.e., distance or probability. Specifically, *China opinion* moves similarly for geographically closer and distant importers over the observation period (panel A). Analogously, *China opinion* evolves similarly for frequent and less frequent recipients of Chinese aid or investment money over time (panels B and C). Finally, comparing the graphs in Figure 3 across columns, we observe no common non-linear longer-run trend for below- and above-median individuals that is similar for *China opinion* and each of our variables of interest. Taken together, the parallel-trends assumption seems to hold.

3. RESULTS

3.1 Main results

As a starting point, panel A of Table 3 presents regression results without country-fixed effects as in equation 1. This comes with the advantage that we can also analyze the variation in attitudes *between* China's partner countries in Latin America. While the results in columns 1 and 2 for *Chinese exports* and *Chinese aid* respectively are based on the full sample period (2002-2013), column 3 is based on a shorter time period since *Chinese OFDI* can only be constructed from 2005-2013.²⁵ The results show a consistent picture: all three coefficients of interest are negative and statistically significant at the one-percent level. While the negative coefficient on *Chinese exports* is in line with earlier findings in Hanusch (2012) for African citizens, the negative coefficient on *Chinese OFDI* contrasts his positive finding for investments. Quantitatively, the relationship of Chinese OFDI with opinions about China is the most pronounced. An increase of Chinese OFDI by one percentage point of GDP is associated with a decrease in the probability of a favorable opinion of China of 16.8 percentage points (column 3). The corresponding decreases for exports and aid amount to only 0.6 and 3.0 percentage points, respectively.

This significantly negative correlation between China's economic activities and attitudes towards China across Latin American countries could be spurious. It could simply reflect that certain countries have more positive perceptions of China for reasons unrelated to Chinese trade, aid, or investment activities that we do not control for in our models. Potential factors include the economic structure or the cultural and historical background of countries.

By adding country-fixed effects, panel B of Table 3 exploits variation within countries over time exclusively and thus addresses this concern. We can thus test whether changes over time in the intensity of China's economic activities affect opinions about China. Indeed, China's economic activities no longer show a significantly negative correlation with opinions on China once we control for unobserved country characteristics. This finding suggests that, contrary to the widespread criticisms, China's deepening international economic relations with Latin America are not perceived negatively on average on the ground.

To obtain causal estimates, we follow the 2SLS estimation strategy summarized in equations 2 and 3. The instrumental variables for *Chinese exports* (the interaction between the logged geographic distance to Beijing and the export penetration of developing countries outside Latin America), the one for *Chinese aid* (the interaction between a country's probability of receiving aid and the aid penetration of developing countries outside Latin America), and the one for *Chinese OFDI* (the interaction between a country's probability of receiving investments and the OFDI penetration of developing countries outside Latin America) are all relevant as indicated by the Kleibergen-Paap F statistics in panel C. With values

²⁵ Note that data on Chinese OFDI starts in 2003, but since we use the moving average of the first and second lag, we can compute this variable of interest only for the time period 2005-2013.

between 8.84 and 12.06, the first-stage F statistics are close to or above the critical value of 8.96 for a maximum bias in the instrument relative to OLS of less than 15 percent (Stock and Yogo 2005). Moreover, the results for the first-stage regression are in line with expectations. As expected, the negative coefficient on the interaction variable in the first-stage exports regression is in line with the idea that exports to geographically close countries increase more than those to more remote countries as the supply of Chinese goods increases. Also in line with expectations is our finding of a positive effect for the interaction variable in the first-stage aid and investment regressions. The positive coefficient suggests that the typical recipients of Chinese aid and investment projects receive more aid and investment projects when China's supply of aid and investments increases.

Turning to the second-stage regression results, we continue to find no significant effects on public opinion about China when controlling for endogeneity. It does not seem that our previous results from panel B were considerably biased by reverse causality or joint determination. In contrast to widespread perceptions, we find no evidence that China's economic engagement in Latin America degrades individuals' views of China on average.

Continuing with the results for our control variables at the country level (see Online Appendices B1-B3), we find that favorable opinions about China significantly decrease with a country's income per capita but increase with inflation in most specifications. This suggests that individuals in countries in economic distress perceive China more favorably on average. The same holds for more open countries, as indicated by the highly significant positive coefficient on *trade openness* in panel A, but the coefficient loses its statistical significance in most specifications once we control for country-fixed effects in panels B and C. There is also some evidence that individuals living in a democratic system have a worse perception of China. In addition, we find that respondents governed by a left-wing chief executive develop more positive views about China. The remaining country-level variables, i.e., *unemployment* and *Chinese leader visit*, do not reach statistical significance in most regressions.

Most individual-level controls are significantly related to the respondent's opinion about China. Students, more educated people, and wealthier individuals are more likely to hold positive views about China, while females view China more negatively on average. Respondents that judge the current economic situation more optimistically, controlling for the actual macro-economic environment, hold more positive opinions about China. Finally, *age*, *employed*, *urban*, and *left orientation* do not appear to play a noteworthy role in attitudes towards China.

While we have so far analyzed average effects, China's growing economic engagement is likely to affect opinions differentially in different strata of the population. In order to get at heterogeneous effects, we interact the individuals' characteristics with the three economic activities of interest. The regression results in Table 4 build on the 2SLS regressions in panel C of Table 3, which is our preferred specification. We instrument the interactions of our variable of interest with individuals' characteristics

with the interaction of the respective instrument for our variable of interest and the respective characteristics variable. The first-stage F statistics given in the table are well above the critical value that applies to two instrumented variables of 4.58 for a maximum bias in the instrument of less than 15 percent in the case of *Chinese OFDI* and around the threshold in the case of *Chinese aid* (Stock and Yogo 2005). Since the F statistics for *Chinese exports* are in almost all cases below this threshold, this latter set of result should be interpreted with great care.

The significantly negative coefficient on *age* indicates that older people are more likely to develop a less favorable opinion towards China in response to incoming Chinese aid flows. We also find that the effect of Chinese aid on attitudes towards China is significantly more positive among students, more educated people, wealthier individuals, people living in urban areas, and those who are satisfied with the current economic situation, as evidenced by the significantly positive interaction terms. This finding is worrisome from a development perspective as aid should be targeted at the needy if it follows developmental goals. It is also in line with results in Dreher et al. (2016), according to which richer parts of countries receive more Chinese aid rather than less.

The findings for OFDI point in the same direction. Older, more educated people, and those satisfied with the current economic situation develop significantly more positive attitudes towards China in response to Chinese investment. This highlights the importance of heterogeneous effects for the relationship between attitudes and aid and investments, respectively. The heterogeneity seems less pronounced for *Chinese exports*, which could be driven by the weaker instrument strength. Only older individuals are more likely to develop more negative attitudes towards China when a country's penetration with Chinese goods increases.²⁶ In summary, while we find no causal effects of Chinese exports, aid, and investment on individual attitudes towards China on average, one should not conclude that these economic activities do not affect opinions. It is rather the case that the effects are heterogeneous and seem to compensate one another in the aggregate. This is in line with the idea that China's growing engagement creates winners and losers.

3.2 Robustness tests and extensions

In this subsection, we first estimate variants of the models in Panel C of Table 3 to test the robustness of our main finding of a zero effect of China's economic engagement on average attitudes towards China. We then proceed and investigate whether opinions become more polarized even though no average effect

²⁶ It may seem surprising at first that the effect on attitudes towards China is not conditional on respondents' education, which would be in line with the Stolper-Samuelson theorem. However, empirical support for the Stolper-Samuelson theorem is weak in most of the empirical literature on trade attitudes (see Jäkel and Smolka 2013 for a review of the related literature). What is more, the average skill level of a Chinese worker is similar to that of a South American worker (see data in Jäkel and Smolka 2013).

is visible. Table 5 contains a summary of these results. We show the baseline results of panel C of Table 3 in the first row for comparison.

Summarizing the results in panels A-F, the robustness of our findings makes us confident in our conclusion that China's growing economic activities in the respective countries indeed do not deteriorate attitudes towards China on average. First, we continue to not reject the null hypothesis of no effect when we alter the lag structure of our variables of interest. Specifically, we find similar results when we use the one-year lag or two-year lag of the economic activities of interest rather than the average of the two, or employ the three-year moving average of the first, second and third lag of each variable (panel A). Second, results are robust to changes in the sample. We replicate the regressions for the shorter 2005-2013 sample, which we have used for the OFDI regressions due to data availability, and remove all countries that recognize the government in Taipei on Taiwan rather than the one in Beijing (data from Rich 2009; results in panel B). Third, replacing financial values with project numbers, we also find that neither the number of aid projects (data from Dreher et al. 2017) nor the number of OFDI projects (data from Stone et al. 2017) affect average attitudes of Latin American individuals towards China (panel C). The same holds when we replace Chinese OFDI stocks by OFDI flows, or look at total trade with China or imports to China rather than Chinese exports (panel C). Fourth, our results are similar when we use weighting methods to correct for the unequal sample size across countries and years (panel D).

Fifth, we consider changes in the control variables (panel E). First, we include additional country-level covariates to mitigate concerns that our results are driven by omitted variables. These variables include measures of a country's natural resource wealth, the importance of a Chinese diaspora, and political relations with China. Specifically, we include a country's total natural resource rents as a share of GDP (data from World Bank 2016), the size of the Chinese diaspora per one million inhabitants (data from Priebe and Rudolph 2015), and a country's voting alignment with China in the United Nations General Assembly (data from Voeten 2013, defined as described in Kilby 2009). Our qualitative results are not affected by the inclusion of any of the variables (panel E). It is only with *Chinese aid* that we now see a weakly significant negative effect on attitudes towards China when we add any of the three control variables—which are themselves all insignificant in the respective regressions. However, since these do not appear to represent robust effects, we do not alter our main conclusions.

There is also no average effect of China's economic engagement on average opinions on China when we exclude—with the exception of the clearly exogenous ones, age and gender—all control variables (panel E). One might argue these are in some sense outcomes rather than controls, which would make them “bad controls” in the terminology of Angrist and Pischke (2008). For example, controlling for per-capita income is at odds with the argument that Chinese investment improves attitudes towards China as it boosts economic growth.

Sixth, our results are similar when we cluster at the country level rather than at the country-year level or use the wild bootstrap with 1,000 repetitions resampling at the country level for estimates with clustered standard errors (panel F). Seventh, we arrive at the same qualitative conclusions when we use a four-point measure of whether the respondent's opinion on China is very good (4), good (3), bad (2), or very bad (1) instead of the simple binary variable (first row of panel G).

These robustness checks make us confident that there is no average effect of China's economic engagement on individuals' attitudes towards China. As a next step, we analyze whether individuals' opinions about China become more polarized with China's growing economic activities in Latin America. To test this, we investigate whether stronger economic activities lead to both more *very* good and more *very* bad opinions. We first change our dependent variable to take a value of one if an individual has a *very* good opinion of China rather than lumping "good" and "very good" together (second row of panel G). We then analyze a binary variable that takes a value of one if an individual has a *very* bad opinion of China (third row of panel G). Indeed, our results show that attitudes towards China become more polarized with Beijing's growing trade, aid, and investment activities. The significant negative coefficient on *Chinese exports* shows that individuals develop less very negative attitudes when more Chinese goods enter the market (column 1). At the same time, the significant positive coefficient on *Chinese aid* suggests that individuals develop more very negative attitudes towards China in response to incoming aid (column 2). When investment intensifies in the respondent's country, both more *very* negative and more *very* positive views develop, as shown by the two significant positive coefficients (column 3). Taken together, Latin Americans seem to form more polarized opinions on China as Beijing's economic presence increases. These results corroborate our findings of heterogeneous effects discussed above.

3.3 *Opinion on China and local Chinese aid*

While we have so far estimated the effects of China's economic activities at the national level on attitudes towards China, we now allow for subnational variation in the intensity of China's engagement. Previous research shows that China's development activities are distributed unequally across provinces within countries. According to the results in Dreher et al. (2016), significantly more Chinese aid ends up in the birth regions of African leaders, which are typically already among the richer areas of countries. Their results suggest that Chinese aid is indeed successful in promoting regional development. One might thus hypothesize that those individuals living in areas experiencing Chinese aid locally develop more positive attitudes towards China. On the contrary, there are also reasons to expect that China's image deteriorates in exactly those areas. Subnational analyses of Chinese aid suggest, for example, that Chinese aid raises the level of corruption and discourages trade union involvement in areas where Chinese development projects are carried out (Isaksson and Kotsadamm 2017, forthcoming; Kelly et al. 2016). Moreover,

scholarly work hints at the possibility of adverse environmental consequences, albeit with mixed results (see BenYishay et al. 2016 on forest loss).

It could thus be that the effects of China's economic activities are localized and thus do not lead to significant changes in attitudes towards China at the national level, as suggested by our earlier results in Table 3.²⁷ BenYishay et al. (2016) have constructed a subnationally georeferenced dataset on China's development projects in the Tropical Andes in South America (and other ecological hotspots in Africa and Asia). This allows us to test for an effect of Chinese aid to subnational regions on the perception of China within five countries: Bolivia, Colombia, Ecuador, Peru, and Venezuela. We could allocate 52 project locations to provinces in these five countries.²⁸ In our estimation sample, roughly each seventh respondent (2,683 respondents in total) was exposed to Chinese aid in their home region. We construct the financial amount of aid projects per province. The map in Figure 4 displays the location of China's project sites across the Andes region. The largest aid amounts were provided to Junín (Peru), followed by Bolívar (Venezuela), and Napo (Ecuador).²⁹ Figure 5 provides an overview of the subnational variation in attitudes towards China.

We augment the analysis in panel B of Table 3 by adding *Chinese aid (local)*, defined as the financial amount of aid to the respondent's home region divided by regional GDP, to our regression specification. Regional GDP per capita come from Gennaioli et al. (2013) and end in 2010, which limits our estimation period for the subnational analysis to the 2002-2011 period. We calculate regional GDP by multiplying regional GDP per capita with regional domestic population from World Bank (2017). We also add the variable *GDP per capita (ln, local)*, which measures the per-capita income in the respondent's home region, as a further control.

Table 6 presents our results. We gradually estimate our model with stricter sets of fixed effects. We start with year-fixed effects (column 1), add country-fixed effects (column 2), use country-year-fixed effects (column 3), and add region-fixed effects (column 4). The coefficient on *Chinese aid (local)* does not reach statistical significance at conventional levels in any of these specification. In line with our results for Chinese aid at the national level, Chinese aid activities in the respondents' region are not associated with significant changes in average attitudes towards China. Our finding of zero average effects does not appear to hide significant subnational effects of Chinese aid on attitudes.

²⁷ A similar argument can be made for Chinese exports and OFDI but we lack the subnational trade and investment data required to carry out such tests.

²⁸ We follow BenYishay et al. (2016) and use the first subnational administrative region (GADM1), which is a *departemento*, *provincia*, *region*, *comisaria*, or *intendencia* depending the specific country. In line with our treatment of aid entries at the national level, we exclude projects whose status is coded as "Pipeline/identification," "Cancelled," or "Suspended." We also exclude projects if the information on the geolocation was not precise enough to allocate it to a province. We also disregard projects without information on their financial value.

²⁹ If a project is located in several provinces, we divide the financial amount by the number of provinces involved. This approach is in line with previous work with georeferenced aid data (e.g., Dreher et al. 2016; Briggs 2017; Öhler et al. 2017).

3.4 Comparison with the United States

To put our findings into perspective, we contrast the effect of Chinese economic activities on Latin American views with the corresponding effect of the U.S.' economic activities. Survey evidence in Goldsmith et al. (2014) on AIDS relief and experimental evidence in Dietrich et al. (2018) on health aid in Bangladesh suggest positive effects of US aid on perceptions of the United States. In a large field experiment in Uganda, Findley et al. (2017) find that citizens are more likely to support US aid projects than Chinese ones.

We investigate respondents' opinion about the United States using the same specifications as in panel B of Table 3 but replace the dependent variable and the respective economic flows from China with their US counterparts. The dependent variable *US opinion* is a binary variable that equals one when the respondent's opinion about the United States is very good or good, and zero if it is bad or very bad. We employ the same control variables with the exception of *Chinese leader visit*, which we replace by a binary variable *US leader visit*. It takes a value of one in years in which the US President or Secretary of State visits a given country (data from Lebovic and Saunders 2016).

Table 7 shows results from seemingly unrelated estimations with country- and time-fixed effects.³⁰ Wald tests allow us to check for significant differences in the coefficients of the variables of interest between the China and U.S. regressions. According to columns 1a and 1b, opinions about these countries are not related to the exports from the respective country, nor do these coefficients differ significantly from one another. The same holds for OFDI as reported in columns 3a and 3b. For aid flows, however, we find that US aid relates positively to opinions held about the North American 'neighbor' (columns 2a and 2b). Specifically, a one-percentage-point increase in US aid as share of GDP is associated with a 2.7-point increase in each individual's probability of having a favorable opinion about the United States. The difference in the coefficients on Chinese and US aid is statistically significant at the one-percent level (see row "Wald p-value" in Table 7). This suggests that Chinese aid has not (yet) helped increase its public image abroad, while American aid does so for the United States.

This contrasts with the praise of Chinese aid for being faster, less bureaucratic, and more demand-driven than Western aid (see Bräutigam 2009 for a discussion). Why would the effects of China's development activities on Latin Americans' opinions be less positive than those resulting from US aid? Chinese aid is more prone to misappropriation for the sake of the political or personal interests of

³⁰ Specifically, we run generalized least squares models using Stata's *suest* command. We report the results on the control variables in Online Appendix B4. Note that we also looked at 2SLS regressions for the United States. The IV of US exports is the interaction of the logged geographic distance between Washington, DC and the capital of the respective Latin American country and the US export penetration of developing countries outside Latin America. The IV of US aid is the interaction between the country-specific probability of receiving US aid over the 2000-2013 period and the US aid penetration of developing countries outside Latin America. The IV of US OFDI is the interaction between the country-specific probability of receiving US OFDI over the 2000-2013 period and the US OFDI penetration of developing countries outside Latin America. While our main conclusions hold, these results (available on request) should be interpreted with caution as the first-stage F statistics is well below their critical values.

recipient leaders than ‘traditional’ aid (Dreher et al. 2016). Recent empirical studies also highlight adverse effects of Chinese aid in terms of local corruption and environmental degradation (BenYishay et al. 2016; Isaksson and Kotsadamm forthcoming; Kelly et al. 2016). Goldsmith et al. (2014: 91) lists the following reasons why aid may not be improving public opinion: “Recipients may be unaware of the origins of the aid they receive; the donor’s motivations might be seen as primarily self-serving; the positive feelings associated with aid may be too small to shift perceptions shaped by more salient and dramatic foreign policy behavior; or aid programs may simply fail to work and, therefore, fail to sway people’s opinions in the absence of obvious improvements to their quality of life.” China will have to work on these fronts if it wants to win hearts and minds with its aid program as the United States is able to do.

4. CONCLUDING REMARKS

Since the turn of the millennium China has strongly expanded its global economic presence in the developing world. As part of its “going out” (zou chu qu, 走出去) policy, starting in 1999, China heavily expanded its economic engagement in developing countries in order to fuel its booming economy and strategically position itself in a globalized world. The People’s Republic’s rapidly growing economic activities are visible in its bilateral trade, foreign aid, and investment overseas. Their growth is particularly pronounced in Latin America where China has become a major actor within a decade. While economic theory suggests net benefits of increased competition and global integration, Chinese economic activities are frequently criticized for their potential adverse consequences on Latin America and its citizens. For example, US Secretary of State Rex Tillerson warned in a speech in February 2018 that China was “using economic statecraft to pull the region into its orbit” and that Latin America did “not need new imperial powers that seek only to benefit their own people.”³¹

In this study, we analyzed the public perceptions of China in 18 Latin American economies using individual-level survey data from the Latinobarómetro for the years 2002-2011 and 2013. Our study focused on the attitudes held by common citizens rather than those of political leaders and decision makers. We measure China’s increasing economic presence through its exports, aid, and OFDI to Latin America. An instrumental-variables strategy allowed us to identify causal effect on attitudes towards China in its partner countries over time. Specifically, we exploited exogenous variation in China’s activities outside Latin America to capture the supply of Chinese trade, aid, and investment to Latin American countries.

Our findings do not suggest that China’s growing economic activities in the respective countries affect average attitudes towards China. Lingering concerns about the adverse consequences as well as overly optimistic depictions of China’s economic activities in Latin America seem exaggerated. Our null

³¹ See <https://www.state.gov/secretary/remarks/2018/02/277840.htm> (accessed 4 March 2018).

finding is robust to a battery of robustness tests where we introduce various changes to the sample, measurement of our variables, lag structure, and estimation method. This also holds when we investigate the localized effects of China's aid within countries in addition to effects at the national level. However, we find that views of China become more polarized with China's growing economic engagement: more individuals develop either very positive or very negative opinions on China. We also observe remarkable heterogeneous effects of China's aid and investment on Latin American attitudes. Most notably, China's image improves among the young, educated, and economically privileged strata of the population.

These results have implications for different actors. First, the Chinese government may be disappointed that its overseas development program is yet to be successful in winning hearts and minds. This might be particularly frustrating as, in contrast to China, US aid and opinions about the United States show a positive association. China will have to improve the targeting of its aid program if it wants to create the goodwill it seeks to obtain as China's White Paper on Foreign Aid suggests (State Council 2014). It is potentially comforting for Chinese policymakers that China's image improves at least among the young, urban, and economically privileged. Today's young are the political and business leaders of tomorrow and the rich and urban are typically closer to decision-making processes and may tip the balance in Beijing's favor. The other good news for Beijing is that—despite the often perceived bad reputation of Made in China (Ramo 2007)—increasing exports do not deteriorate China's image as a whole. Still, China is yet to reach the stage where its products are aspired to in the rest of the world.

Second, from the perspective of the US government, it is a relief that China's soft power strategy has not yet been very successful. However, it would not be advisable for Washington to rest. Since China has a track record of successful pioneering—or as former Chinese leader Deng Xiaoping famously said: “crossing the river by feeling the stones”—it is likely to catch up also in the realm of soft power. The United States will have to ramp up their efforts if they want to keep the leadership status in their “backyard.”

Third, from a development perspective, it is particularly worrisome that Chinese aid and opinions about China are not positively associated. China will have to improve the targeting of its aid program if it wants to reach the poor and needy strata of the population. In this regard, it is promising that a new emphasis on impact and aid effectiveness is already visible in Beijing's reform plans (Rudyak 2014).

Finally, our finding of increasingly polarizing opinions on China should call Latin American governments' attentions. China's growing economic presence is likely to increasingly fuel political debates in developing countries in the near future. To prevent anti-China protests, partner governments might want to cushion adverse effects when negotiating deals with Beijing.

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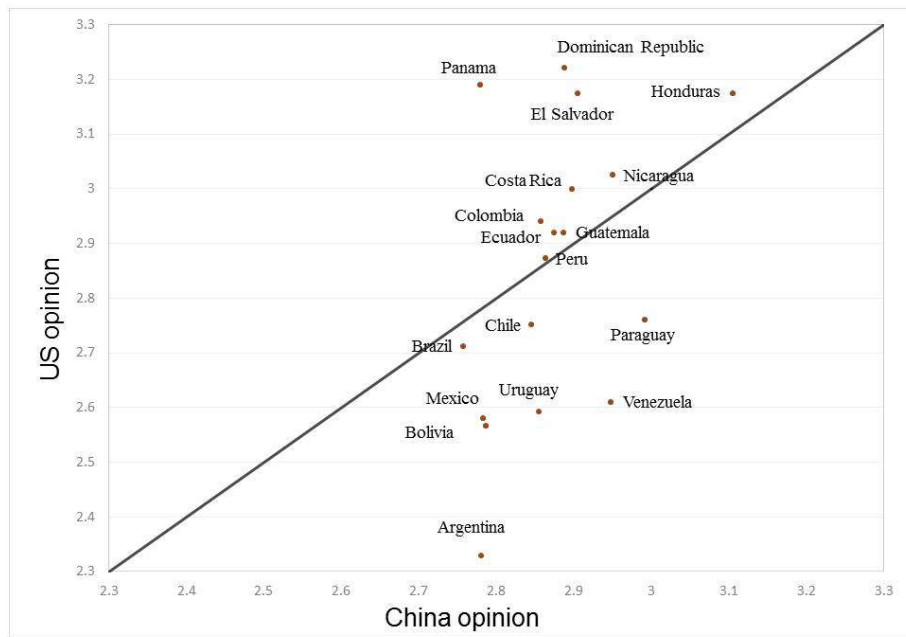
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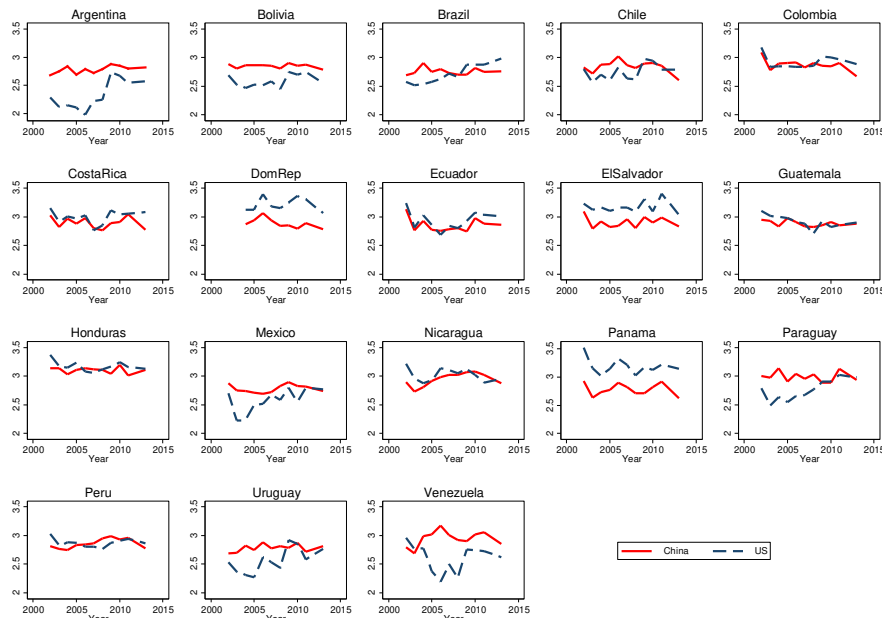
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Figure 1: Individual attitudes towards China and the United States by country (average, 2002-2013)



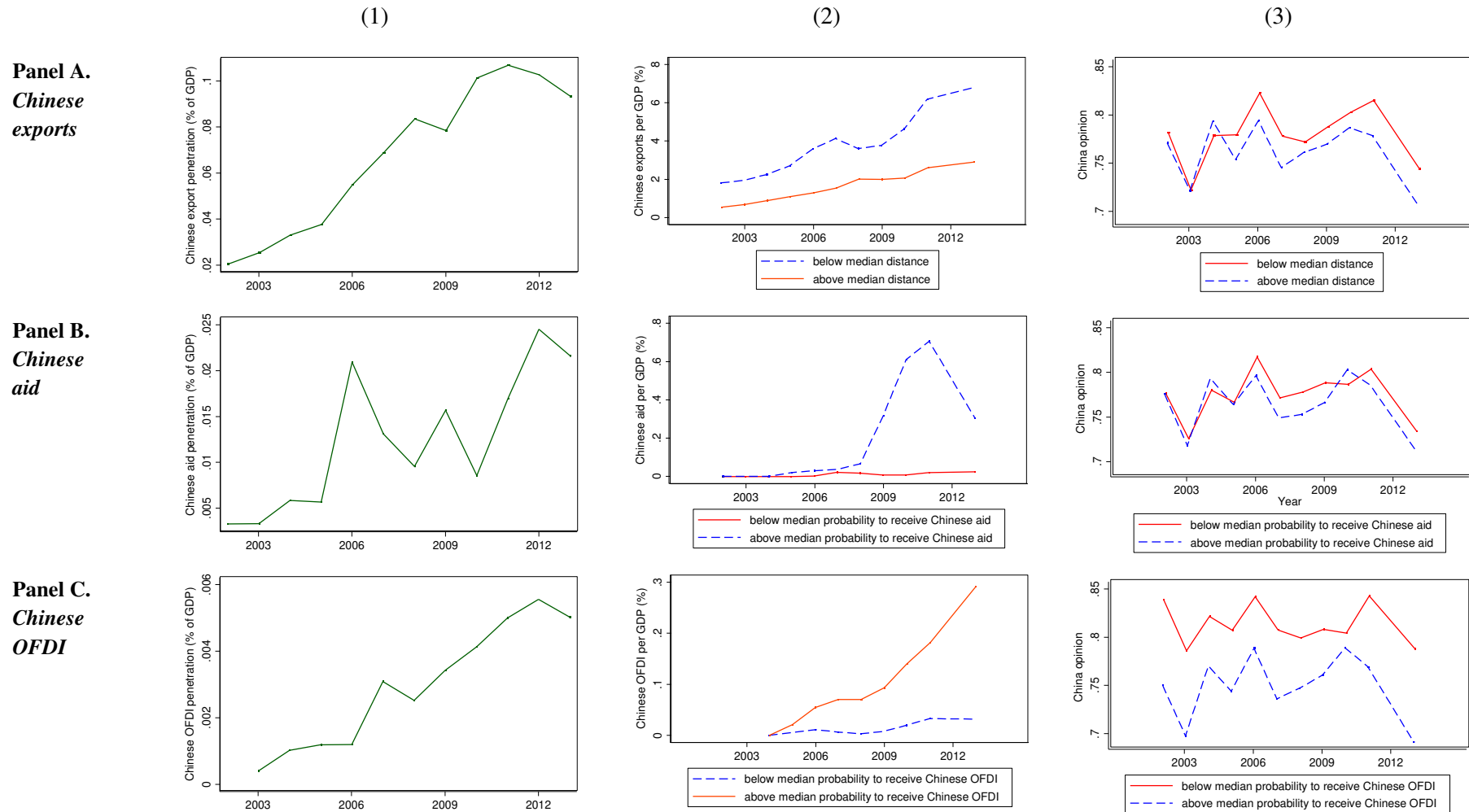
Notes: Each dot represents the average opinion about China (the United States) of a country’s respondents over the 2002-2013 period. This is based on individuals’ responses to the question “Do you have a very good, good, bad, or very bad opinion of {x}?,” where “{x}” is replaced by either China or the United States. We assign values of 1 (very bad) to 4 (very good) to each response.

Figure 2: Individual attitudes towards China and the United States by country over time (2002-2013)



Notes: The solid red (dashed blue) line represents the average opinion about China (the United States) of a country’s respondents over the 2002-2013 period. This is based on individuals’ responses to the question “Do you have a very good, good, bad, or very bad opinion of {x}?,” where “{x}” is replaced by either China or the United States. We assign values of 1 (very bad) to 4 (very good) to each response.

Figure 3: Testing the parallel-trends assumption



Notes: The three graphs in column 1 show the average penetration of non-Latin American developing countries with Chinese exports, aid, and OFDI over time. The three graphs in column 2 show the average values of $\frac{1}{N} \sum_{c=1}^N ChinaActivity_{c,[t,t-1]}$ for the individuals that are below and above the median of the distance to Beijing, the probability of receiving Chinese aid, and the probability of receiving Chinese investment, respectively. The three graphs in column 3 show the average opinion on China for the individuals that are below and above the median of the distance to Beijing, the probability of receiving Chinese aid, and the probability of receiving Chinese investment, respectively. Median values are based on the respective sample in Table 3.

Figure 4: Total Chinese aid to Latin American subnational regions (in constant 2014 US\$, 2002-2010)

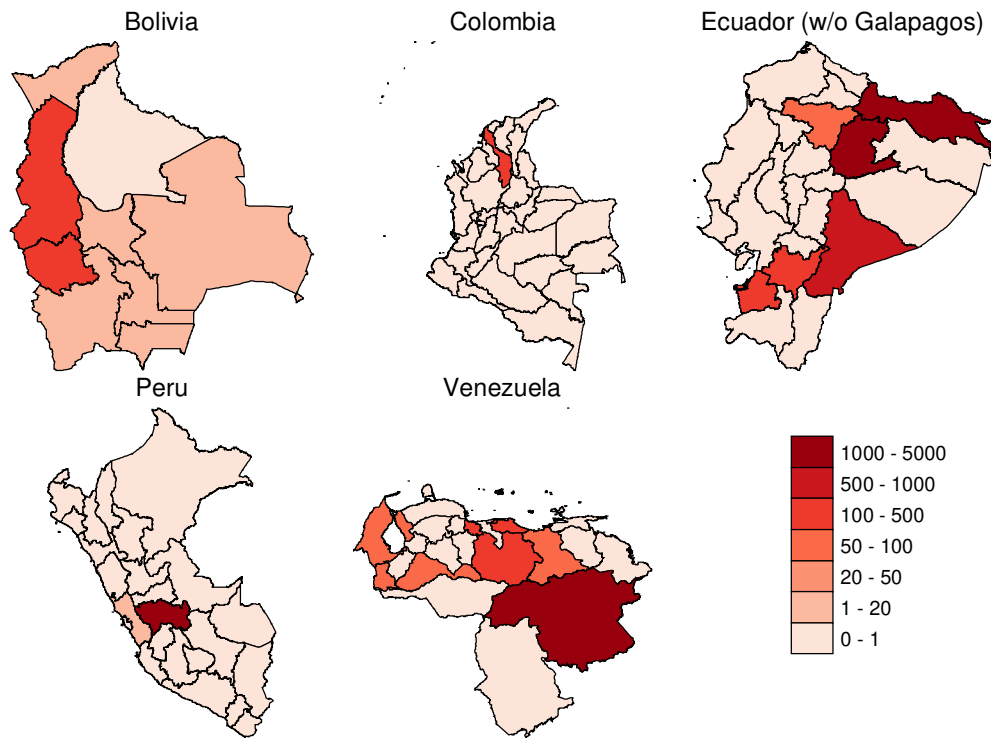


Figure 5: Average opinion on China in Latin American subnational regions (2002-2010)

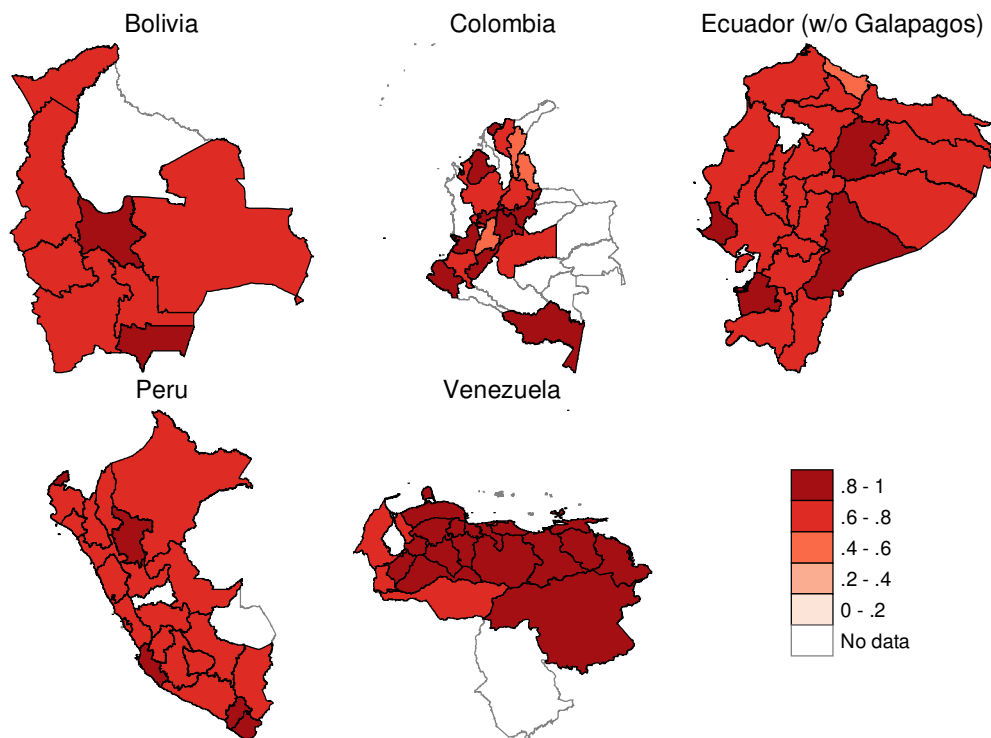


Table 1: Latin American countries ranked by attitudes towards China and the United States and by Chinese and US economic activities (2002-2013 average)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent variables				Variables of interest			
	China opinion	US opinion	Chinese exports	US exports	Chinese aid	US aid	Chinese OFDI	US OFDI
1	Honduras (0.9)	Dom. Rep. (0.9)	Brazil (13709.8)	Mexico (149920.6)	Venezuela (705.4)	Colombia (664.7)	Brazil (547.8)	Mexico (79080.1)
2	Paraguay (0.8)	Panama (0.9)	Mexico (11878.1)	Brazil (26174.2)	Ecuador (483.4)	Peru (247.2)	Venezuela (529.3)	Brazil (47848.5)
3	Nicaragua (0.8)	El Salvador (0.9)	Panama (6309.0)	Venezuela (9253.0)	Brazil (465.0)	Mexico (243.4)	Peru (354.4)	Chile (18859.6)
4	Venezuela (0.8)	Honduras (0.9)	Chile (5094.9)	Colombia (8944.7)	Argentina (137.4)	Bolivia (153.0)	Argentina (325.5)	Argentina (13859.5)
5	Costa Rica (0.8)	Costa Rica (0.8)	Argentina (3534.2)	Chile (8795.5)	Bolivia (107.5)	El Salvador (119.1)	Mexico (178.0)	Venezuela (11624.6)
6	El Salvador (0.8)	Nicaragua (0.8)	Venezuela (2781.8)	Argentina (6065.3)	Chile (87.0)	Guatemala (105.5)	Ecuador (171.2)	Peru (6102.7)
7	Guatemala (0.8)	Guatemala (0.8)	Colombia (2459.1)	Dom. Republic (5879.1)	Costa Rica (64.0)	Honduras (98.1)	Panama (135.4)	Panama (5734.2)
8	Dom. Rep. (0.8)	Colombia (0.8)	Peru (2081.1)	Costa Rica (4725.8)	Mexico (26.6)	Nicaragua (91.2)	Colombia (74.6)	Colombia (4884.6)
9	Peru (0.8)	Ecuador (0.8)	Ecuador (1072.5)	Peru (4636.4)	Peru (13.6)	Ecuador (67.3)	Chile (63.4)	Costa Rica (2040.8)
10	Colombia (0.8)	Peru (0.8)	Uruguay (875.9)	Panama (4406.0)	Colombia (5.8)	Dom. Rep. (48.5)	Bolivia (47.7)	El Salvador (1689.8)
11	Bolivia (0.8)	Paraguay (0.7)	Guatemala (717.9)	Honduras (4125.6)	Uruguay (3.6)	Brazil (43.0)	Paraguay (17.0)	Dom. Rep. (1137.8)
12	Chile (0.8)	Chile (0.7)	Paraguay (568.6)	Guatemala (3836.1)	Nicaragua (2.6)	Costa Rica (27.6)	Uruguay (6.5)	Ecuador (1044.9)
13	Ecuador (0.8)	Brazil (0.7)	Dom. Rep. (504.4)	Ecuador (3506.8)	Dom. Rep. (0.0)	Paraguay (22.4)	Honduras (1.1)	Uruguay (952.8)
14	Uruguay (0.7)	Uruguay (0.6)	Costa Rica (450.1)	El Salvador (2401.3)	Panama (0.0)	Panama (20.6)	El Salvador (1.1)	Guatemala (778.2)
15	Argentina (0.7)	Mexico (0.6)	Honduras (298.7)	Paraguay (1166.1)	Paraguay (0.0)	Venezuela (14.0)	Costa Rica (1.0)	Honduras (690.4)
16	Brazil (0.7)	Bolivia (0.6)	El Salvador (292.6)	Nicaragua (796.1)	El Salvador (0.0)	Argentina (11.9)	Dom. Rep. (0.2)	Bolivia (395.5)
17	Panama (0.7)	Venezuela (0.6)	Nicaragua (213.2)	Uruguay (754.5)	Guatemala (0.0)	Chile (4.1)	Nicaragua (0.2)	Nicaragua (262.6)
18	Mexico (0.7)	Argentina (0.4)	Bolivia (142.3)	Bolivia (408.5)	Honduras (0.0)	Uruguay (0.7)	Guatemala (0.0)	Paraguay (179.4)

Note: Values in parentheses for the variables of interest (exports, aid, and OFDI) are in millions of constant 2010 US dollars.

Table 2: Descriptive statistics

Variables	Mean	Std. dev.	Minimum	Maximum
<i>Dependent variables</i>				
China opinion	0.77	0.42	0.00	1.00
US opinion	0.74	0.44	0.00	1.00
<i>Variables of interest (millions of constant 2010 US\$)</i>				
Chinese exports	2.36	4.93	0.08	42.04
US exports	8.75	7.64	1.54	35.74
Chinese aid	0.08	0.32	0.00	2.68
US aid	0.34	0.59	0.00	3.52
Chinese OFDI	0.06	0.11	0.00	0.76
US OFDI	6.26	5.98	0.98	44.71
<i>Country-level controls</i>				
GDP per capita	8.17	0.62	6.89	9.16
Unemployment	7.57	3.65	1.30	18.40
Inflation	2.07	0.58	0.00	3.98
Trade openness	66.06	29.33	21.85	154.75
Left government	0.39	0.49	0.00	1.00
Democracy	7.82	1.97	-3.00	10.00
Chinese leader visit	0.07	0.26	0.00	1.00
<i>Individual-level controls</i>				
Age	38.46	15.90	16.00	99.00
Female	0.48	0.50	0.00	1.00
Employed	0.51	0.50	0.00	1.00
Student	0.08	0.27	0.00	1.00
Education	2.97	1.72	0.00	6.00
Wealth	5.12	2.22	0.00	9.00
Urban	0.63	0.48	0.00	1.00
Current economic situation	1.68	0.93	0.00	4.00
Left orientation	4.70	2.44	0.00	10.00
<i>Additional covariates</i>				
US leader visit	0.24	0.43	0.00	1.00
UNGA voting alignment with China	0.36	0.48	0.00	1.00
Resource rents	0.88	0.04	0.74	0.96
Chinese diaspora per 1,000,000 inhabitants	5831.52	12539.64	94.40	49502.38
<i>Alternative definitions of the dependent variable</i>				
China opinion, 4-step	2.88	0.69	1.00	4.00
US opinion, 4-step	2.85	0.78	1.00	4.00
China Opinion, very good=1	0.14	0.35	0.00	1.00
China Opinion, very bad=1	0.04	0.20	0.00	1.00
<i>Alternative definitions of the variables of interest</i>				
Chinese imports	1.26	1.95	0.00	10.48
Chinese trade	3.62	5.21	0.21	42.17
Chinese aid projects	0.05	0.13	0.00	0.67
Chinese OFDI flows	0.01	0.03	-0.02	0.22
Chinese OFDI projects	0.09	0.16	0.00	0.94
<i>Instrumental variables</i>				
Chinese export penetration	0.05	0.03	0.02	0.10
Distance	9.65	0.14	9.43	9.87
Chinese aid penetration	0.01	0.01	0.00	0.02
Chinese aid probability	0.27	0.22	0.00	0.71
Chinese OFDI penetration	0.00	0.00	0.00	0.01
Chinese OFDI probability	0.65	0.36	0.00	1.00

Note: The descriptive statistics are based on the sample used in Table 3, panel A, column 1.

Table 3: Effects of Chinese exports, aid, and OFDI on attitudes towards China (2002-2013)

	(1)	(2)	(3)
	Chinese exports	Chinese aid	Chinese OFDI
Panel A: OLS regressions			
<i>ChinaActivity</i> _{<i>j</i>,[<i>t</i>-1,<i>t</i>-2]}	-0.0055*** [0.001]	-0.0295*** [0.007]	-0.1684*** [0.050]
Control variables	Country-level controls, Individual-level controls, Year FE		
Adjusted R-squared	0.0175	0.0158	0.0163
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144
Panel B: Fixed-effects regressions			
<i>ChinaActivity</i> _{<i>j</i>,[<i>t</i>-1,<i>t</i>-2]}	-0.001 [0.002]	-0.0066 [0.008]	-0.0147 [0.062]
Control variables	Country-level controls, Individual-level controls, Year FE, Country FE		
Adjusted R-squared	0.0204	0.0204	0.0219
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144
Panel C: 2SLS regressions			
<i>ChinaActivity</i> _{<i>j</i>,[<i>t</i>-1,<i>t</i>-2]}	0.0074 [0.006]	-0.1274 [0.080]	-0.1385 [0.217]
Control variables	Country-level controls, Individual-level controls, Year FE, Country FE		
IV	Distance (ln) * Export penetration	Aid probability * Aid penetration	OFDI probability * OFDI penetration
First-stage estimate	-181.2212*** [52.874]	41.2956*** [13.893]	37.9870*** [10.939]
K-P F statistic	11.75	8.84	12.06
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144

Notes: The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The regression covers the survey waves 2002-2013 in columns 1-2, and, due to the reduced availability of Chinese OFDI data, 2005-2013 in column 3. The instrumental variable in column 1 is the interaction between the logged geographic distance between Beijing and the capital of the respective Latin American country and the export penetration of developing countries outside Latin America. The instrumental variable in column 2 is the interaction between the probability of receiving Chinese aid over the 2000-2013 period and the aid penetration of developing countries outside Latin America. The instrumental variable in column 3 is the interaction between the probability of receiving Chinese OFDI over the 2000-2013 period and the OFDI penetration of developing countries outside Latin America. Standard errors are robust and clustered at the country-year level. K-P F statistic refers to the first-stage Kleibergen-Paap Wald rk F statistic. * p<0.10, ** p<0.05, *** p<0.01.

Table 4: Conditional effects of Chinese exports, aid, and OFDI on attitudes towards China (2002-2013, 2SLS)

	Age	Female	Employed	Student	Education	Wealth	Urban	Current Economic situation	Left ideology
Chinese exports	0.0148*	0.0087	0.0063	0.0073	0.0057	0.0082	0.0057	0.0084	0.0071
	[0.008]	[0.006]	[0.006]	[0.006]	[0.007]	[0.008]	[0.005]	[0.009]	[0.006]
Chinese exports * characteristic	-0.0002*	-0.0027	0.0022	0.0024	0.0006	-0.0001	0.0023	-0.0004	0.0001
	[0.000]	[0.003]	[0.002]	[0.004]	[0.001]	[0.001]	[0.003]	[0.002]	[0.000]
K-P F statistic	3.67	3.50	3.51	5.04	3.63	4.07	3.34	3.81	3.35
Chinese aid	-0.0530	-0.1131	-0.1342*	-0.1336*	-0.2031**	-0.2367*	-0.1917*	-0.2515**	-0.0731
	[0.090]	[0.079]	[0.081]	[0.080]	[0.103]	[0.130]	[0.098]	[0.112]	[0.080]
Chinese aid * characteristic	-0.0020*	-0.0301	0.0123	0.0625*	0.0226*	0.0216*	0.0872*	0.0571**	-0.0109
	[0.001]	[0.022]	[0.019]	[0.032]	[0.013]	[0.013]	[0.047]	[0.028]	[0.008]
K-P F statistic	4.42	4.42	4.42	4.42	4.49	4.58	4.65	4.53	4.42
Chinese OFDI	-0.0042	-0.1412	-0.1429	-0.1402	-0.2523	-0.1081	-0.1906	-0.3349	-0.1342
	[0.201]	[0.219]	[0.220]	[0.216]	[0.221]	[0.174]	[0.214]	[0.230]	[0.218]
Chinese OFDI * characteristic	-0.0035*	0.0056	0.0080	0.0184	0.0331**	-0.0055	0.0653	0.1058**	-0.0008
	[0.002]	[0.046]	[0.037]	[0.081]	[0.016]	[0.021]	[0.051]	[0.042]	[0.012]
K-P F statistic	6.06	6.03	6.04	6.03	6.04	6.16	6.08	6.21	6.06

Notes: The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good) and covers the survey waves 2002-2013 for regressions including the export and the official flows variables and 2005-2013 for regressions including Chinese OFDI data. All regressions include country-level controls, individual-level controls, year-fixed effects, and country-fixed effects. The instrumental variable of Chinese exports is the interaction between the logged geographic distance between Beijing and the capital of the respective Latin American country and the export penetration of developing countries outside Latin America. The instrumental variable of Chinese aid is the interaction between the probability of receiving Chinese aid over the 2000-2013 period and the aid penetration of developing countries outside Latin America. The instrumental variable of Chinese OFDI is the interaction between the probability of receiving Chinese OFDI over the 2000-2013 period and the OFDI penetration of developing countries outside Latin America. We instrument the interactions of our variable of interest with characteristics with the interaction of the respective instrument with characteristics. Columns including Chinese exports or Chinese aid include 154,278 observations and those with OFDI stocks 116,313 observations. Standard errors are robust and clustered at the country-year level. K-P F statistic refers to the first-stage Kleibergen-Paap Wald rk F statistic. * p<0.10, ** p<0.05, *** p<0.01.

Table 5: Chinese exports, aid, and OFDI to Latin American countries: 2SLS (robustness checks, 2002-2013)

	(1)				(2)				(3)			
	Chinese exports				Chinese aid				Chinese OFDI			
	<i>Coefficient</i>	<i>Std error</i>	<i>F stat</i>	<i>Obs</i>	<i>Coefficient</i>	<i>Std error</i>	<i>F stat</i>	<i>Obs</i>	<i>Coefficient</i>	<i>Std error</i>	<i>F stat</i>	<i>Obs</i>
Baseline	0.0074	[0.006]	11.75	163,103	-0.1274	[0.080]	8.84	163,103	-0.1385	[0.217]	12.06	122,745
<i>Panel A: Change lag structure</i>												
Only one-year lag	0.0076	[0.005]	11.77	163,103	-0.4305	[0.744]	0.35	163,103	-0.2218	[0.187]	13.46	136,700
Only two-year lag	0.0071	[0.006]	8.15	163,103	-0.0731	[0.071]	4.28	163,103	-0.2696	[0.375]	4.33	122,745
Three-year moving average	0.0080	[0.006]	9.06	149,489	-0.0464	[0.053]	11.29	149,489	-0.1483	[0.265]	11.63	108,519
<i>Panel B: Change sample</i>												
2005-2013 sample	0.0021	[0.006]	7.74	122,745	-0.1359	[0.117]	3.04	122,745	-0.1385	[0.217]	12.06	122,745
Exclude Taiwan recognizers	-0.1789	[0.122]	2.61	105,073	-0.6526	[1.968]	0.11	105,073	0.2686	[0.693]	1.65	78,745
<i>Panel C: Change variable of interest</i>												
Chinese number of projects					-0.4767	[0.304]	5.75	163,103	0.0094	[0.108]	14.91	163,103
Chinese OFDI flows									-0.3382	[0.516]	11.30	122,745
Total trade with China	0.0095	[0.008]	6.48	163,103								
Imports to China	-0.0335	[0.025]	3.05	163,103								
<i>Panel D: Weights</i>												
Weighted observations	0.0142	[0.011]	5.84	163,103	-0.1490	[0.100]	6.71	163,103	-0.2317	[0.181]	20.57	122,745
<i>Panel E: Additional control variables</i>												
Controlled for natural rents	0.0076	[0.006]	11.39	163,103	-0.1117*	[0.065]	9.32	163,103	-0.1449	[0.217]	11.88	122,745
Controlled for Chinese diaspora	0.0061	[0.005]	11.54	163,103	-0.1400*	[0.078]	9.12	163,103	-0.1526	[0.227]	12.58	122,745
Controlled for UNGA voting	0.0085	[0.006]	14.50	163,103	-0.1232*	[0.075]	9.69	163,103	-0.1681	[0.240]	10.70	122,745
No "bad controls"	0.0110	[0.022]	2.12	163,827	-0.0235	[0.049]	10.31	163,827	-0.1496	[0.125]	30.30	123,355
<i>Panel F: Standard errors</i>												
Cluster by country	0.0074	[0.008]	2.25	163,103	-0.1274	[0.087]	5.88	163,103	-0.1385	[0.201]	5.79	122,745
Wild bootstrap	0.0074	[0.179]	11.90	163,103	-0.1274	[0.725]	8.34	163,103	-0.1385	[0.449]	12.06	122,745
<i>Panel G: Change dependent variable</i>												
4-step variable	0.0060	[0.008]	11.75	163,103	-0.1289	[0.119]	8.84	163,103	0.1242	[0.352]	12.06	122,745
1 if very good opinion of China	-0.0048	[0.004]	11.75	163,103	0.0432	[0.054]	8.84	163,103	0.4866**	[0.195]	12.06	122,745
1 if very bad opinion of China	-0.0034*	[0.002]	11.75	163,103	0.0448*	[0.024]	8.84	163,103	0.2239**	[0.097]	12.06	122,745

Notes: The dependent variable in panels A-F is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The dependent variables are described in the main text. Standard errors are robust and clustered at the country-year level in panels A-E and G. We describe in the main text how we treat the standard errors in panel F. * p<0.10, ** p<0.05, *** p<0.01.

Table 6: Chinese aid to Latin American subnational regions (2002-2011)

	(1)	(2)	(3)	(4)
Local Chinese aid	0.0009 [0.001]	0.0004 [0.001]	0.0003 [0.001]	0.0009 [0.002]
Chinese aid	0.0088 [0.006]	0.0096 [0.006]		
GDP per capita (ln, local)	Yes	Yes	Yes	Yes
Controls (national level)	Yes	Yes	Yes	Yes
Controls (individual level)	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Country FE		Yes	Yes	Yes
Country-year FE			Yes	Yes
Region FE				Yes
Adjusted R-squared	0.0178	0.0187	0.0200	0.0266
Number of observations	19,651	19,651	19,651	19,651
Number of clusters	28	28	28	28

Notes: The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good) and covers the survey waves 2002-2011 rather than 2002-2013 due to the limited availability of subnational GDP data. Standard errors are robust and clustered at the country-year level. * p<0.10, ** p<0.05, *** p<0.01.

Table 7: Comparison of Chinese and US exports, aid and OFDI to Latin American countries: Seemingly unrelated estimations (2002-2013)

	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)
	Chinese	US	Chinese	US	Chinese	US
	exports		aid		OFDI	
$ChinaActivity_{j,[t-1,t-2]}$	-0.001 [0.002]		-0.007 [0.008]		-0.011 [0.062]	
$USActivity_{j,[t-1,t-2]}$		0.000 [0.003]		0.027*** [0.009]		0.001 [0.002]
Country-level controls	Yes		Yes		Yes	
Individual-level controls	Yes		Yes		Yes	
Year FE	Yes		Yes		Yes	
Country FE	Yes		Yes		Yes	
Wald p-value	0.718		0.007		0.844	
Number of observations	160,969		160,969		145,261	
Number of clusters	178		178		167	

Notes: The dependent variable in columns 1a, 2a, and 3a is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The dependent variable in columns 1b, 2b, and 3b is a binary variable equal to 1 if the individual has a positive perception of the United States (good or very good). The dependent variable covers the survey waves 2002-2013 for regressions of exports or aid and 2005-2013 for regressions of OFDI stocks. Standard errors are robust and clustered at the country-year level. * p<0.10, ** p<0.05, *** p<0.01.

ONLINE APPENDIX

Appendix A1: 25 largest Chinese aid projects in Latin America (2000-2013)

	Country	Year	Title	Sector	Project size (m US\$)
1	Venezuela	2013	CDB funds \$4 billion PDVSA and CNPC joint venture Sinovensa in Orinoco belt	Energy Generation and Supply	4087
2	Venezuela	2011	ICBC loans Venezuela oil firm 4 billion USD for construction of housing projects	Other Social Infrastructure	4440
3	Brazil	2010	China Development Bank extends \$3.5 billion USD loan to Petrobras from \$5 billion line of credit	Energy Generation and Supply	4402
4	Ecuador	2011	Ecuador Signs \$2B loan with CDB for renewable energy purposes	Other Multisector	2220
5	Argentina	2011	China provides \$1.5 bil to build the Córdoba Metro project	Transport and Storage	1665
6	Ecuador	2013	Ecuador receives \$1.4 billion from China for budget	General Budget Support	1423
7	Brazil	2010	\$1.23 bln Joint China Exim Bank and Bank of China Loan for Shipbuilding in Brazil	Transport and Storage	1547
8	Ecuador	2009	China invests \$1.2 billion in Ecuador's Ishpingo-Tambococha-Tiputini (ITT) oil field	Energy Generation and Supply	1629
9	Ecuador	2010	China Development Bank signs 1 billion USD loan for oil agreement with Petroecuador	Energy Generation and Supply	1258
10	Chile	2012	China agrees to invest 900 million USD in solar energy projects in Chile	Energy Generation and Supply	953
11	Brazil	2008	CDB loans \$750 million USD for GASCAC Pipeline	Energy Generation and Supply	1034
12	Venezuela	2012	China committed \$691M USD loan to Venezuela for geological survey	Industry, Mining, Construction	732
13	Brazil	2007	China to finance construction of Candiota 3 power plant in Brazil	Energy Generation and Supply	940
14	Ecuador	2010	China Ex-Im bank loans Ecuador 621.7 million USD to build Sopladora hydroelectric plant	Energy Generation and Supply	718
15	Venezuela	2013	EXIM Bank loans 391 million USD for construction of the Paquiven maritime terminal	Transport and Storage	398
16	Mexico	2011	CDB Loans Up to 375 Million USD to Nextel Mexico for 3G Network	Communications	416
17	Venezuela	2008	China funds 350 million USD for Construction of Metro Lines	Transport and Storage	483
18	Ecuador	2011	China Builds and Funds Minas San Francisco y la Union Hydroelectric Dam in Ecuador	Energy Generation and Supply	347
19	Brazil	2009	China Development Bank Loans Brazilian Telecom Company Oi USD300M for Network Expansion	Communications	407
20	Venezuela	2009	China-Venezuela fund invests on plant construction facilitated by Pequiven	Industry, Mining, Construction	407
21	Costa Rica	2013	EXIM Bank provides 296 million USD loan for Route 32 renovation	Transport and Storage	301
22	Costa Rica	2013	China Exim Bank loans additional \$296 million USD to road expansion project in Costa Rica	Transport and Storage	301
23	Bolivia	2010	China loans Bolivia 295 million USD for construction of telecom satellite	Communications	371
24	Argentina	2012	China loans Argentina 261 million USD for first phase of Gastre wind farm	Energy Generation and Supply	276
25	Bolivia	2010	CDB finances 85% of Bolivia's Túpac Katari (TKSAT-1) satellite	Communications	316

Notes: This table lists the 25 largest Chinese aid projects in the 18 Latin American countries under analysis that comply with either the OECD definitions of official development assistance (ODA) or other official flows (OOF) and have reached at least the commitment stage. Data from Dreher et al. (2017).

Appendix A2: Sources and definitions of variables used

Variable	Definition	Source
<i>Dependent variables</i>		
China opinion	Binary variable equal to 1 if the individual has a positive attitude towards China (good or very good) based on the question “ <i>I would like to know your opinion about the following countries and powers. Do you have a very good, good, bad or very bad opinion of China?</i> ” (note that the introductory sentence varies slightly between survey waves)	Corporación Latinobarómetro (2015)
US opinion	Binary variable equal to 1 if the individual has a positive attitude towards the United States (good or very good) based on the question “ <i>I would like to know your opinion about the following countries and powers. Do you have a very good, good, bad or very bad opinion of the United States?</i> ” (note that the introductory sentence varies slightly between survey waves)	Corporación Latinobarómetro (2015)
<i>Variables of interest</i>		
Chinese exports	Exports from China to a particular country in US\$ (% of partner country’s GDP), average of the one-year and two-year lags	UN Comtrade (2015) via WITS and GDP from World Development Indicators (World Bank 2016)
Chinese imports	Imports from a particular country to China in US\$ (% of partner country’s GDP), average of the one-year and two-year lags	UN Comtrade (2015) via WITS and GDP from World Development Indicators (World Bank 2016)
Chinese trade	Sum of exports from China to a particular country and of imports to China from a particular country in US\$ (% of partner country’s GDP), average of the one-year and two-year lags	UN Comtrade (2015) via WITS and GDP from World Development Indicators (World Bank 2016)
Chinese aid	Official finance flows, i.e., official development assistance (ODA) and other official flows (OOF) from China to a particular country in US\$ (% of partner country’s GDP), average of the one-year and two-year lags [ODA is defined as “those flows to countries and territories on the DAC List of ODA Recipients and to multilateral institutions which are: (i) provided by official agencies, including state and local governments, or by their executive agencies; and (ii) each transaction of which: (a) is administered with the promotion of the economic development and welfare of developing countries as its main objective; and (b) is concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent).” OOF is defined by the DAC as “Transactions by the official sector with countries on the DAC List of ODA Recipients which do not meet the conditions for eligibility as Official Development Assistance, either because they are not primarily aimed at development, or because they have a grant element of less than 25 per cent.” See http://www.oecd.org/dac/dac-glossary.htm (accessed 19 February 2018)]	Dreher et al. (2017) via AidData
Chinese aid projects	Number of official finance projects, i.e., official development assistance (ODA) and other official flows (OOF) from China to a particular country per one million inhabitants, average of the one-year and two-year lags	Dreher et al. (2017) via AidData
Chinese OFDI	Outward foreign direct investment (OFDI) stocks from China in a particular country in US\$ (% of partner country’s GDP), average of the one-year and two-year lags	MOFCOM (2010, 2012, 2013)

Chinese OFDI flows	Outward foreign direct investment flows (OFDI) from China to a particular country in US\$ (% of partner country's GDP), average of the one-year and two-year lags	MOFCOM (2010, 2012, 2013)
Chinese OFDI projects	Number of outward foreign direct investment flows (OFDI) from China to a particular country per one million inhabitants, average of the one-year and two-year lags	Stone et al. (2017)
US exports	Exports from the United States to a particular country (% of partner country's GDP), average of the one-year and two-year lags	UN Comtrade (2015) via WITS
US aid	Commitments of Official Development Assistance (ODA) and Other Official Flows (OOF) from the United States to a particular country in US\$ (% of partner country's GDP), average of the one-year and two-year lags	OECD (2017) via OECD.Stat
US OFDI	Outward foreign direct investment (OFDI) stocks (Benchmark definition 3rd Edition, BMD3) from the United States in a particular country in US\$ (% of partner country's GDP), average of the one-year and two-year lags	OECD (2017) via OECD.Stat
US OFDI flows	Outward foreign direct investment (OFDI) flows (Benchmark definition 3rd Edition, BMD3) from the United States to a particular country in US\$ (% of partner country's GDP), average of the one-year and two-year lags	OECD (2017) via OECD.Stat
Country-level controls		
GDP per capita (ln)	Logged GDP per capita of partner country (constant 2005 US\$) [NY.GDP.PCAP.KD], one-year lag	World Development Indicators (World Bank 2016)
Unemployment	Unemployment, total (% of total labor force) of partner country (modeled ILO estimate) [SL.UEM.TOTL.ZS], one-year lag	World Development Indicators (World Bank 2016)
Inflation (ln)	Logged average consumer price inflation rate of partner country, one-year lag	IMF (2014)
Left government	Binary variable equal to 1 if the chief executive's party of the partner country is defined as communist, socialist, social democratic or left-wing, one-year lag	Beck et al. (2001), authors' update
Democracy	Regime authority on a 21-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy), one-year lag	Marshall et al. (2013)
Trade openness	Trade (% of GDP) [NE.TRD.GNFS.ZS], one-year lag	World Development Indicators (World Bank 2016)
Chinese leader visit	Binary variable equal to 1 in years following a visit to a particular country of at least one of the incumbents of the following Chinese leadership positions: President, Vice President, Premier, Vice Premier, Chairman of the National People's Congress, Standing Member of the Politburo of the Communist Party, State Councilor, Trade Minister, and Foreign Minister, one-year lag	Barcena and Rosales (2010); Chen (2014); MOFA (2001a,b,c,d,e, 2004); MOFCOM (2012); Chinese Embassies in Argentina (2012) and Brazil (2013), Mu (2013); PRC (2010a,b); Song (2008, 2014); Yan (2006, 2007); Yu (2011); Zhu (2013)
US leader visit	Binary variable equal to 1 in years following a visit to a particular country of the US President or Secretary of State, one-year lag	Lebovic and Saunders (2016)
UNGA voting	Average voting alignment in the United Nations General Assembly (UNGA) between China and a particular country (defined as follows: voting with China gets a 1, voting against China gets a 0, abstain/absent when the partner country votes coded as 0.5), one-year lag	Voeten (2013), refined as described in Kilby (2009)

Natural resource rents	Total natural resources rents (% of partner country's GDP) [NY.GDP.TOTL.RT.ZS], one-year lag	World Development Indicators (World Bank 2016)
Chinese diaspora	Number of persons of Chinese ancestry that reside in a particular country (% of 1,000,000 inhabitants), interpolated and extrapolated, , one-year lag	Priebe and Rudolph (2015)
Individual-level controls		
Age	Stated age of the respondent in years	Corporación Latinobarómetro (2015)
Female	Binary variable equal to 1 if the respondent is female	Corporación Latinobarómetro (2015)
Employed	Binary variable equal to 1 if the respondent states to be employed or self-employed in response to the question “ <i>What is your current employment situation?</i> ”, where possible answers include “Self-employed,” “Salaried employee in a state company,” “Salaried employee in a private company,” “Temporarily out of work, retired/pensioner,” “Don’t work/responsible for shopping and housework,” and “Student”	Corporación Latinobarómetro (2015)
Student	Binary variable equal to 1 if the respondent states to be a student in response to the question “ <i>What is your current employment situation?</i> ”	Corporación Latinobarómetro (2015)
Education	Respondent’s educational attainment on an 7-point index from 0 to 6 (coded based on the respondent’s answer at which age full-time education was completed; larger values correspond to higher levels of education)	Corporación Latinobarómetro (2015)
Wealth	Asset index defined as the number of affirmative answers to the following question “ <i>Do you or any member of your family have any of the following goods?</i> ”, where we count nine items (i.e., those that are included in all survey waves): refrigerator, own home, computer, washing machine, telephone, car, drinking water, hot running water, and sewage system	Corporación Latinobarómetro (2015)
Urban	Binary variable equal to 1 if the respondent lives in a city with more than 50,000 inhabitants	Corporación Latinobarómetro (2015)
Current economic situation	Respondent’s assessment of the current economic situation on a 5-point scale based on the response to the question “ <i>In general, how would you describe the country’s present economic situation? Would you say it is...?</i> ”, where possible answers include “Very good” (4); “Good” (3); “About average” (2); “Bad” (1), and “Very Bad” (0)	Corporación Latinobarómetro (2015)
Left orientation	Respondent’s self-assessed political orientation on an 11-point scale based on the response to the question “ <i>In politics, people normally speak of “left” and “right”. On a scale where 0 is left and 10 is right, where would you place yourself?</i> (variable recoded so that larger values represent more leftist views)	Corporación Latinobarómetro (2015)
Instrumental variables		
Distance (ln)	Simple distance between capitals (km), logged	Mayer and Zignago (2011)
Chinese export penetration	Average share of Chinese exports in a developing country’s GDP (excluding all Latin American countries and not only those in the sample), average of the one-year and two-year lags	UN Comtrade (2015) via WITS and GDP from World Development Indicators (World Bank 2016)
Probability to receive Chinese aid	Average probability of a particular country to receive Chinese aid in the years 2000-2013	Dreher et al. (2017) via AidData
Chinese aid penetration	Average share of Chinese aid in a developing country’s GDP (excluding all Latin American countries	Dreher et al. (2017) via AidData

Probability to receive Chinese OFDI	and not only those in the sample), average of the one-year and two-year lags Average probability that a particular country receives Chinese investment inflows in the years 2003-2013	MOFCOM (2010, 2012, 2013)
Chinese OFDI penetration	Average share of Chinese OFDI in a developing country's GDP (excluding all Latin American countries and not only those in the sample), average of the one-year and two-year lags	MOFCOM (2010, 2012, 2013)
Subnational analysis		
Local Chinese aid	Official finance flows, i.e., official development assistance (ODA) and other official flows (OOF) from China to the respondent's home region in US\$ (% of GDP of the respondent's home region), average of the one-year and two-year lags	BenYishay et al. (2016) and GDP data from Gennaioli et al (2013) and population data from World Bank (2017)
GDP per capita (ln, local)	Logged subnational GDP per capita multiplied with the estimated population size at the first administrative level below the national level, one-year lag (note: data ends in 2010)	Gennaioli et al (2013) and population data from World Bank (2017)

Notes: The GDP data to calculate shares in GDP of various variables has been obtained from the World Development Indicators (defined at market prices in current US\$ [NY.GDP.MKTP.CD], World Bank 2016).

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Appendix A3: Correlation matrices

(a) *China opinion, US opinion and variables of interest*

	China opinion	US opinion	Chinese exports	Chinese aid	Chinese OFDI
China opinion	1				
US opinion	0.214	1			
Chinese exports	-0.0294	0.0937	1		
Chinese aid	-0.00153	0.00759	-0.0525	1	
Chinese OFDI	-0.0245	0.0360	0.609	0.400	1

(b) *China opinion, US opinion and country-level controls*

	China opinion	US opinion	GDP per capita (ln)	Unemployment	Inflation (ln)	Trade openness	Left government	Democracy	Leader visit
China opinion	1								
US opinion	0.210	1							
GDP per capita (ln)	-0.0671	-0.0810	1						
Unemployment	-0.0149	-0.0272	0.281	1					
Inflation (ln)	0.0389	-0.0590	0.0382	0.149	1				
Trade openness	0.0469	0.152	-0.292	-0.239	-0.0303	1			
Left government	-0.0039	-0.0330	0.152	-0.125	-0.0738	-0.191	1		
Democracy	-0.0215	0.0270	0.0523	-0.0716	-0.366	0.175	0.220	1	
Chinese leader visit	-0.0291	-0.0615	0.206	0.0764	-0.104	-0.178	0.130	0.0753	1

(c) *China opinion, US opinion and individual-level controls*

	China opinion	US opinion	Age	Female	Employed	Student	Education	Wealth	Urban	Current economic situation	Left orientation
China opinion	1										
US opinion	0.210	1									
Age	-0.0184	-0.0350	1								
Female	-0.0180	0.0304	-0.0200	1							
Employed	0.00123	-0.0122	-0.0224	-0.296	1						
Student	0.0176	-0.00559	-0.322	0.00680	-0.297	1					
Education	0.0259	-0.0428	-0.230	-0.00853	-0.0358	0.181	1				
Wealth	0.00479	-0.0475	0.0268	-0.0106	-0.0298	0.111	0.424	1			
Urban	-0.00538	-0.0399	0.0183	0.0163	-0.0129	0.0368	0.198	0.248	1		
Current economic situation	0.0356	0.0176	-0.0192	-0.0374	0.0122	0.0217	0.0560	0.0965	-0.00700	1	
Left orientation	-0.00508	-0.130	-0.0348	-0.00528	0.00536	0.0196	0.0476	0.0245	0.0302	0.0166	1

Appendix B1: Effects of Chinese exports, aid, and OFDI on attitudes towards China: OLS with year-fixed effects (2002-2013)

	(1)	(2)	(3)
Chinese exports	-0.0055*** [0.001]		
Chinese aid		-0.0295*** [0.007]	
Chinese OFDI			-0.1684*** [0.050]
GDP per capita (ln)	-0.0365*** [0.007]	-0.0527*** [0.007]	-0.0496*** [0.008]
Unemployment	0.0010 [0.001]	0.0003 [0.001]	0.0018 [0.001]
Inflation (ln)	0.0229*** [0.007]	0.0283*** [0.007]	0.0233** [0.009]
Trade openness	0.0011*** [0.000]	0.0005*** [0.000]	0.0008*** [0.000]
Left government	0.0052 [0.009]	0.0144 [0.010]	0.0129 [0.011]
Democracy	-0.0018 [0.002]	-0.0034 [0.002]	-0.0049** [0.002]
Chinese leader visit	-0.0226 [0.019]	-0.0213 [0.019]	-0.0016 [0.029]
Age	0.0000 [0.000]	0.0000 [0.000]	0.0000 [0.000]
Female	-0.0131*** [0.003]	-0.0131*** [0.003]	-0.0147*** [0.003]
Employed	-0.0009 [0.003]	-0.001 [0.003]	0.0014 [0.003]
Student	0.0129*** [0.004]	0.0132*** [0.004]	0.0166*** [0.005]
Education	0.0087*** [0.001]	0.0082*** [0.001]	0.0102*** [0.001]
Wealth	0.0027** [0.001]	0.0034*** [0.001]	0.0020* [0.001]
Urban	-0.003 [0.004]	-0.0029 [0.004]	-0.0045 [0.004]
Current economic situation	0.0201*** [0.002]	0.0188*** [0.002]	0.0201*** [0.003]
Left orientation	-0.0003 [0.001]	-0.0005 [0.001]	-0.0002 [0.001]
Year FE	Yes	Yes	Yes
Country FE	No	No	No
Adjusted R-squared	0.0175	0.0158	0.0163
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144

Notes: This table presents detailed regression results of the regression results summarized in panel A of Table 3. The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The regression covers the survey waves 2002-2013 in columns 1-2, and, due to the reduced availability of Chinese OFDI data, 2005-2013 in columns 3-5. Standard errors are robust and clustered at the country-year level. * p<0.10, ** p<0.05, *** p<0.01.

Appendix B2: Effects of Chinese exports, aid, and OFDI on attitudes towards China: OLS with country- and year-fixed effects (2002-2013)

	(1)	(2)	(3)
Chinese exports	-0.001 [0.002]		
Chinese aid		-0.0066 [0.008]	
Chinese OFDI			-0.0147 [0.062]
GDP per capita (ln)	-0.1111 [0.078]	-0.1339* [0.075]	-0.2355** [0.098]
Unemployment	-0.0007 [0.002]	-0.0008 [0.003]	0.0000 [0.003]
Inflation (ln)	0.0247*** [0.009]	0.0230*** [0.009]	0.0247** [0.012]
Trade openness	0.0004 [0.000]	0.0004 [0.000]	-0.0001 [0.001]
Left government	0.0288** [0.013]	0.0308** [0.012]	0.0380** [0.015]
Democracy	-0.0034 [0.003]	-0.0039 [0.003]	0.0008 [0.003]
Chinese leader visit	-0.0216 [0.015]	-0.0221 [0.015]	-0.0006 [0.017]
Age	0.0000 [0.000]	0.0000 [0.000]	-0.0001 [0.000]
Female	-0.0133*** [0.003]	-0.0133*** [0.003]	-0.0148*** [0.003]
Employed	-0.0008 [0.003]	-0.0008 [0.003]	0.0012 [0.003]
Student	0.0134*** [0.004]	0.0134*** [0.004]	0.0140*** [0.005]
Education	0.0088*** [0.001]	0.0088*** [0.001]	0.0090*** [0.001]
Wealth	0.0032*** [0.001]	0.0033*** [0.001]	0.0033*** [0.001]
Urban	-0.0048 [0.003]	-0.0049 [0.003]	-0.006 [0.004]
Current economic situation	0.0205*** [0.002]	0.0205*** [0.002]	0.0214*** [0.002]
Left orientation	0.0001 [0.001]	0.0001 [0.001]	-0.0002 [0.001]
Year FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
Adjusted R-squared	0.0204	0.0204	0.0219
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144

Notes: This table presents detailed regression results of the regression results summarized in panel B of Table 3. The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The regression covers the survey waves 2002-2013 in columns 1-2, and, due to the reduced availability of Chinese OFDI data, 2005-2013 in columns 3-5. Standard errors are robust and clustered at the country-year level. * p<0.10, ** p<0.05, *** p<0.01.

Appendix B3: Effects of Chinese exports, aid, and OFDI on attitudes towards China: 2SLS with country- and year-fixed effects (2002-2013)

	(1)	(2)	(3)
Chinese exports	0.0074 [0.006]		
Chinese aid		-0.1274 [0.080]	
Chinese OFDI			-0.1385 [0.217]
GDP per capita (ln)	-0.2481** [0.107]	-0.2557** [0.113]	-0.153 [0.168]
Unemployment	0.0003 [0.003]	-0.0053 [0.004]	-0.0008 [0.004]
Inflation (ln)	0.0156 [0.010]	0.0117 [0.013]	0.0255** [0.013]
Trade openness	-0.0001 [0.001]	0.0015* [0.001]	0.0004 [0.001]
Left government	0.0411*** [0.015]	0.0405*** [0.014]	0.0426*** [0.019]
Democracy	-0.0054 [0.003]	-0.0092* [0.005]	-0.0013 [0.004]
Chinese leader visit	-0.0282* [0.016]	-0.0177 [0.015]	-0.0025 [0.017]
Age	0.0000 [0.000]	0.0000 [0.000]	-0.0001 [0.000]
Female	-0.0133*** [0.003]	-0.0133*** [0.003]	-0.0148*** [0.003]
Employed	-0.0008 [0.003]	-0.0006 [0.003]	0.0013 [0.003]
Student	0.0136*** [0.004]	0.0131*** [0.004]	0.0140*** [0.005]
Education	0.0090*** [0.001]	0.0083*** [0.001]	0.0089*** [0.001]
Wealth	0.0032*** [0.001]	0.0038*** [0.001]	0.0033*** [0.001]
Urban	-0.0061* [0.003]	-0.003 [0.004]	-0.0058 [0.004]
Current economic situation	0.0203*** [0.002]	0.0209*** [0.002]	0.0215*** [0.002]
Left orientation	0.0003 [0.001]	0.0000 [0.001]	-0.0002 [0.001]
Year FE	Yes	Yes	Yes
Country FE	Yes	Yes	Yes
IV type	Distance (ln) * Export penetration	Aid probability * Aid penetration	OFDI probability * OFDI penetration
K-P F statistic	11.75	8.84	12.06
Adjusted R-squared	0.0193	0.0155	0.0217
Number of observations	163,103	163,103	122,745
Number of clusters	178	178	144

Notes: This table presents detailed regression results of the regression results summarized in panel C of Table 3. The dependent variable is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The regression covers the survey waves 2002-2013 in columns 1-2, and, due to the reduced availability of Chinese OFDI data, 2005-2013 in columns 3-5. The instrumental variable in column 1 is the interaction between the logged geographic distance between Beijing and the capital of the respective Latin American country and the export penetration of developing countries outside Latin America. The instrumental variable in column 2 is the interaction between the probability of receiving Chinese aid over the 2000-2013 period and the aid penetration of developing countries outside Latin America. The instrumental variable in column 3 is the interaction between the probability of receiving Chinese OFDI over the 2000-2013 period and the OFDI penetration of developing countries outside Latin America. Standard errors are robust and clustered at the country-year level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix B4: Comparison of Chinese and US exports, aid/ODA and OFDI to Latin American countries: Seemingly unrelated estimations (2002-2013)

	China (1a)		United States (1b)		China (2a)		United States (2b)		China (3a)		United States (3b)	
Chinese/US exports	-0.001	[0.002]	0.000	[0.003]								
Chinese/US aid					-0.007	[0.008]	0.027***	[0.009]				
Chinese/US OFDI									-0.011	[0.062]	0.001	[0.002]
GDP per capita (ln)	-0.114	[0.076]	-0.027	[0.123]	-0.136*	[0.074]	-0.039	[0.118]	-0.236**	[0.095]	0.100	[0.164]
Unemployment	-0.001	[0.002]	0.002	[0.004]	-0.001	[0.003]	0.002	[0.004]	0.000	[0.003]	0.007	[0.005]
Inflation (ln)	0.025***	[0.009]	0.000	[0.012]	0.024***	[0.009]	-0.003	[0.012]	0.026**	[0.012]	0.006	[0.017]
Trade openness	0.000	[0.000]	-0.001	[0.001]	0.000	[0.000]	0.000	[0.001]	0.000	[0.001]	-0.001	[0.001]
Left government	0.029**	[0.013]	0.008	[0.016]	0.031**	[0.012]	0.011	[0.015]	0.038**	[0.015]	0.007	[0.018]
Democracy	-0.003	[0.003]	-0.001	[0.006]	-0.004	[0.003]	-0.001	[0.005]	0.001	[0.003]	-0.003	[0.006]
Chinese/US leader visit	-0.021	[0.015]	-0.037*	[0.022]	-0.021	[0.015]	-0.037*	[0.022]	0.000	[0.017]	-0.043*	[0.023]
Age	0.000	[0.000]	-0.001***	[0.000]	0.000	[0.000]	-0.001***	[0.000]	0.000	[0.000]	-0.001***	[0.000]
Female	-0.013***	[0.003]	0.026***	[0.003]	-0.013***	[0.003]	0.026***	[0.003]	-0.014***	[0.003]	0.025***	[0.003]
Employed	0.000	[0.003]	-0.007**	[0.003]	0.000	[0.003]	-0.007**	[0.003]	0.001	[0.003]	-0.006**	[0.003]
Student	0.013***	[0.004]	-0.010**	[0.005]	0.014***	[0.004]	-0.010*	[0.005]	0.014***	[0.005]	-0.011*	[0.006]
Education	0.009***	[0.001]	-0.002	[0.001]	0.009***	[0.001]	-0.002	[0.001]	0.009***	[0.001]	-0.001	[0.001]
Wealth	0.003***	[0.001]	0.001	[0.001]	0.003***	[0.001]	0.002	[0.001]	0.003***	[0.001]	0.001	[0.001]
Urban	-0.005	[0.003]	-0.004	[0.004]	-0.005	[0.003]	-0.004	[0.004]	-0.006	[0.004]	-0.005	[0.005]
Current economic situation	0.021***	[0.002]	0.016***	[0.005]	0.021***	[0.002]	0.016***	[0.005]	0.022***	[0.002]	0.013**	[0.005]
Left orientation	0.000	[0.001]	-0.020***	[0.002]	0.000	[0.001]	-0.020***	[0.002]	0.000	[0.001]	-0.021***	[0.002]
Year FE			Yes				Yes				Yes	
Country FE			Yes				Yes				Yes	
Wald (p-value)			0.733				0.003				0.734	
Number of observations			152,351				152,351				137,604	
Number of clusters			178				178				167	

Notes: This table presents detailed regression results of the regression results summarized in Table 7. The dependent variable in columns 1a, 2a, and 3a is a binary variable equal to 1 if the individual has a positive perception of China (good or very good). The dependent variable in columns 1b, 2b, and 3b is a binary variable equal to 1 if the individual has a positive perception of the United States (good or very good). The dependent variable covers the survey waves 2002-2013 for regressions of exports or aid and 2005-2013 for regressions of OFDI stocks. Standard errors are robust and clustered at the country-year level. * p<0.10, ** p<0.05, *** p<0.01.