China in Africa: An Analysis of the Effect of Chinese Media Expansion on African Public Opinion

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Abstract

In 2006, Chinese officials revealed an extensive plan to increase the nation's soft power in Africa through a number of initiatives to increase the presence and relevance of Chinese media in Africa. However, the question remains: Has China been successful in enhancing its soft power via its news media expansion in the African region? Although it is easy to find sweeping proclamations regarding the popularity of Chinese media throughout Africa, there have been limited efforts to systematically measure the effect of these media on African public opinion toward China. This study seeks to fill this void. Using Pew Global Attitudes Project data, I explore correlations between attitudes toward China and the extent of the Chinese media presence across six African nations in 2013. In addition, to better test for a causal effect of the post-2006 expansion, I employ a second analysis in which I compare these relationships in 2007 with these same relationships in 2013. By comparing changes in these relationships over time, this analysis provides tentative empirical support that the sweeping efforts undertaken to expand the reach and relevance of Chinese media in Africa have moved African public opinion in the desired direction.

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China held its third Forum on China-Africa Cooperation (FOCAC) in Beijing in 2006, where Chinese officials revealed a detailed plan to increase the nation's soft power in Africa through multiple levels of economic cooperation and infrastructure development but also, notably, through various "people-to-people" exchanges. These included expanding dialogue and visits between high-level diplomats, developing various training programs for African professionals, increasing travel rates between China and Africa, and establishing Confucius Institutes to provide extensive training in Chinese language and culture at African universities (FOCAC 2006). A significant portion of this plan also included provisions to increase the presence and quality of Chinese media in the region:

> Since the third Forum on China-Africa Cooperation . . . the Chinese media have begun a steady march to get closer to Africa and to gain influence in its mediasphere. This process has . . . included both old and new communication technologies and has developed through a mix of bold policy decision, and trial and error. (Gagliardone 2013: 25)

Specifically, the Beijing Action Plan (published as part of the 2006 FOCAC summit) called for a number of initiatives to increase the presence and relevance of Chinese media in Africa. First, it called for increased contact between the regions' respective news outlets to facilitate comprehensive and objective news coverage of the other side and to encourage mutual understanding and friendship. Second, the plan advocated for multilevel exchanges and cooperation between press authorities and media groups from China and the African countries. Third, China and the African countries should encourage more reporting by their own news media of one another, including providing mutual assistance to each other's news agencies. Next, the Chinese government should continue to host workshops for African correspondents and invite African press authorities and media groups to China to exchange views, cover news, and explore means of furthering cooperation. Finally, Chinese and African representatives agreed to expand cooperation in radio and television broadcasting, including Chinese officials helping African countries train radio and television staff (FOCAC 2006).

Of course, China has been an active and visible presence on the African continent long before 2006—not only in terms of its international aid and financial direct investment in the region, but also in its efforts to promote cultural understanding and exchange. As part of this multifaceted presence, the Chinese news media have broadcast in Africa for more than half a century. For example, China first began radio transmissions to the continent in 1956 (Shinn and Eisenman 2012). However, although the presence of Chinese media in Africa is not necessarily a new phenomenon, it is clear that the commitments made in 2006 have come to fruition in the form of an expanded Chinese media presence in Africa over recent years. A few examples of these efforts include moving the Xinhua news service's overseas headquarters from Paris to Nairobi in 2006, the creation of Africa-specific programming by China Central Television (CCTV) in 2012, and the formation of China Radio International's (CRI) first foreign-based radio station in Nairobi in 2006.

Soft power, originally articulated and defined by Joseph Nye (2004), is "the ability to get what you want through attraction rather than coercion or payments. It arises from the attractiveness of a country's culture, political ideals, and policies" (p. x). While some argue China's motives in enhancing its soft power in the region are purely economic, others argue that they are motivated by a foreign policy priority to counter the influence and appeal of American propaganda overseas, while others suggest that they are motivated by a sincere desire to share Chinese culture and develop mutually beneficial respect and cooperation between the regions. Although it may be difficult to declare conclusively which of these is China's primary motive in its recent efforts to expand its soft power (and it is likely that all three of these weigh in to some degree), the potential public diplomacy implications of a popular and persuasive China in Africa are considerable.

In a bit more detail,

> in international politics, the resources that produce soft power arise in large part from the values an organization or country expresses in its culture . . . Public diplomacy is an instrument that governments use to mobilize these resources to communicate with and attract the publics of other countries, rather than merely their governments. (Nye 2008: 95)

China's effort to enhance its soft power in Africa reflects a broader shift in recent years of Chinese foreign policy to more heavily weight public diplomacy. Wang (2008) attributes this shift in China's foreign policy approach to the perceived need to counter the "China Threat" rhetoric abroad and promote, instead, the image of China's "peaceful rise," particularly in light of China's remarkable economic growth and its increasing presence on the world stage.

The relevance of China's international broadcasting presence in Africa to its soft power and public diplomacy objectives is clear. As Price and colleagues reflect, "International broadcasting, at its core, is about the behavior of states in various markets for loyalties; that expands to include entities other than states" (Price et al. 2008: 168). Youmans and Powers (2012) expand on this model of international broadcasting in light of the seismic changes new technologies have brought to contemporary information landscapes. They argue that international broadcasting should be thought of as a form of bargaining at the international level:

> Traditional bargaining involves directly engaging with another government or other governments toward an agreement, such as a formal treaty or a memorandum of understanding. International broadcasting targets the publics of other states. While it is not aimed at securing a legal agreement between states, it is undertaken to influence public perceptions about the broadcasting country or international issues. (p. 2152)

Perhaps most important, Youmans and Powers stress the necessity for international broadcasters, in the era of information abundance, to adapt their content to be more appealing to their target audience:

> Although the goal of the international bargainer is to maximize national interests, it requires finding a mutual agreement—some recognition of the other's needs and interests . . . broadcasting that only fulfills domestic political agendas and narrow notions of the national interest while disregarding the receiving public's tastes, preferences, and needs will fail to attract receiving publics. (p. 2159)

As the overview of the recent changes to Chinese media in Africa detailed in the following section illustrates, since 2006, China has, indeed, altered its approach to its international broadcasting, both organizationally and philosophically, in an attempt to generate content that is more attractive to African publics.

But, the question remains, has China been successful in enhancing its soft power via its recent news media expansion in the African region? Although it is easy to find sweeping proclamations from Chinese officials and media representatives as to the availability of Chinese media and conjectures about its popularity throughout Africa, there appear to be very limited efforts to actually measure the effect of these media on relevant African public opinion toward China. Most often, studies of Chinese media in Africa analyze the content of this media (Marsh 2016; Wekesa 2013a, 2013b; Wu 2013; Zhang 2013). Although these studies provide an important foundation, they stop short of systematically testing potential effects of this content on African attitudes toward China. This study seeks to fill this void.

Using Pew Global Attitudes Project data (Pew Research Center: Global Attitudes and Trends 2007, 2013), I first look at the distribution of opinion toward China in six African nations in 2013 across a range of measures—from attitudes about its general favorability, to the perceived influence of Chinese practices and ideas in that nation, to China's position as a world leader. I then explore correlations between these attitudes, the extent of the Chinese media presence in these countries, and the availability of access to relevant media technologies, such as televisions and radio. Admittedly, this portion of the analysis is purely illustrative—being a static analysis of these relationships at a single point in time, it can do little more than reveal correlations between access to media technology, the presence of Chinese media, and African attitudes toward China.

Thus, to better test for a causal effect of the post-2006 expansion of Chinese media and African public opinion toward the nation, I employ a second analysis in which I compare these relationships in 2007 (the first year after the publication of the Beijing Action Plan, which outlined China's plan to increase its media presence in Africa) with these same relationships in 2013 (seven years after China's commitment to expand its media presence). By comparing differences in these relationships over time, this analysis is better equipped to determine whether the sweeping public relations efforts undertaken by China to expand the reach and relevance of Chinese media in Africa after 2006 actually moved African public opinion.

Before moving on, it is necessary to discuss the fact that this analysis measures the availability and extent of Chinese media in these nations—not the actual exposure of the populations in these countries to that media. First, this is a product of necessity. There are simply no reliable numbers for how many people are actually consuming this media. Second, measuring access rather than actual exposure actually provides some advantages by enabling the analysis to avoid potential endogeneity risks.

Essentially, there are several likely correlates at the individual level between access to media, media consumption habits, and political attitudes. Thus, using the proxy of access at the state and province levels, rather than exposure at the individual level, actually avoids some of these potential risks. Moreover, opting for measures of access rather than use or exposure is growing increasingly prevalent in studies of media effects. "To overcome concerns over the endogeneity of media consumption to political attitudes, scholars have tried to establish the causal effect of access on attitudes and behaviors, exploiting idiosyncratic variation in the media menus of similar people" (Lelkes et al. 2015: 12).

In addition, this approach takes into account that it is not always the general population that is the intended or necessary target of international broadcasters. As Youmans and Powers (2012) note, to achieve its goal of "moving the needle" of public opinion in a meaningful way, international broadcasters may target a variety of audiences—from publics at large to specific issue publics to sets of elites. Relatedly, using a measure of access rather than exposure also takes into account the two-step flow of communication (Katz 1957), in which information is attained by opinion leaders through media use and then diffused via interpersonal communication between those opinion leaders and their group members. This further supports the utility of a measure of access to Chinese media in these countries, rather than the number of citizens directly exposed to that media, in terms of yielding a valid measure.

Before turning to the analysis, however, I begin with a broad overview of the Chinese interest in and relationship with the African region. Next, I review the history of Chinese media in Africa and highlight recent changes in the Chinese media presence as part of their post-2006 expansion campaigns in the domains of television, radio, news bureaus, and newspapers. This summary also touches on China's investment in telecommunication infrastructure in Africa, another avenue through which China may shape the content of African media.

China in Africa: A Brief Overview

Reliable records documenting regular interactions between China and the African region date back as far as the Tang dynasty (ca. 600 AD), with some evidence suggesting much earlier contact via trade along the Silk Road (Jinyuan 1984). In the modern era, Chinese activity on this continent took on a renewed intensity in the postcolonial and Cold War years when China was actively building its foreign relations, in part, to lobby international support for its position on Taiwan. Although somewhat episodic in terms of intensity in the decades since this reengagement, financial aid, direct investment, and resource extractions have consistently served as substantial components of China's foreign policy in Africa (Sutter 2012). As a result, China's investment in the African region far surpasses that of other leading world powers:

> What the Chinese did that no one else had done before was that they considered Africa as a market—a market for Chinese goods, institutions and services—when the rest of world viewed Africa as an economic basket case and a place for aid programs. (Powers 2013)

More recently, China's economic involvement in Africa has hit an even more accelerated pace, "China's economic ties with Africa have soared in recent years, with two-way trade in 2013 . . . hitting a record $200 billion, mainly in Chinese imports of African oil, copper and other raw material" (*Daily Mail* 2015).

Chinese Soft Power Efforts in Africa

In addition to providing more aid, trading at greater volumes, and investing more broadly on the continent than other world powers, the Chinese have also made a much more conscientious effort to shape a favorable image of its nation and culture among the African populace. For example, in only a decade after the program was initially created in 2004, there were twenty-five Confucius Institutes across eighteen African countries as of 2014 (Krageland 2014). These institutes are partnered with and hosted by African universities to provide in-depth instruction in Chinese language and culture. According to the program's Web site,

> Over recent years . . . they have become a platform for cultural exchanges between China and the world as well as a bridge reinforcing friendship and cooperation between China and the rest of the world and are much welcomed across the globe. (Confucius Institute Online 2014)

There is also China's "stadium diplomacy": a decades-old public relations tactic of building soccer stadiums throughout the developing world in an effort to build favorable opinion with local populations.

> China's stadium diplomacy has been evolving since it began giving aid to African countries in 1956 . . . Although only a sliver of China's 256.29 billion yuan, or $38.54 billion, in foreign assistance doled out between 1950 and 2009 went to the building of stadiums, the structures serve as permanent reminders of China's aid efforts in each location. (Will 2012)

As of 2010, there were fifty sports stadiums built by China across the African continent, one of which, somewhat ironically, served as the venue for President Obama's public address in Kenya during his 2015 trip to Africa (Kuo 2015).

Although Chinese media have already been broadcasting in Africa for several decades, there has been a visible push to expand the presence and relevance of Chinese media on the continent as part of the soft power campaign initiated after 2006.

> Beijing's media engagements with Africa are clearly expanding, and the benefits are widely felt. African countries are provided with the tools to strengthen their own media institutions and the ability to increase their own content output. At the same time, China is beginning to disseminate its media philosophy in Africa, where many countries are still searching for a media model. (Wu 2012: 18)

The following sections briefly outline both the historical presence of Chinese media on the continent, as well as recent efforts to expand these mediums' reach and relevance.

Radio

China Radio International (CRI) sent its first international broadcast in 1941. Since this time, its reach has expanded exponentially. In 2008, daily programming reached 192 hours in forty-three languages, and is purported to have reached more than two hundred million listeners across approximately two hundred countries (Scotton and Hachten 2010). As of 2015, CRI reported to broadcast in more than sixty languages across the globe, with more than thirty foreign correspondent stations (China Radio International 2015). These broadcasts are aired across the globe via a combination of satellites, shortwave transmitters, Web casts, CRI's own local radio stations, and partnerships with AM and FM stations to provide relays and rebroadcasts.

CRI began broadcasting in Africa specifically in 1956 (as then-named Peking Radio), and by 1965, broadcast "nearly 100 hours a week, making it 'the best-known and most effective propaganda channel of Red China in Africa'" (Shinn and Eisenman 2012: 209). Since 2000, China has donated radio equipment to a number of African countries to expand audience access to their broadcasts (Shinn and Eisenman 2012). And, in recent years, CRI has endeavored to improve the quality and relevance of its programming on the African continent. For example,

> In 2006, China Radio International (CRI) launched its first overseas FM radio station in Nairobi with a schedule of daily programming for 19 hours in English, Kiswahili and Chinese . . . sending localized programs live from its Nairobi studio shared with Kenya Broadcasting Corporation. (Li and Rønning 2013: 5)

CRI has since opened three additional local bureaus on the continent in Cairo, Lagos, and Harare. This has enabled CRI to create more localized and relevant content, with the goal of increasing its appeal and relevance to African audiences.

In recent years, China has also increased the availability of its CRI English Service on the African continent. The CRI English Service provides news, features, and music (Scotton and Hachten 2010). In part because of its accessibility to English speakers as well as its relatively higher production value, CRI English is touted as an effective "Bridge to China and the World." As of 2015, the CRI English Service broadcast more than 130 hours of programming a day across the globe (CRI English 2015a). In Africa, as of 2015, CRI English programming was available for at least two hours per day in twenty-nine different nations (CRI English 2015b).

In summary, although China has been transmitting radio broadcasts to Africa for more than half a century, both the quantity and quality of these transmissions have expanded over recent years. Since the 2006 FOCAC meeting outlined plans to improve and expand Chinese radio broadcasting in Africa, China has made visible progress in

expanding audience access to its international channel, creating more locally relevant content for African listeners, and increasing the production value of its broadcasts in the region.

Television

Founded in 1958, CCTV has been the Chinese government's flagship television broadcaster and its most visible mouthpiece. CCTV currently comprises dozens of channels—ranging from entertainment, to news, to sports—and reaches a global audience. CCTV launched its first international channel in 2000, an effort to provide a Chinese perspective to the growing market of international news channels such as Al Jazeera, the British Broadcasting Corporation (BBC), and CNN. CCTV's international presence has since increased to multiple overseas channels that broadcast in six languages (e.g., English, French, Spanish, Arabic, Russian, and Chinese) (Rotheray 2010; Scotton and Hachten 2010). As of 2010, CCTV claimed to reach an overseas audience of 45 million viewers (Rotheray 2010).

To produce more relevant and appealing content to African viewers, in 2011, CCTV established the network's regional center for Africa in Nairobi, Kenya: "The state broadcaster has 50 local staff here and 14 correspondents across the continent in South Africa, Nigeria, Somalia, Uganda, Zimbabwe, and Senegal with plans to expand to 150 staff" (Rhodes 2012). This opened the door to the production of daily television programming specific to the region in January of 2012: CCTV Africa. As reported by the CCTV Africa Web site, the motivation for this programming was to

> strengthen news coverage in Africa. In so doing, CCTV News wishes to promote communication and cooperation between China and African countries on politics, economy, trade and culture. CCTV Africa will be responsible for news-gathering and task assignments on the African continent. CCTV Africa produces two and half-hours news programs every weekday, broadcast through CCTV's English news channel. (CCTV Africa 2015)

Xinhua News Bureau

Xinhua is China's leading news service, originally founded in 1931. Although it was domestically focused in its early decades, in 1983, its content took a more global perspective when encouraged to do so under Deng Xioaping's economic reforms (Wu 2012). In recent decades, Xinhua's global presence has expanded dramatically, with more than one hundred regional hubs, editorial offices, and local bureaus across Asia, North and South America, the Middle East, and Africa (Xinhuanet 2004). According to its Web site, it is a "global news and information gathering network," which operates twenty-four hours a day to dispatch news across the globe in seven different languages (Xinhuanet 2004).

Turning to Africa specifically, "Xinhua's early presence in sub-Saharan Africa was to help the Chinese government form diplomatic relations with recently

independent African states . . . In the 1970s and 1980s, Xinhua opened 12 bureaus across Africa" (Wu 2012: 11). As of 2013, this number expanded to more than twenty Xinhua bureaus on the African continent (Li and Rønning 2013; Xinhuanet 2004).

Although Xinhua has long had a presence in Africa, following the trajectory of other Chinese media in Africa, Xinhua has endeavored to expand its reach and relevance on the continent in recent years. For example, "major changes came in 2006, when Xinhua moved its Regional Editorial Office from Paris to Nairobi—recognising the capital as a central hub in Africa for China's 'going abroad' media project" (Wu 2012: 17). In its first years, the Nairobi office employed sixty journalists and four hundred local staff in Africa, and it was reported to publish

> in every month around 1,800 pieces of news in English, 2,000 in French, 2,200 pictures and 150 pieces of video clips, surpassing its counterparts in Associated Press (AP), Reuters and Agence France Presse (AFP) in term of the quantity of news releases. (Li and Rønning 2013: 4)

In 2008, the Xinhua news agency also launched its China African News Service, another strategic effort to increase its appeal to African audiences by reporting on issues of mutual interest (Wu 2012). Over recent years, its news model in Africa has moved from generating primarily ideologically oriented stories to ones that are more geared at producing customer-oriented content (Wu 2012). In addition, to further expand its reach, Xinhua continues to provide free news, equipment, and technical support to those countries that cannot afford to pay for it (Wu 2012).

Newspaper

Although *China Daily* reaches a substantial domestic audience in China, since its inception in 1981, this English-language publication has primarily been targeted at reaching a broad global audience. As of 2015, the organization reports that it publishes,

> US, European, African, Asian and Latin American editions of the flagship brand with a total circulation of 900,000 . . . The readership, both in China and the rest of the world, is mainly high-level officials, diplomats, executives and academics . . . It uses cutting-edge design, allied with dynamic photographs and artwork, and encompasses in-depth reports to analyze affairs both in China and internationally. (*China Daily* 2011)

China Daily Africa debuted in 2012. Headquartered in Nairobi, this edition is a weekly twenty-four-page publication that covers issues specific to Africa–China relations, such as economic and trade cooperation, as well as cultural exchanges (*China Daily* 2012). As of 2015, *China Daily Africa* had circulations of 10,000 in Kenya, 9,000 in South Africa, and 5,000 in Ethiopia, with plans to expand to Nigeria in the following year (Zhen 2015).

Telecommunications Infrastructure

Although perhaps not as visible or tangible as its broadcast presence, another avenue through which China influences the content of African media coverage of its country is through its investment in telecommunication infrastructure on the continent:

> China's multipronged approach in Africa can also be seen in the telecommunications sector. China is engaged both in the production of content and meaning and in the infrastructure on which African information societies are being built. China has made inroads into the emerging telecommunications market in Africa through a mixture of loans, which are part of aid packages, and export credits, which are used to foster Chinese investment by offering resources to Chinese companies willing to invest in African markets. (Gagliardone and Geall 2014: 3)

The significance of this is the potential for Chinese investors and government officials to selectively grant contracts contingent on broadcasters adopting a preferred news model. Although the Chinese government adamantly insists that its approach in this sector is a "no-strings-attached" policy, a survey of recent contracts suggests that certain broadcasters are more likely to benefit from this exchange (Gagliardone and Geall 2014). Thus, as one scholar worries,

> The more concerning aspect of this trend, of course, involves independence and transparency. Chinese-owned media are censored. Expanding to markets where China has industrial holdings and ambitions, therefore, may not guarantee thorough reporting on business dealings, safety practices, environmental stewardship and other important issues related to these investments. (Glader 2013)

Analysis

In the following analyses, I test whether these post-2006 efforts to expand and improve the reach of Chinese media in Africa have moved public opinion more favorably toward China in six African nations. To do so, I employ multilevel mixed effects models, which are particularly useful for nested data, in which the data are clustered into multiple, hierarchical levels of interest. In this case, although the survey data are specific to the individual level, the province and nation in which each individual resides also play key roles in this dynamic. Thus, the random effects component of the model will estimate variance parameters that represent the spread (i.e., standard deviation) of the random intercepts around the common intercept of each level of interest—in this case, the country and province within which each individual lives. The fixed effects portion of the model produces estimates of the effect of Chinese media and access to media technology specific to the level of analysis of the observations—in this case, the individuals surveyed in the six African nations included in the data set. This enables the model to account for unobserved or unmeasurable variance that derives from residing in a particular country or province.

As part of this analysis, I control for both country-level and individual-level factors that are likely correlated with both media exposure and opinions about China. At the

country level, I control for the amount of aid the Chinese government gave to each country between 2001 and 2011 (Strange et al. 2013). Being that "there is a major transition in China's Africa investments from being government-driven to corporate-driven, in which private companies play an increasingly significant role" (Li and Rønning 2013: 1), I also control for the amount of Chinese foreign direct investment (Heritage Foundation and American Enterprise Institute 2016) in each nation over roughly the same period (i.e., 2005 to 2013). In addition, I control for other, nonmedia components of China's soft power campaign in Africa. Specifically, I control for the number of Confucius Institutes located in each country and the presence of soccer stadiums built by China as part of their "stadium diplomacy" campaign. Not only will these factors control for these specific nonmedia soft power efforts, but they likely also serve as proxies of the extent of broader, nonmedia soft power efforts made by China in these countries.

At the individual level, I control for a number of factors that are likely correlates of media use and public opinion toward China. These include gender, education, income, age, and whether the individual lives in an urban or rural community. Finally, I also measure the percentage of households that own a television and/or radio set at the level of each subnational province in which the respondent resides.[1] The obvious alternative to this would be to measure actual access to radio and television sets at the individual level. However, the Pew surveys did not ask about the respondents' media access. Thus, instead, I include measures of the percentage of households in each subnational province or state where an individual resides that own a TV and/or radio set. These measures are a valid—and perhaps even preferable—proxy for an individual's probability of media access, because the percentage of households that own a TV or radio in a specific province is highly correlated with an individual's likelihood of having access to a radio or television. Moreover, using this proxy for individual-level media access also has the added advantage of not being correlated with other individual-level factors that may confound the relationship between media use and public opinion.

Media access measures are necessary for this analysis because the presence and extent of Chinese media in a given country are only part of the story—after all, for Chinese media to reach and influence an audience, there must be a substantial enough portion of the population that have access to the technology that would enable them to consume that media. Therefore, several of the following tests consider the interaction between the extent of Chinese media presence in a nation and the penetration of the relevant media technology (i.e., radio and television) in the province in which the individuals reside.

Findings

Public Opinion toward China in 2013

This section begins with a simple overview of the distribution of public opinion regarding China in the six nations included in this analysis: Ghana, Kenya, Nigeria, Senegal, South Africa, and Uganda. The measures span a variety of attitudes—from opinions about the general favorability of China, to the extent and nature of China's influence in a given country, to China's role as a world leader. Figure 1 shows the
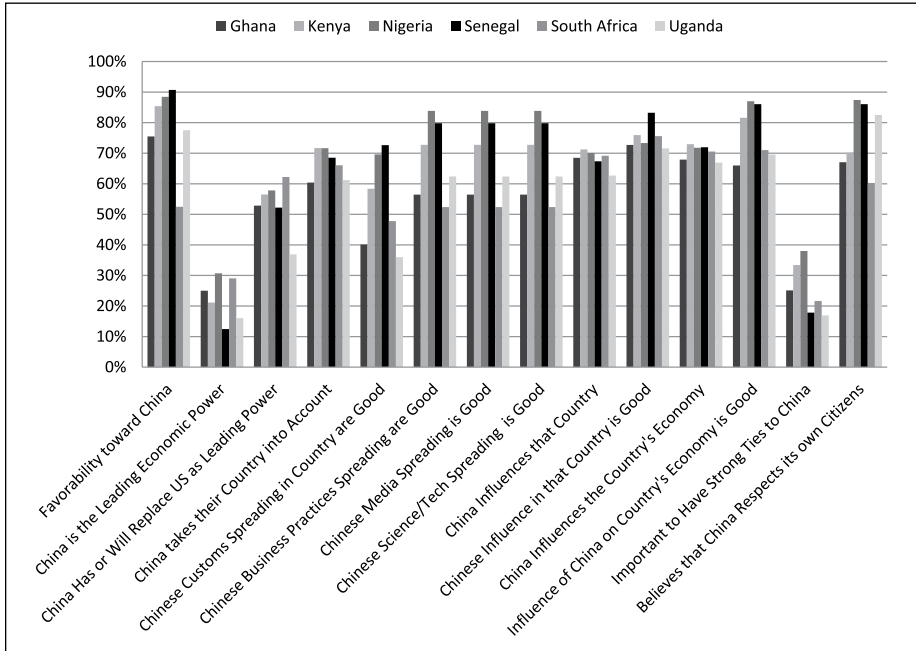
Figure 1. Public opinion toward China in six African nations in 2013.

distribution of opinion across these measures of public opinion toward China for the six African nations (see Figure 1). A cursory examination shows relatively favorable attitudes toward China across the board in all of these nations.

Now that we have a general sense of the distribution of opinion in these countries, the next step is to test whether access to media technology and the extent of the Chinese media presence in one's nation correlates with these attitudes. To facilitate this, I created a single additive measure representing the size of the Chinese media footprint in a given country. Specifically, I recode each of the individual measures of the types of Chinese media in Africa into a 3-point scale, from 0 to 1 (i.e., 0, .5, and 1). Zeroes are assigned if that type of Chinese media is not present at all in a given nation—for example, if *China Daily* does not circulate at all in that country. The intermediate value (.5) is assigned when the extent of the presence of a specific type of Chinese media in that country is greater than 0, but less than the mean value in our data set for that type of Chinese media. Finally, countries where the extent of Chinese media in a given country meets or exceeds the mean value of that indicator in this data set are assigned a value of 1. I then added each of these recoded measures together to create a single additive index representing the overall size of the Chinese media footprint in that country across the relevant dimensions (e.g., Chinese television, radio, Xinhua news service, newspapers, and investment in telecommunication infrastructure). (For more information about these measures, please refer to Table 1.)

Table 1. Chinese Media in Africa Variables Used to Build Additive Index of Chinese Media Footprint.

Country	CCTV (If Airs in Country)[a]	CCTV Correspondent (If Stationed in Country)[b]	CRI Local Language (No. of Hours of Programming)[c]	CRI English (No. of Hours of Programming)[d]	Amount of Private Telecom Investment[e]	Amount of Government Telecom Aid[f]	Xinhua Bureau (If Bureau in Country)[g]	Xinhua Bureau Staff (No. of Staff Working at the Bureaus)[h]	China Daily Africa (Size of Circulation)[i]
Ghana	1	0	0	0.5 (2)	0	0.5 (329)	1	0.5 (5)	0
Kenya	1	1	1 (14)	1 (5.5)	0	0.5 (94)	1	1 (35)	1 (10,000)
Nigeria	1	1	0.5 (5.5)	0.5 (2)	1 (1,650)	1 (3,192)	1	0.5 (8)	0
Senegal	1	1	1 (24)	0	0	0.5 (14)	0	0	0
South Africa	1	1	1 (29)	1 (3)	1 (380)	0	1	0.5 (Estimate)	1 (9,000)
Uganda	1	1	0.5 (5.5)	1 (5.5)	0	0.5 (113)	1	0.5 (3)	0

Note. Value recoded for index with original value in parentheses. CCTV = China Central Television; CRI = China Radio International.
a. For source of data, please see http://cctv-africa.com/.
b. For source of data, please see https://cpj.org/blog/2012/05/chinas-media-footprint-in-kenya.php.
c. Data attained from e-mail correspondence with Ying Lian, English Service, CRI, on June 28, 2015.
d. For source of data, please see http://english.cri.cn/4026/2007/04/27/44@221053.htm.
e. For source of data, please see https://www.aei.org/china-global-investment-tracker/.
f. For source of data, please see http://aiddata.org/aiddata-research-releases.
g. For source of data, please see http://203.192.6.89/xwcp.htm.
h. Data attained from e-mail correspondence with Daniel Ooko, Xinhua News Agency, Nairobi Bureau, on July 3, 2015. I was unable to receive personal confirmation of the exact number of staff at South Africa's Johannesburg bureau. Estimate is derived from journalists affiliated with published news stories out of that bureau, as well as LinkedIn profiles.
i. Data attained from LinkedIn correspondence with Zhen Liu, deputy director of Global Operations Office, *China Daily*, on July 6, 2015.

As discussed previously, having a large Chinese media presence in a nation is only part of the story. The other part is whether populations have access to the relevant technology to access that media content, such as radio and television sets. Thus, I run a number of tests interacting the size of the Chinese media footprint in a country and the accessibility of media technology (i.e., percentage of households in a province that own a radio or own a television set) to determine whether these measures correlate with specific opinions toward China. For clarity's sake, I report these findings as marginal effects figures, in which I map the average marginal effects of a one-unit increase in the percentage of households in the respondent's province that own a radio or television set across the spectrum of the size of the Chinese media footprint in a nation.

If China's extensive efforts to improve the reach and relevance of their media presence in these countries post-2006 had the intended effect on building their soft power, then we should see a positive correlation—so that the effect of radio or TV ownership on opinion toward China should become more positive the larger the Chinese media footprint in that nation. A negative slope would indicate that the greater the media footprint and the more access to media technology, the more negative that opinion about China grows. A flat slope indicates a null effect of the interaction of Chinese media and media access on that particular opinion. (Please see the online appendix for the regression tables that generated the marginal effects plots.)

In the first set of figures, we see a number of positive and negative slopes depicting the effect of Chinese media and access to media technology on various opinions toward China (see Figure 2a–2n). However, the 95 percent confidence intervals indicate that the size of several of these average marginal effects often fail to reach statistical significance. One important reminder, however, is these are maps of the *average* marginal effect of radio ownership. Thus, it remains possible that radio access may exert a significant effect on more of these opinions, but only at certain levels of radio ownership. For example, perhaps the effects are only evident when access to radio surpasses a certain threshold in a community.

The specific opinions where we do see the average marginal effect of radio ownership having a significant and positive interactive effect with the size of China's media presence include the belief that China is influencing the respondent's country generally, the belief that China is influencing the country's economy, that China is the world's leading economic power, and that the spreading of Chinese media and Chinese customs in that respondent's country is a good thing. There are no significant negative relationships for the interaction of radio ownership and the size of the Chinese media footprint.

Turning to the figures representing the interactive effect of the size of the Chinese media footprint in a given country and the prevalence of televisions in a respondent's home province, we see a significant positive effect on beliefs that China has an influence in one's country, that China has an influence on the economy of that country, and the belief that this economic influence is good (see Figure 3a–3n). As was the case for the analysis of the effect of radio ownership, however, there are also a number of figures that demonstrate both positive and negative slopes but with 95 percent confidence intervals that do not rule out a null effect.
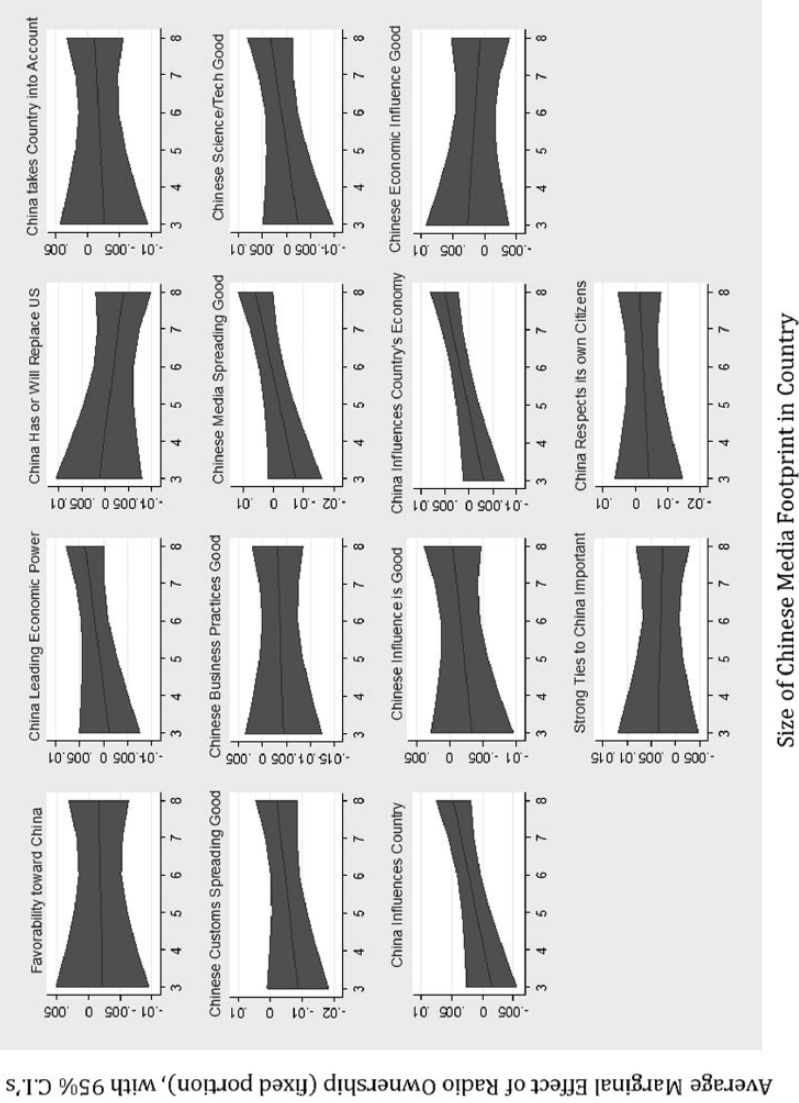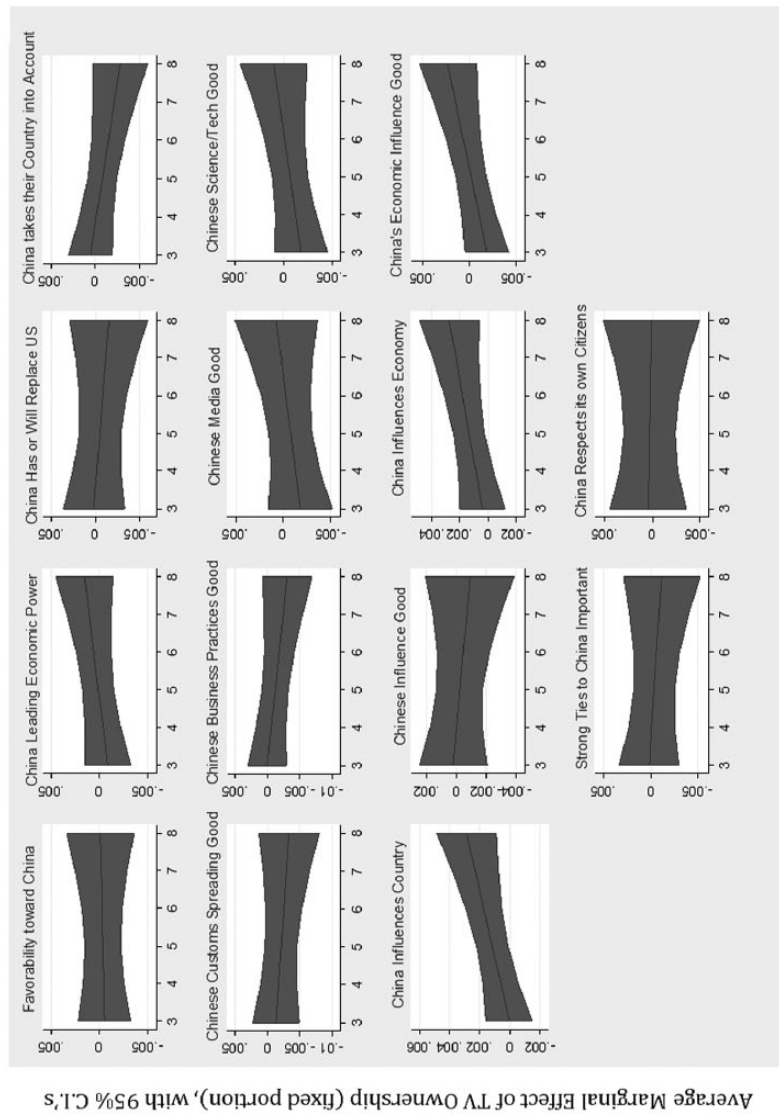
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Figure 2. Results of interaction of radio ownership and size of the Chinese media footprint on opinion toward China in 2013.
Note. CI = confidence interval.

Figure 3. Results of interaction of TV ownership and the size of the Chinese media footprint on opinion toward China in 2013.

Note. CI = confidence interval.

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The handful of positive correlations revealed by the interactions of radio and TV ownership with the size of the Chinese media footprint in a country suggests that, to some degree, the Chinese effort to expand and improve the presence of Chinese media in Africa may have had the intended effect of improving African public opinion toward China. However, as stipulated at the outset of this analysis, the best that these regressions can do is illustrate correlations. This is partly because these tests cannot rule out the possibility that there are other factors correlated with Chinese media and access to technology, which may really be driving these relationships. Fortunately, one way to address this is to compare the nature of these relationships over time—ideally, at the outset of China's push to expand its media presence in these countries and then again several years after this effort has been in place.

Changes in Public Opinion toward China in Africa between 2007 and 2013

As noted earlier, although illustrative, the previous analysis could not sufficiently control for potentially confounding factors that may be correlated with the extent of Chinese media, access to media technology, as well as public opinion toward China (i.e., omitted variable bias). Also, this analysis could not demonstrate temporal ordering, which makes the findings further susceptible to endogeneity concerns as it is not clear what moved first—public opinion toward China or the presence of Chinese media and/or access to media technology. Fortunately, we can begin to reveal a slightly better picture of the potential causal effect of China's post-2006 soft power campaign to expand its media presence in Africa by comparing the relationship between these measures in 2007 and in 2013, which somewhat assuages omitted variable bias and endogeneity concerns.

In a bit more detail, if China's concerted effort to expand and improve its media presence in Africa that began after 2006 was successful in improving opinion toward China, we should see a different (and more positive) relationship between these measures in 2013 relative to 2007. However, if there was a confounding factor that was really driving the findings revealed by the analysis of these relationships in 2013, which the analysis failed to control for, we should expect to see the exact same relationship (i.e., slope) between these variables in 2007 as in 2013.

To conduct these tests, I utilize a series of interactions, in which I compare the relationship between access to media technology and the extent of Chinese media presence on public opinion both in 2007 (the first year after FOCAC's commitment to expand their media presence in the region) and 2013 (seven years after these efforts had been underway). If there are differences in the relationships between Chinese media, media access, and public opinion toward China across these two points in time, this is a stronger test of whether the expanded Chinese media presence in a country post-2006 actually exerted the intended effect on African public.

Only three opinion variables were asked in both 2007 and 2013: how favorably the respondents viewed China, whether they believed China has an influence in their own country, and whether they believed that China's influence is good for the country. For clarity of presentation, as in the previous analysis, I include here figures of the average

marginal effects produced by the interaction of Chinese media presence and access to media technology on these three dependent variables. (See the online appendix for the tables of the regression results that generated these marginal effects estimates.)

The first sets of tests consider the effect of the size of the Chinese media footprint and the extent of radio ownership in 2007 compared with 2013 (see Figure 4a–4c). Whereas the slopes are identical in 2007 and 2013 in regard to opinions about the general favorability of China, there are distinctly more positive slopes in 2013 compared with 2007 in regard to whether China has an influence in that country and whether the influence is good. Admittedly, the 95 percent confidence intervals of these two slopes overlap, so the difference falls just outside of significance. However, the direction of the difference in these slopes is supportive of a positive effect of the expansion of Chinese media after 2006 on these two opinion variables.

Turning to the next set of tests, here I consider the interactive effect of the size of the Chinese media footprint and the extent of TV ownership in 2007 relative to 2013 (see Figure 5a–5c). In this case, there are significantly different slopes in 2013 relative to 2007 in regard to two of the opinion variables: whether China has an influence in that country, and whether that influence is good. In 2013, the larger the Chinese media presence in a country and the more access to TV's, the more favorably respondents felt toward China's influence in their country. However, six years earlier, this positive relationship was not present. This suggests that the post-2006 expansion of Chinese media presence may have exerted the intended positive effect on public opinion toward China.

Before concluding, it also seems worthwhile to look at an interaction that is more specific to the individual media considered in this analysis. Whereas up until now we have considered the total size of the Chinese media footprint in these countries, it may also be worthwhile to look at the relationship shared by access to media technologies and the specific content to which that particular technology provides access. Therefore, next, I look at the effect on public opinion of the interaction between the amount of local-language CRI radio programming in a country and access to radio sets (see Figure 6). As might be expected, there are significantly different and more positive effects in 2013 compared with 2007 for two of the opinions—both favorability toward China and whether China has a good influence in one's country.

Finally, this analysis explores the effect on public opinion of the least overt component of China's soft power campaign to expand its media presence in Africa: the effect of telecommunication infrastructure investment on public opinion in 2007 and 2013 (see Figure 7). In contrast to the other findings thus far, these tests reveal virtually identical relationships with the opinion variables in 2007 as in 2013. In both cases, there are nearly identical large and significant positive effects of telecommunication investment on these opinions toward China.

One explanation for the similarity of this relationship across these two periods may be the fact that telecommunication investment has been a prominent strategy employed by China on the continent well before 2006, with a sizable push beginning after 2000 (Wu 2013). As a result, perhaps the post-2006 change in this component of China's soft power campaign was not as dramatic as were changes to the quality and reach of
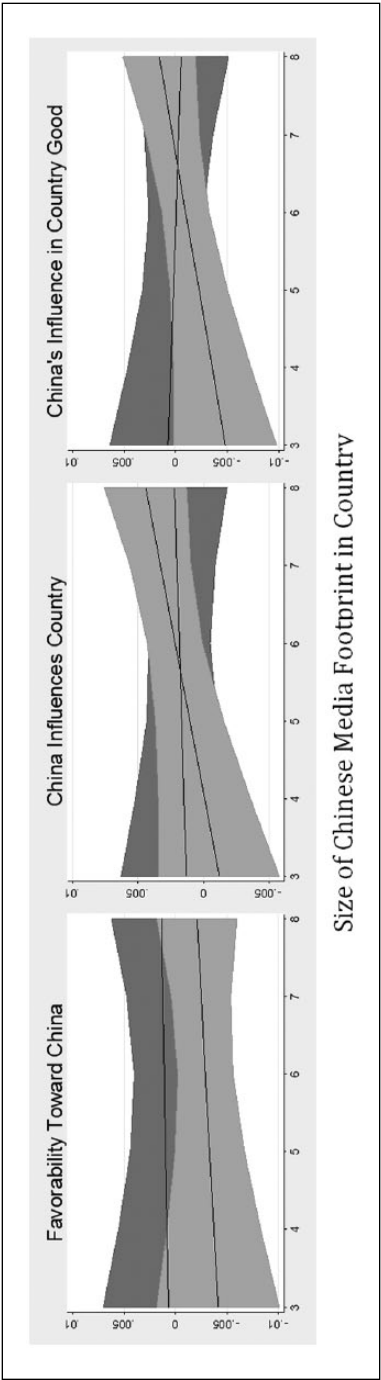
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Figure 4. Results of interactive effects on opinion toward China in 2007 (light gray) and 2013 (dark gray).
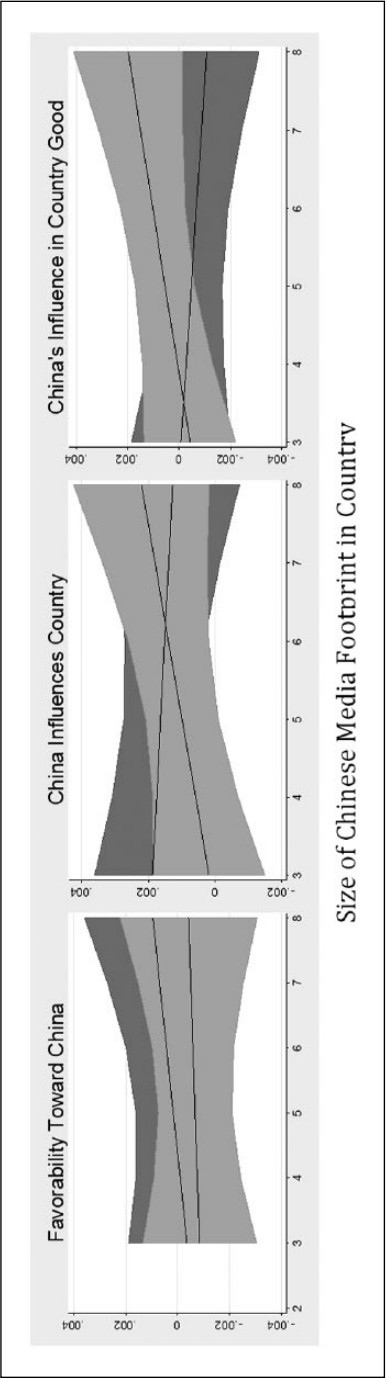*Note.* CI = confidence interval.

Figure 5. Results of interactive effects on opinion toward China in 2007 (light gray) and 2013 (dark gray).
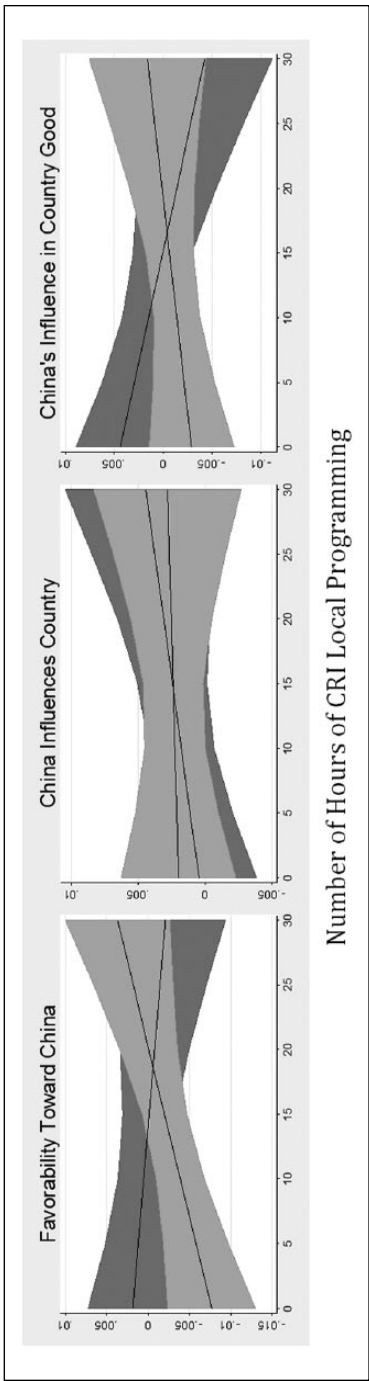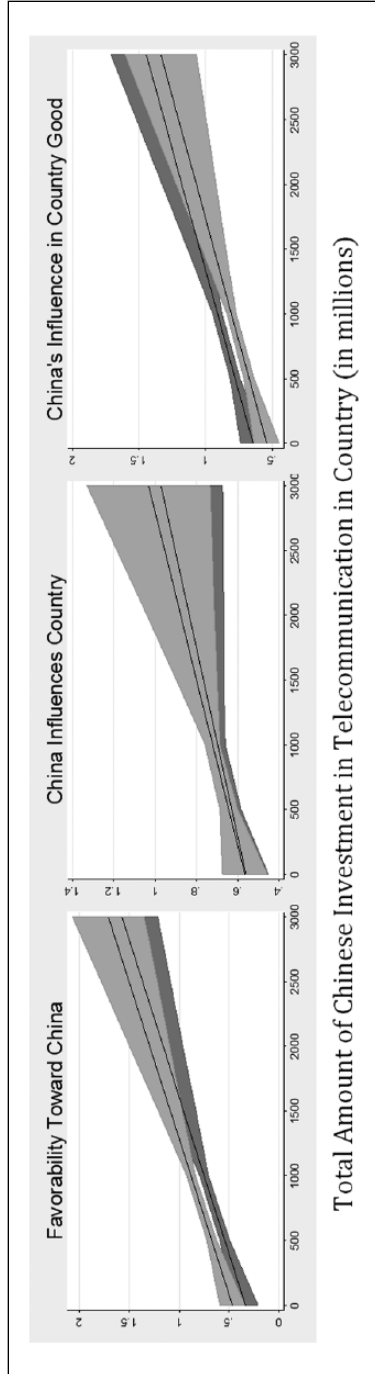
Note. CI = confidence interval.

Figure 6. Results of interactive effects on opinion toward China in 2007 (light gray) and 2013 (dark gray).
Note. CI = confidence interval.

Figure 7. Results of interactive effects on opinion toward China in 2007 (light gray) and 2013 (dark gray).
Note. CI = confidence interval.

their media broadcasts on the African continent. Alternatively, it is also possible that endogeneity may explain this finding—so that China was more likely to invest more heavily in telecommunication infrastructure in African countries that were already more favorable toward its country.

Conclusion

In conclusion, although far from conclusive, the results of this analysis suggest that China's post-2006 media expansion on the African continent may be having the desired effect on African public opinion. In the years following the 2006 FOCAC summit, which detailed an expansive plan to improve its soft power in Africa, China has made deliberate and substantial efforts to improve both the reach of its media on the African continent and, perhaps more important, its relevance. Examples of these efforts include moving the Xinhua's news service's overseas headquarters from Paris to Nairobi in 2006, the Xinhua news agency launching its China African News Service in 2008, CCTV establishing the network's regional center for Africa in Nairobi in 2011 and the creation of Africa-specific programming in 2012, the launch of an Africa-specific publication by *China Daily* in 2012, and the formation of CRI's first foreign-based radio station in Nairobi in 2006.

Despite the sweeping expansion of Chinese media in Africa over recent years, there has been limited empirical analysis of whether these efforts have had the intended effect of improving African public opinion toward China. To begin to fill this void, this study utilized Pew Global Attitudes Project public opinion data to test the effect of the presence of Chinese media and access to technology on opinions toward China in six African nations: Ghana, Kenya, Nigeria, Senegal, South Africa, and Uganda. The analysis first considered simple correlations between the size of the Chinese media presence in a country and access to media technology across a range of opinions toward China. Next, to provide a stronger causal test, these relationships were compared over two points in time—2007 (one year after the initiation of the official plan to expand China's media presence) and 2013 (seven years after this effort began).

On the whole, the results suggest that this effort appears to have generated the desired results. In many cases, the larger the Chinese media presence in a country and the more access to relevant media technology, the more favorable public opinion toward China has grown across multiple dimensions. This suggests that China's recent foreign policy recalibration to more heavily weight soft power and public diplomacy may be paying off, particularly via its international broadcasting presence on the continent. The analysis also revealed that the amount of Chinese investment in telecommunication infrastructure in Africa has a large and consistently positive relationship with favorable attitudes toward China; however, it is not entirely clear which direction the causal arrow points in this case. Finally, this analysis makes a case for the utility and validity of using measures of media access, rather than actual use or exposure, not only in cases where this information is not available but also when doing so may enable the analysis to minimize endogeneity risks.

In closing, it is likely that efforts to expand and improve China's international broadcasting presence in Africa will continue in coming years. Thus, researchers

should continue to study its effects on African public opinion toward China in an effort to better understand and predict the full range of implications of this effort for China's soft power and public diplomacy objectives in this region.

Note

1. Data for this measure are compiled from the Household and Respondent Characteristics data sets provided by the Demographic and Health Surveys (2006, 2008, 2010, and 2011) for all countries in the analysis except South Africa (see http://dhsprogram.com/Topics/Household-and-Respondent-Characteristics.cfm). South African measures are built from the General Household Survey (2010). (See https://www.datafirst.uct.ac.za/dataportal/index.php/catalog/192/data_dictionary.)

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