

Rising Powers and Grassroots Image Management: Confucius Institutes and China in the Media

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ABSTRACT

This article proposes and tests a mechanism of *grassroots image management* to explain how rising powers craft an international environment more conducive to their interests. The aim is to promote the state's foreign policy goals by influencing the perceptions of ordinary foreign citizens. To test this mechanism, we examine the impact of China's Confucius Institutes (CIs) as an observable instrument of China's grassroots image management strategy. Using data from the Global Database of Events, Language, and Tone (GDELT), we employ a spatial-temporal approach which finds that proximity to an active CI significantly and substantively improves the tone of media reporting about events relevant to China in that locality. The finding is robust to different specifications and estimation strategies, and is qualitatively consistent with results generated using household opinion data from Afrobarometer surveys. Theoretically, our results suggest the importance of systematically examining presentations and perceptions about rising powers at the popular level, in addition to focusing on elite attitudes, to understand discursive change. More directly, our findings reveal that CIs are helping to improve how China is viewed among foreign publics.

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INTRODUCTION

In the wake of China's phenomenal economic rise, questions about how the country is viewed abroad have preoccupied Chinese Communist Party (CCP) leaders. In a 2011 speech to the CCP Central Committee, then-General Secretary Hu Jintao argued that "...he who takes the dominant position in the cultural development has a strong cultural soft power and thus can be the winner in the intense international competition".¹ In a 2014 address to the central foreign affairs committee, current CCP General Secretary Xi Jinping declared: "We should increase China's soft power, give a good Chinese narrative, and better communicate China's message to the world".² Yet, the question remains: do the CCP's efforts at image management – or what it sometimes calls strengthening "discourse power" – actually work? Do they change the way that China is presented and perceived abroad?

These questions point to underlying theoretical debates about whether and how great powers can legitimize their grand strategies and/or hegemony among foreign elites and publics.³ Rising powers are not only socialized into existing norms and institutional arrangements, but also seek to change them in ways that reflect their own growing influence.⁴ Influential scholarship on questions of international ideological change and norm socialization has often trained its focus on the elite level or on international institutions.⁵

¹ Quoted in Falk Hartig, 'How China Understands Public Diplomacy: The Importance of National Image for National Interests', *International Studies Review*, Vol. 18, No. 4, 2016, p. 670.

² 'Xi Eyes More Enabling Intl' Environment for China's Peaceful Development (3)', *People's Daily*, November 30 2014, <http://en.people.cn/n/2014/1130/c90883-8815967-3.html>

³ Stacie E. Goddard and Ronald R. Krebs, 'Rhetoric, Legitimation, and Grand Strategy', *Security Studies*, Vol. 24, No. 1, 2015, pp. 5-36; Bentley B. Allan, Vucetic Srdjan, and Ted Hopf, 'The Distribution of Identity and the Future of International Order: China's Hegemonic Prospects', *International Organization*, Vol. 72, No. 4, 2018, pp. 839-869.

⁴ Xiaoyu Pu, 'Socialisation as a Two-way Process: Emerging Powers and the Diffusion of International Norms', *Chinese Journal of International Politics*, Vol. 5, No. 4, 2012, pp. 341-367.

⁵ John G. Ikenberry and Charles A. Kupchan, 'Socialization and Hegemonic Power', *International Organization*, Vol. 44, No. 3, 1990, pp. 283-315; John M. Owen IV, *The Clash of Ideas in World Politics: Transnational Networks, States, and Regime Change, 1510-2010* (Princeton: Princeton University Press, 2010); Rosemary Foot and Andrew Walter, 'Global Norms and Major State Behaviour: The Cases of China and the United States', *European Journal of International Relations*, Vol. 19, No. 2, 2012, pp. 329-352; Mark L. Haas, 'Ideological Polarity and Balancing in Great Power Politics', *Security Studies*, Vol. 23, No. 4, 2014, pp. 715-753.

However, in line with recent work by Allan, Vucetic, and Hopf, we argue that this represents relatively “thin” ideational influence insofar as it does not have a foundation in popular beliefs.⁶ The influence of a rising power’s ideas do not remain isolated in elite circles or at the international level and the success of rising powers often stokes admiration, emulation, and/or fear in the publics of other states.⁷

Inspired by existing theories of soft power, hegemonic norms, and ideological promotion, we propose a mechanism of *grassroots image management* to help explain how rising powers craft an international environment more conducive to their interests by influencing how they are perceived by ordinary foreign citizens. Successful grassroots image management allows the rising power to subtly contest existing hegemonic ideas without directly challenging them in highly visible and confrontational ways. The logic is long-term and aims to influence public thinking in the hopes that the popular level “filters up” to political elites to reduce opposition to (or even facilitate support for) the rising power’s agenda.

Using the Chinese case, this paper illuminates the means by which ascendant powers attempt to shape cultural and ideational discourse seemingly from the bottom up. While China’s grassroots image management occurs via multiple channels, in this paper we proxy for these efforts by using a spatial-temporal approach to examine the impact of China’s Confucius Institutes (CIs), which are centres of cultural outreach that have spread across the globe since 2004. CIs constitute a major dimension of China’s grassroots image management. Indeed, in 2007, the global head of CIs, Xu Lin, remarked that they were the “brightest

⁶ Bentley B. Allan, Vucetic Srdjan, and Ted Hopf, ‘The Distribution of Identity and the Future of International Order’.

⁷ Seva Gunitsky, *Aftershocks: Great Powers and Domestic Reforms in the Twentieth Century* (Princeton: Princeton University Press, 2017); Jorgen Moller, Svend-Erik Skaaning, and Jakob Tolstrup, ‘International Influences and Democratic Regression in Interwar Europe: Disentangling the Impact of Power Politics and Demonstration Effects’, *Government and Opposition*, Vol. 52, No. 4, 2017, pp. 559-586.

brand” in China’s soft power repertoire.⁸ More details will be provided below, but in sum CIs are partnerships between Chinese and foreign universities, overseen by an arm of the Chinese education bureaucracy, to facilitate the teaching of Chinese language and culture at the host university. There are now more than 500 CIs in more than 140 countries around the world.

Specifically, the paper draws on a geo-coded dataset of all CIs in the world to assess how the tone of media content about China changes (if at all) in areas where they are located. Measuring media sentiment in this way is an important link in grassroots image management as Chinese authorities have long sought to counter what they perceive as biased and negative media coverage of China. If China’s image is improving in a locality then this is likely to be reflected in media coverage of events in that locality that relate to China. Using data from the Global Database of Language, Events and Tone (GDELT), the paper finds that proximity to an active, open, CI improves the tone of media reporting about events relevant to China in that locality by about 6% on average, compared to locality-times where a CI will, but has not yet, opened. Put less strictly, opening a CI improves the way China is presented in that area when compared to a situation where no CI was opened in that area.

The finding, which is robust to a number of different specifications and estimation strategies, has important implications for the way we view discursive change on the global level. It suggests the importance of systematically examining ideational change pertinent to rising powers at the popular level in addition to focusing on elite attitudes. Specific to China, it is one of the few scholarly efforts to systematically measure the effectiveness of CCP soft

⁸ Kingsley Edney, *The Globalization of Chinese Propaganda: International Power and Domestic Political Cohesion* (New York: Palgrave 2014), p. 110; William A. Callahan, ‘Identity and Security in China: The Negative Soft Power of the China Dream’, *Politics*, Vol. 35, Nos. 3-4, 2015, p. 225; Ying Zhou and Sabrina Luk, ‘Establishing Confucius Institutes: A Tool for Promoting China’s Soft Power?’, *Journal of Contemporary China*, Vol. 25 No. 100, 2016, p. 633.

power globally and suggests that China is, indeed, increasingly shaping its image at the grassroots level in ways that will have implications for the future of international politics.

GLOBAL DISCOURSE, RISING POWERS, AND GRASSROOTS IMAGE MANAGEMENT

The ideologies and narratives of powerful states do not stay contained within their borders. On the contrary, they exert influence internationally and shape both the international environment and the domestic discourses of other states. For example, the rise of fascist Italy and Germany had profound effects on the politics of interwar European states⁹ while the ideological contest between the United States and the Soviet Union permeated just about every corner of the globe for decades.¹⁰

How does ideational influence happen? Perhaps most often, the mechanism is passive and based on diffusion or emulation. The example of a highly successful political system in a powerful state can inspire actors in other states to incorporate aspects of the exemplar's institutions or even to adopt that country's political system entirely.¹¹ States with high levels of "prestige" can have outsized influence in shaping political values of other states,¹² while stigmatized states will find it difficult to exert such influence.¹³

However, beyond relying on passive admiration, major states have several reasons to consciously propagate their domestic ideas abroad. In his study of forcible regime promotion,

⁹ Kurt Weyland, 'Autocratic Diffusion and Cooperation: The Impact of Interests vs. Ideology', *Democratization*, Vol. 24, No. 7, 2017, pp. 1235-1252.

¹⁰ Odd Arne Westad, *The Global Cold War: Third World Interventions and the Making of Our Times* (Cambridge: Cambridge University Press, 2005).

¹¹ Seva Gunitsky, *Aftershocks*; Benjamin O. Fordham and Victor Asal, 'Billiard Balls or Snowflakes? Major Power Prestige and the International Diffusion of Institutions and Practices', *International Studies Quarterly*, Vol. 51, No. 1, 2007, pp. 31-52.

¹² Thomas Ambrosio, 'Constructing a Framework of Authoritarian Diffusion: Concepts, Dynamics, and Future Research', *International Studies Perspectives*, Vol. 11, No. 4, 2010, p. 386.

¹³ Rebecca Adler-Nissen, 'Stigma Management in International Relations: Transgressive Identities, Norms, and Order in International Society', *International Organization* Vol. 68, No. 1, 2014, pp. 143-176.

Owen distinguishes two reasons for doing so: internal and external security.¹⁴ The logic of internal security is to strengthen power at home. A positive image abroad can demonstrate to a domestic audience that the state's ideology and leaders are respected and admired overseas.¹⁵ Furthermore, an ideology circulating internationally that runs counter to the state's legitimating narrative may be seen as a threatening to domestic control. This resonates with a "diffusion proofing" perspective in which states seek to halt the import of threatening ideas or practices by delegitimizing them at home and abroad.¹⁶

The logic of external security is to forge an international environment friendlier to the interests and values of the state.¹⁷ Here the state is trying to build international coalitions of like-minded states to alter the global balance of power in its favour. This means that the state increasingly sees its values reflected in the international system, which in turn helps "to set the standards by which regimes are judged".¹⁸ Promoting a government's ideas can help it bring new states into its orbit and preserve or deepen linkages with already friendly states. The upshot is an external environment that is more conducive to the realization of the state's foreign policy goals and, by extension, a firmer foundation for domestic security.

Owen's analysis focuses explicitly on forcible regime promotion in the sense of direct intervention, but this is only the most extreme manifestation of a tendency for powerful states to externalize their ideas. States also employ more subtle means to improve internal and external security through promoting their values, ideologies, and norms abroad. Great power states actively legitimate elements of their grand strategies to foreign and domestic

¹⁴ John M. Owen, *The Clash of Ideas in World Politics: Transnational Networks, States, and Regime Change, 1510-2010*. (Princeton, NJ: Princeton University Press, 2010).

¹⁵ Heike Holbig, 'International Dimensions of Legitimacy: Reflections on Western Theories and the Chinese Experience', *Journal of Chinese Political Science*, Vol. 16, No. 2, 2011, pp. 161-181; Bert Hoffmann, 'The International Dimension of Authoritarian Regime Legitimation: Insights from the Cuban Case', *Journal of International Relations and Development*, Vol. 18, No. 4, 2015, pp. 556-574.

¹⁶ Karrie J. Koesel and Valerie J. Bunce, 'Diffusion-proofing: Russian and Chinese Responses to Waves of Popular Mobilizations Against Authoritarian Rulers', *Perspectives on Politics*, Vol. 11, No. 3, 2013, pp. 753-768.

¹⁷ John M. Owen, *The Clash of Ideas in World Politics*, p. 69.

¹⁸ John M. Owen, *The Clash of Ideas in World Politics*, p. 69.

audiences.¹⁹ They “cultivate their international image” to influence how they are perceived.²⁰ This can take the form of a defensive “stigma management” in which states cope with their negative image²¹ to more active attempts to secure ideational hegemony and shape world order.²²

Rising powers face an international normative environment in which their own ideas may be subordinate. Rising powers are more likely to be “norm takers” in the early stages of their rise because their material power and status are not sufficient to challenge the hegemon but can become more active “norm shapers” as their power increases.²³ A part of this process entails subtly undermining dominant ideas to which it objects and nudging existing international norms closer to the rising power’s preferred vision.²⁴

While the focus on ideational change, norms, status, prestige, and socialization often lies at the elite level,²⁵ Allan et al. argue that such approaches “underestimate the power of mass beliefs.”²⁶ Shaping wider overseas public opinion about a state’s identity and intentions constitutes a “stronger and more robust” form of hegemony in part because it constrains elite decision makers who find it difficult to consistently and obviously ignore public opinion in foreign policy formation.²⁷ Here we build on these theories of mass hegemony by proposing the mechanism of grassroots image management. Rising powers may not be prepared or

¹⁹ Stacie E. Goddard and Ronald R. Krebs, ‘Rhetoric, Legitimation, and Grand Strategy’.

²⁰ Benjamin O. Fordham and Victor Asal, ‘Billiard Balls or Snowflakes?’, p. 33.

²¹ Rebecca Adler-Nissen, ‘Stigma Management in International Relations’.

²² Bentley B. Allan, Vucetic Srdjan, and Ted Hopf, ‘The Distribution of Identity and the Future of International Order.’

²³ Xiaoyu Pu, ‘Socialisation as a Two-way Process’.

²⁴ Randall L. Schweller and Xiaoyu Pu, ‘After Unipolarity: China’s Visions of International Order in an Era of US Decline’, *International Security*, Vol. 36, No. 1, 2011, pp. 41-72; Jochen Prantl, ‘Taming Hegemony: Informal Institutions and the Challenge to Western Liberal Order’, *Chinese Journal of International Politics*, Vol. 7, No. 4, 2014, pp. 449-482; Samuel Brazys and Alexander Dukalskis, ‘Canary in the Coal Mine? China, the UNGA, and the Changing World Order’, *Review of International Studies*, Vol. 43, No. 4, 2017, pp. 742-764.

²⁵ John G. Ikenberry and Charles A. Kupchan, ‘Socialization and Hegemonic Power’; Benjamin O. Fordham and Victor Asal, ‘Billiard Balls or Snowflakes?; John M. Owen, *The Clash of Ideas in World Politics*; Mark L. Haas, ‘Ideological Polarity and Balancing in Great Power Politics’.

²⁶ Bentley B. Allan, Vucetic Srdjan, and Ted Hopf, ‘The Distribution of Identity and the Future of International Order’, p. 6.

²⁷ *Ibid.*, pp. 8-11.

willing to impose their ideological systems in the way that Owen proposes, and they may not yet be capable of attaining the deep hegemony that Allan et al. identify. Absent the ability or desire to mount a frontal assault on hegemonic ideas at the popular level, rising powers can opt for a subtler strategy of managing their image among foreign publics to minimize opposition to their foreign policies and, in the longer run, craft an enabling public opinion environment for their increased power.

How exactly do states manage their image at the popular level? The advent of “soft power” is the most well-known conceptual example of non-forcible ideological promotion.²⁸ The idea is to get others to do what you want them to do without co-optation or coercion. However, soft power as an analytical device has been criticized extensively for being conceptually indistinct, ignoring agency, and underestimating underlying dimensions of material power and coercion.²⁹ Nevertheless, today’s major power states, including the United States, China, and Russia, all use the language of soft power to some degree, albeit with different understandings of the term.³⁰ Contrary to Nye’s original idea, in the cases of China and Russia, the concept of soft power is understood to be an explicitly state-driven enterprise to bolster the foreign policy objectives of the government.

States operationalize soft power, at least in part, through “public diplomacy” that engages with foreign citizens to advance the state’s interests and values.³¹ The idea is to cultivate a positive image about the state by establishing a media presence abroad, engaging

²⁸ Joseph S. Nye, ‘Soft Power’, *Foreign Policy*, 80 (1990), pp. 153-171.

²⁹ Janice Bially Mattern, ‘Why “Soft Power” Isn’t So Soft: Representational Force and the Sociolinguistic Construction of Attraction in World Politics’, *Millennium: Journal of International Studies*, Vol. 33, No. 5, 2005, pp. 583-612; Laura Roselle, Alister Miskimmon, and Ben O’Loughlin, ‘Strategic Narrative: A New Means to Understand Soft Power’, *Media, War & Conflict*, Vol. 7, No. 1, 2014, pp. 70-84.

³⁰ Kingsley Edney, *The Globalization of Chinese Propaganda*; Jeanne L. Wilson, ‘Russia and China Respond to Soft Power: Interpretation and Readaptation of a Western Concept’, *Politics*, Vol. 35, No. 3-4, 2015, 287-300.

³¹ Paul Sharp, ‘Revolutionary States, Outlaw Regimes and the Techniques of Public Diplomacy’, In (ed.) Jan Melissen, *The New Public Diplomacy: Soft Power in International Relations*. (London: Palgrave, 2005), p. 106.

in cultural initiatives, funding visible material projects, and so on. The aim is to influence the “milieu factors that constitute the psychological and political environment in which attitudes and policies towards other countries are debated”.³² However analytically unsatisfactory “soft power” is as a scholarly concept, the fact remains that states have incentives to promote a positive image of themselves abroad and take active policy steps to do so.

What ideas do states aim to promote or oppose? Given the decreased salience of grand transnational ideological battles in the post-Cold War era, the focus has turned to the dynamics of democracy promotion, democracy resistance, and what some call autocracy promotion.³³ As the United States and European Union promoted democracy with renewed vigour in the 1990s and beyond, major authoritarian states like China and Russia did not stand still.³⁴ Given that China has risen during a period in which democracy was the hegemonic idea of political order,³⁵ the question became how vigorously rising or resurgent authoritarian powers would reshape their external environment to mirror their values. While there is not a coherent project of Comintern-style ideological promotion at work,³⁶ rising states like China still have interest-based incentives to ensure that their domestic political systems are looked upon favourably abroad.³⁷ A rising authoritarian state in an international system that prioritizes democracy has domestic reasons to assert the legitimacy of its own system.³⁸ Indeed, it is clear that the CCP views Western-style democracy and human rights as

³² Jan Melissen, ‘The New Public Diplomacy: Between Theory and Practice,’ In (ed.) Jan Melissen, *The New Public Diplomacy: Soft Power in International Relations*, (London: Palgrave, 2005), p. 15.

³³ Julia Bader, Jorn Gravinghold, and Antje Kastner, ‘Would Autocracies Promote Autocracy? A Political Economy Perspective on Regime-Type Export in Regional Neighborhoods’, *Contemporary Politics*, Vol. 16, No. 1, 2010, pp. 81-100; Christian von Soest, ‘Democracy Prevention: The International Collaboration of Authoritarian Regimes’, *European Journal of Political Research*, Vol. 54, No. 4, 2015, pp. 623-638; Kurt Weyland, ‘Autocratic Diffusion and Cooperation’.

³⁴ Karrie J. Koesele and Valerie J. Bunce, ‘Diffusion-proofing’.

³⁵ Bentley B. Allan, Vucetic Srdjan, and Ted Hopf, ‘The Distribution of Identity and the Future of International Order’.

³⁶ Oisín Tansey, ‘The Problem with Autocracy Promotion’, *Democratization*, Vol. 21, No. 1, 2016, pp. 141-163.

³⁷ Benjamin O. Fordham and Victor Asal, ‘Billiard Balls or Snowflakes?’, John M. Owen, *The Clash of Ideas in World Politics*.

³⁸ Alexander Dukalskis, *Toward a Theory of Authoritarian Extraterritorial Image Management*, SPIRe Working Paper WP09, 2018, School of Politics and International Relations, University College Dublin, Ireland.

existential threats to be guarded against.³⁹ In the next section and in light of this theoretical discussion, we turn to the CCP's aims and objectives when it comes to improving how China and its political system are perceived abroad.

RISING CHINA, EXTERNALIZING PROPAGANDA, AND CONFUCIUS INSTITUTES

Since at least 2007, the CCP has been on a mission to transform China's image abroad. As a rising global power wishing to transform the status quo through evolutionary rather than disruptive means,⁴⁰ the CCP understood that China had strong incentives to more actively shape its international ideational environment. The result has been a clear push to externalize China's propaganda efforts. As Wang put it: "In the past, China was passive and reluctant to express itself in international society. That time has now passed."⁴¹

Along with China's economic rise came what the Chinese government calls the "China Threat Theory".⁴² The idea reflects realist thinking insofar as China becomes more powerful other states will be more likely to see it as a threat. One major way to counter such thinking is through a robust program of public diplomacy and external propaganda.⁴³ On this account, the CCP understands that China has a negative political image in the world and seeks to remedy such perceptions both by presenting a positive image of China and by

³⁹ See, for example, the case of Document No. 9, ChinaFile, 'Document 9: A ChinaFile Translation', *ChinaFile*, November 8, 2013: <http://www.chinafile.com/document-9-chinafile-translation>, accessed August 9, 2018); Alexander Dukalskis, *The Authoritarian Public Sphere: Legitimation and Autocratic Power in North Korea, Burma, and China* (New York: Routledge, 2017).

⁴⁰ Sheng Ding, 'Analyzing Rising Power from the Perspective of Soft Power: A New Look at China's Rise to the Status Quo Power', *Journal of Contemporary China*, Vol. 19, No. 64, 2010, p. 259.

⁴¹ Yiwei Wang, 'Public Diplomacy and the Rise of Chinese Soft Power', *The ANNALS of the American Academy of Political and Social Science*, Vol. 616, No. 1, 2008, p. 261.

⁴² 'Xi Eyes More Enabling Intl' Environment for China's Peaceful Development (3)', *People's Daily*.

⁴³ Sheng Ding, 'Analyzing Rising Power from the Perspective of Soft Power: A New Look at China's Rise to the Status Quo Power', *Journal of Contemporary China*, Vol. 19 No. 64, 2010, pp. 255-272; Kejin Zhao, 'The Motivation Behind China's Public Diplomacy', *Chinese Journal of International Politics*, Vol. 8 No. 2, 2015, pp. 167-196.

refuting what it perceives as distortions.⁴⁴ The ultimate aim, according to Edney is for the CCP to safeguard the primacy of its official discourse to the exclusion of narratives that might undermine it.⁴⁵

Several CCP elites highlighted the importance of improving China's image abroad even before the advent of the more internationally assertive Xi Jinping leadership.⁴⁶ For example, former Politburo Standing Committee member Liu Yunshan argued in 2009 that China's "communication capability" had to match its "international status" as a matter of urgency, continuing: "In this modern era, who gains the advanced communication skills, the powerful communication capability and whose culture and value is more widely spread is able to more effectively influence the world".⁴⁷ Li Changchun, propaganda head and Standing Committee member from 2002 to 2012 argued in 2008 that it was necessary to "grasp hold of foreign propaganda work in the mutual connection between the international and domestic situations...[to achieve]...a more favourable international public opinion environment for the construction of an all-around well-off society".⁴⁸ Former director of the State Council Information Office, a major entity involved in external-facing propaganda, Zhao Qizheng, argued in 2006 that China's external propaganda efforts should "serve the country's reform and opening and social development" and that the "fundamental task of foreign propaganda work" was to create a "positive international public opinion environment for the building of socialism with Chinese characteristics".⁴⁹

⁴⁴ Falk Hartig, 'How China Understands Public Diplomacy', pp. 661; Dylan Loh, 'Defending China's National Image and 'Defensive Soft Power': the Case of Hong Kong's 'Umbrella Revolution', *Journal of Chinese Political Science*, Vol. 22, No. 1, 2017, pp. 117-134.

⁴⁵ Kingsley Edney, *The Globalization of Chinese Propaganda*, p. 77.

⁴⁶ David Shambaugh, *China Goes Global: The Partial Power*. (Oxford: Oxford University Press, 2013), pp. 209-216; Mingjiang Li, 'China Debates Soft Power', *Chinese Journal of International Politics*, Vol. 2, No.2, 2008, pp. 287-308.

⁴⁷ Quoted in David Barboza, 'China Looks to Improve its Image Abroad', *New York Times*, January 4, 2009, <https://www.nytimes.com/2009/01/14/technology/14iht-cctv.4.19362275.html>, accessed August 19, 2019.

⁴⁸ Quoted in Kingsley Edney, *The Globalization of Chinese Propaganda*, p. 76.

⁴⁹ Quoted in Kingsley Edney, *The Globalization of Chinese Propaganda*, p. 76.

Creating positive public opinion abroad is a challenge from the Chinese perspective because it faces what Wang calls a “hegemony of discourse” insofar as Western media outlets and ideology shape opinion more than Chinese equivalents.⁵⁰ Remedying this deficit is part of what Wilson identifies as a CCP belief that the global cultural sphere is a realm of competition between China and its rivals, which necessitates investments and improvements in soft power.⁵¹ As CCP General Secretary Xi Jinping put it in a 19 August 2013 speech to the National Propaganda and Ideology Work Conference: it is necessary to “...tell China’s story well, disseminate China’s voice well, and strengthen our discourse power internationally”.⁵²

The CCP has indeed devoted considerable resources to strengthening its international discursive power. In 2009, the government launched an initiative backed with financial investment of 45 billion RMB (about \$6.6 billion) to bolster its external propaganda system.⁵³ It cultivates elites to be “friends of China” and buys paid supplements in major international newspapers like *The Economist* or the *Washington Post*.⁵⁴ China’s diplomats are increasingly active in sharing positive stories about China on international social media platforms.⁵⁵ The CCP has invested in major media initiatives resulting in the global expansion of newspapers, websites, and wire services like *Xinhua*, the *People’s Daily*, and the *Global Times*. In 2016,

⁵⁰ Yiwei Wang, ‘Public Diplomacy and the Rise of Chinese Soft Power’, p. 265.

⁵¹ Jeanne L. Wilson, ‘Russia and China Respond to Soft Power’, p. 292.

⁵² China Copyright and Media, ‘Xi Jinping’s 19 August Speech Revealed? (Translation)’, (2013), <https://chinacopyrightandmedia.wordpress.com/2013/11/12/xi-jinpings-19-august-speech-revealed-translation/>; Wen-Hsuan Tsai, ‘Enabling China’s Voice to Be Heard by the World: Ideas and Operations of the Chinese Communist Party’s External Propaganda System’, *Problems of Post-Communism*, Vol. 64, Nos. 3-4, 2017, p. 208; Anne-Marie Brady, ‘China’s Foreign Propaganda Machine’, *Journal of Democracy*, Vol. 26, No.4, 2015, pp. 51-59.

⁵³ Anne-Marie Brady, ‘China’s Foreign Propaganda Machine’; Wen-Hsuan Tsai, ‘Enabling China’s Voice to Be Heard by the World’, p. 204.

⁵⁴ Anne-Marie Brady, ‘China’s Foreign Propaganda Machine’.

⁵⁵ Alexandre Zhao Huang and Rui Wang, ‘Building a Network to ‘Tell China Stories Well’: Chinese Diplomatic Communication Strategies on Twitter’, *International Journal of Communication*, Vol. 13, 2019, pp. 2984-3007.

the foreign-facing versions of China Central Television were relaunched as China Global Television Network (CGTN) in English, Spanish, French, Arabic, and Russian with a sleeker look and a clear intent to help disseminate a “Chinese perspective” on global affairs. The aim of such initiatives is to make the CCP’s narrative about events widely available and easily accessible.⁵⁶

China pursues grassroots image management through a number of avenues, including people-to-people exchanges, media investments, and aid projects. However, a particularly important part of China’s renewed emphasis on “telling its story” abroad has been the rapid expansion of its Confucius Institutes (CI) project.⁵⁷ CIs are arrangements on university campuses outside of China in which the university hosts Chinese language and culture instructors provided by China. There is variation in what CIs emphasize in each location, although the common thread that ties them together is the promotion of Chinese language and culture. Additionally, CIs frequently hold public events such as art exhibitions or Chinese New Year celebrations. The Chinese Language Council International, more commonly known as Hanban, launched the CI project in 2004. Hanban operates under the Ministry of Education, which in China’s Leninist political structure is ultimately overseen by the CCP’s Central Propaganda Department.

In this sense, it is clear that “CIs are not independent institutions, but agents of the state” and ultimately the CCP.⁵⁸ CIs, under the guidance of the CCP, help to transmit China’s preferred narratives about itself, its political system, and its global position.⁵⁹ With their

⁵⁶ Margaret E. Roberts, *Censored: Distraction and Diversion Inside China’s Great Firewall*, (Princeton: Princeton University Press, 2018), p. 87

⁵⁷ James F. Paradise, ‘China and International Harmony: The Role of Confucius Institutes in Bolstering Beijing’s Soft Power’, *Asian Survey*, Vol. 49, No.4, 2009, pp. 647-669; Su-Yan Pan, ‘Confucius Institute Project: China’s Cultural Diplomacy and Soft Power Projection’, *Asian Education and Development Studies*, Vol. 2, No. 1, 2013, pp. 22-33; Falk Hartig, ‘Communicating China to the World: Confucius Institutes and China’s Strategic Narratives’, *Politics*, Vol. 35, Nos. 3-4, 2015, pp. 245-258.; Xin Liu, ‘So Similar, So Different, So Chinese: Analytical Comparisons of the Confucius Institute with its Western Counterparts’, *Asian Studies Review*, Vol. 43 No. 2, 2017, pp. 256-275.

⁵⁸ Su-Yan Pan, ‘Confucius Institute Project’, p. 26.

⁵⁹ Falk Hartig, ‘Communicating China to the World’, p. 248.

emphasis on Chinese language and traditional culture, CIs can be seen as part of an approach to make China appear benign and less threatening.⁶⁰ In interviews, Hartig found that local level CI directors or administrators generally do not readily admit that CIs constitute an arm of Beijing's foreign policy.⁶¹ However, at a broader strategic level CIs are clearly linked to CCP's foreign policy goals. They are "part of a broader soft power projection in which China is attempting to win hearts and minds for political purposes".⁶² Indeed, the CCP leadership's own statements and rhetoric emphasize that CIs are a tool of enhancing national influence abroad and creating a more conducive international environment to its interests.⁶³

From China's perspective, the theory of change for public diplomacy efforts like CIs relies on a grassroots image management logic: influence public opinion in the host state so that this influences how the government interacts with China.⁶⁴ Or, as China's Ministry of Foreign Affairs put it in 2004: "The basic goal of public diplomacy is to enhance exchanges and interactions with the public in order to guide and win the understanding and support of the public for foreign policies".⁶⁵ Of course, in the context of Chinese soft power, the line between elites and mass audiences is never entirely clear-cut.⁶⁶ Public opinion includes a cross-section of the population, but it is clear that China's external propaganda strategies go beyond an elite focus to address the broader public. There are two links to this grassroots image management logic. First, to influence public opinion to be more positively disposed toward China. Second, to let that public opinion "filter up" to influence elite policy to be more amenable to China's interests.

⁶⁰ Su-Yan Pan, 'Confucius Institute Project', p. 29.

⁶¹ Falk Hartig, 'Communicating China to the World', pp. 249-250.

⁶² James F. Paradise, 'China and International Harmony', p. 549

⁶³ Ying Zhou and Sabrina Luk, 'Establishing Confucius Institutes', pp. 629-630; Kingsley Edney, *The Globalization of Chinese Propaganda*, pp. 110; Callahan, 'Identity and Security in China', p. 225; Marshall Sahlins, 'Confucius Institutes: Academic Malware', *Asia-Pacific Journal*, Vol. 12, No. 46, 2014, pp. 3-7.

⁶⁴ Falk Hartig, 'How China Understands Public Diplomacy', p. 671.

⁶⁵ Kejin Zhao, 'The Motivation Behind China's Public Diplomacy', p. 176.

⁶⁶ Alan Hunter, 'Soft Power: China on the Global Stage', *Chinese Journal of International Politics*, Vol. 2, No. 3, pp. 397-398.

While there has been some empirical research on outcomes related to the second part of the second question, namely about trade policy and travel flows associated with the presence of a CI,⁶⁷ there is surprisingly little empirical research on how China's public diplomacy and, in particular, its CIs shape public representations of China.⁶⁸ This is an important question and if the CCP is able to actively influence public perceptions in other states about China, then this could be a powerful tool in achieving its foreign policy aims.

However, there is also the possibility that the CI project stokes backlash and ultimately undermines China's grassroots image management efforts.⁶⁹ From this perspective, CIs are not seen an element of "soft" power insofar as they rely on inducements and have been involved in controversies regarding academic censorship.⁷⁰ The CCP presents the CI project as an anodyne cultural initiative but if citizens in host states view it as an aggressive propaganda initiative by an authoritarian state, then the presence of CIs may backfire and damage China's reputation abroad. This possibility resonates with those who argue that China's authoritarian political system ultimately limits its ability to project effective soft power abroad.⁷¹

From China's perspective, a key aspect of improving its image is securing more favourable media coverage. The CCP has long perceived that foreign media coverage of China is negatively biased.⁷² As noted above, Chinese elites lament the dominance of

⁶⁷ Donald Lien, Chang Hoon Oh, and W. Travis Selmier, 'Confucius Institute Effects on China's Trade and FDI: Isn't it Delightful When Folks Afar Study Hanyu?' *International Review of Economics & Finance*, Vol. 21, No. 1, 2012, pp. 147-155; Donald Lien, Sucharita Ghosh, and Steven Yamarik, 'Does the Confucius Institute Impact International Travel to China? A Panel Data Analysis', *Applied Economics*, Vol. 46, No. 17, 2014, 1985-1995.

⁶⁸ For a notable exception in this direction, see Samantha Custer, Brooke Russell, Matthew DiKorenzo, Mengfan Cheng, Siddhartha Ghose, Harsh Desai, Jacob Sims, and Jennifer Turner, *Ties that Bind: Quantifying China's Public Diplomacy and its 'Good Neighbor' Effect*. (Williamsburg, VA: AidData at William & Mary, 2018).

⁶⁹ Xin Liu, 'So Similar, So Different, So Chinese'.

⁷⁰ Ying Zhou and Sabrina Luk, 'Establishing Confucius Institutes'.

⁷¹ David Shambaugh, *China Goes Global*; Elizabeth C. Economy, *The Third Revolution: Xi Jinping and the New Chinese State*. (New York: Oxford University Press, 2018), p. 221; Andrew Nathan and Andrew Scobell, *China's Search for Security*. (New York: Columbia University Press, 2012), pp. 318-342.

⁷² Ingrid d'Hooghe, 'Public Diplomacy in the People's Republic of China', In (ed.) Jan Melissen, *The New Public Diplomacy: Soft Power in International Relations*. (London: Palgrave, 2005), pp. 88-105; Yiwei

Western media outlets and argue that China needs to take steps to remedy the imbalance.⁷³

The implication is that part of the reason for China's generally negative image abroad is distorted media coverage.⁷⁴ The drive to change international perceptions partly explains China's recent expansion of its flagship media brands.⁷⁵ In addition, the CCP also takes more subtle actions to influence the tenor of global media coverage about China, such as cultivating good relationships with journalists and promoting positive associations about China through efforts like the CI initiative.⁷⁶

Grassroots image management efforts aim to positively influence the local discourse about China. As a manifestation of this larger effort, CIs can play a role in fostering more positive media coverage of China in multiple ways. The presence of a CI can amplify China's other public diplomacy efforts with the improved public opinion then being reflected in the local context. CIs often host visiting Chinese officials and organize cultural events. These types of activities provide material to report on positive ties between China and the host country.⁷⁷ CIs also provide a convenient place for journalists looking for commentary on

Wang, 'Public Diplomacy and the Rise of Chinese Soft Power'; Kejin Zhao, 'The Motivation Behind China's Public Diplomacy'; Falk Hartig, 'How China Understands Public Diplomacy'.

⁷³ Yiwei Wang, 'Public Diplomacy and the Rise of Chinese Soft Power', p. 265; 'Media Responsible for Louder Chinese Voice: People's Daily,' *Xinhua*, March 21, 2016 http://www.xinhuanet.com/english/2016-03/21/c_135209955.htm (accessed August 9, 2018).

⁷⁴ d'Hooghe, 'Public Diplomacy in the People's Republic of China'; Falk Hartig, 'How China Understands Public Diplomacy'

⁷⁵ Catie Snow Bailard, 'China in Africa: An Analysis of the Effect of Chinese Media Expansion on African Public Opinion', *International Journal of Press/Politics*, Vol. 21, No. 4, 2016: 446-471.

⁷⁶ Anne-Marie Brady, 'China's Foreign Propaganda Machine', pp. 53-56.

⁷⁷ For example: John Paul Holden, 'Terracotta army warriors returning to Edinburgh,' *Edinburgh Evening News*, January 13, 2014, <https://www.edinburghnews.scotsman.com/news/terracotta-army-warriors-returning-to-edinburgh-1-3266239> (accessed 14 August 2019); 'China celebrated in 'Charming Beijing' exhibition,' *Meath Chronicle*, July 4, 2019, <https://www.meathchronicle.ie/entertainment/roundup/articles/2019/07/04/4176524-china-celebrated-in-charming-beijing-exhibition/> (accessed 14 August 2019); Rachel Lietzow, 'UK Partners With Living Arts and Science Center on International Children's Art Exhibit,' *University of Kentucky News*, April 5, 2018, <https://uknow.uky.edu/uk-happenings/uk-partners-living-arts-and-science-center-international-children-s-art-exhibit> (accessed 14 August 2019); and 'Language Barrier: Ghana Immigration Officers Learn Chinese', *Modern Ghana*, November 6, 2018, <https://www.modernghana.com/news/895644/language-barrier-ghana-immigration-officers-to-learn-chines.html> (accessed 14 August 2019).

Chinese affairs if they are producing a story⁷⁸. Such commentary is likely to contain positive, or at least not overtly negative, sentiment about China. If the story is being written by a foreign correspondent, then the influence of the CI on local discourse is likely to be reflected in the perspectives offered by local sources. Finally, it may also be the case that the presence of a CI, and the wider public diplomacy that it usually represents, helps alert local media outlets to the possibility of reproducing content from Chinese state media. This requires that we think of *Xinhua* and other Chinese media as a wire service equivalent to the *Associated Press* or *Agence France-Presse*.⁷⁹ Indeed, given that many CI openings and events are covered in *Xinhua* with the dateline listing the location where the CI is located, then it is likely that some of these may be reproduced in local media outlets.⁸⁰ Unless readers scrutinize the article carefully and know that *Xinhua* is China's state news agency, then they will not perceive that article as Chinese government content.⁸¹

DATA & METHODS

To evaluate if CIs are an important foundation of China's grassroots image management, we examine their localized effect on media tone. While a few studies of CIs discussed above have mentioned briefly that they have not improved China's image abroad, these often rely survey evidence that is aggregated at the national level, such as the Pew

⁷⁸ For example: Vineet Khare, 'China and India: The scramble for business in Africa,' *BBC Hindi*, August 5, 2013, <https://www.bbc.com/news/business-23225998> (accessed 14 August 2019); Paul Quigley, 'Why do China's leaders love visiting Shannon?,' *The Journal.ie*, February 23, 2012, <https://www.thejournal.ie/why-do-chinas-leaders-love-visiting-shannon-363579-Feb2012/> (accessed 14 August 2019).

⁷⁹ Margaret E. Roberts, *Censored*, p. 87.

⁸⁰ For example, see a Xinhua report 'Zambian students compete in Chinese language contest,' Xinhua July 20, 2019, http://www.xinhuanet.com/english/africa/2019-07/20/c_138243327.htm (accessed 14 August 2019) and see the identical report reproduced in the *Lusaka Times* one day later: 'Zambian students compete in Chinese language contest,' *Lusaka Times*, July 21, 2019, <https://www.lusakatimes.com/2019/07/21/zambian-students-compete-in-chinese-language-contest/> (accessed 14 August 2019).

⁸¹ More details will be provided below, but we test our arguments both including and excluding articles from Chinese sources.

Global Attitudes Project, the BBC World Service Country Rating Poll, the Gallup World Poll, or on anecdotal evidence. One notable exception is recent work by Eichenauer et al. which examines the effects of Chinese trade, aid and investment on national and subnational public opinion using data from the Latinobarometro survey.⁸² We take a comprehensive but more fine-grained approach that evaluates the influence of grassroots image management, as manifested via CIs, on how China is portrayed in media reporting about events in the CI's immediate geographical area. Previous research has found that CIs attempt to localize their approaches,⁸³ so if this is the case then results should manifest at the local level. If China's grassroots image management is to have a positive influence on how China is perceived, changes are most likely to be seen in reports about China concerning events in communities in which CIs are located and with which they engage.

Data

Our outcome data comes from the Global Database of Events, Language and Tone (GDELT).⁸⁴ This database algorithmically monitors traditional and web-based media from around the global in over 100 languages.⁸⁵ This data has been used in a number of recent studies ranging from spatial dynamics of the drug war in Mexico⁸⁶ to hunger and conflict in Africa⁸⁷ or mobilization in the Arab Spring.⁸⁸ While the data has received criticism over the

⁸² Vera Z. Eichenauer, Andreas Fuchs, Lutz Brückner, '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.

⁸³ Xin Liu, 'China's Cultural Diplomacy: A Great Leap Outward with Chinese Characteristics? Multiple Case Studies of the Confucius Institutes', *Journal of Contemporary China*, Vol. 28, No. 118, 2019, pp. 646-661.

⁸⁴ Kalev Leetaru and Philip A. Schrodt, 'Gdelt: Global data on events, location, and tone, 1979–2012', *ISA Annual Convention*, Vol. 2, No. 4, 2013, pp. 1-49.

⁸⁵ The project's website is available at: <https://www.gdeltproject.org/>

⁸⁶ Javier Osorio, 'The Contagion of Drug Violence: Spatiotemporal Dynamics of the Mexican War on Drugs', *Journal of Conflict Resolution*, Vol. 59, No. 8, 2015, pp. 1403-1432.

⁸⁷ Todd Graham Smith, 'Feeding Unrest: Disentangling the Causal Relationship Between Food Price Shocks and Sociopolitical Conflict in Urban Africa', *Journal of Peace Research*, Vol. 51, No. 6, 2014, pp. 679-695.

⁸⁸ Zachary C. Steinert-Threlkeld, 'Spontaneous Collective Action: Peripheral Mobilization During the Arab Spring', *American Political Science Review*, Vol. 111, No. 2, 2017, pp. 379-403.

accuracy of its events data,⁸⁹ we limit our usage to the measure of media tone, “AvgTone”, *Average Tone*. This metric ranges from -100 (negative tone) to 100 (positive tone), but the range of tone in our dataset is from -20.97 to 22.68. While examination of a sample of the news stories associated with these records found most to be reasonably coded, it is also clear that the GDELT algorithms are not perfect, both in terms of coding locations but also in terms of accurately portraying tone. While we do not suspect *systematic* measurement errors, we evaluate the robustness of the data in further checks below.

To prepare the data, we collected all records containing public statements about China from January 1, 2000 to April 30th, 2018 from the GDELT 2.0 Event Database.⁹⁰ After removing records of public statements from events inside China, we were left with a total of 315,923 media observations from 12,095 distinct geographic media tone locations over 220 months. While often these records are from local *publications*, the records may also be statements about China in a given location published by a non-local source. Unfortunately, there is no systematic way of matching the locality of the publisher to the locality of the 315,923 media reports. However, stories about China in non-local media are often informed by local reporting by a foreign correspondent who is in the location and interacting with the local context and population. For example, a *New York Times* article about Chinese gold miners in Ghana is written by foreign correspondents based in West Africa who are likely drawing on local, contextual, knowledge when describing the “bitter twist” in the China-Ghana relationship.⁹¹ Beyond this, we are able to identify and control for news stories published by Chinese state media outlets in the robustness checks.

⁸⁹ Neal Caren, ‘It is Time to Get Rid of the E in GDELT?’, URL: <http://badhessian.org/2014/05/it-is-time-to-get-rid-of-the-e-in-gdelt/>

⁹⁰ Where our search parameters were left blank for Actor 1 Country and Type, set to “CHN” Actor 2 country and left blank for Actor 2 type, set to “01” for event code, and left blank for Event Quad Class, Event Country and Weighting. This effectively captures news stories containing *statements about China*, rather than news stories capturing *events between China and another actor*.

⁹¹ Adam Nossiter and Titing Sun, ‘Chasing a Golden Dream, Chinese Miners are on the Run in Ghana’, *New York Times*, June 10, 2013, <https://www.nytimes.com/2013/06/11/world/africa/ghana-cracks-down-on-chinese-gold-miners.html> accessed February 26, 2019.

As many of the locations of these public statements were nearly proximate, we merge all near sites for a total of 6,012 tone locations.⁹² We then collapse the observations by month/year and location to generate an unbalanced panel of 38,922 instances of *Average Tone*. In order to ensure sufficient variation for the three referent categories in our analyses below, we only analyse those locations that had at least five observations of tone over the 220 months in the study.⁹³ The mean *Average Tone* of this collapsed measure is 2.91 with a standard deviation of 3.96. There is a clear time trend, with distinctive drops in the yearly mean from 2012 to 2013 and 2014 to 2015 which coincides with other measures of perceptions of China.⁹⁴

To construct our treatment variable data, we geo-referenced the 505 Confucius Institutes listed on Hanban's English language website.⁹⁵ We were further able to collect the month and year of opening for 494 of the CIs, either from information on the Hanban website, from other media reports, or by directly contacting the CIs. In terms of data

⁹² Caren (supra note 89) also points out how GDELT will often code the same event at numerous locations that are very near. We used the ActionGeo_Fullname as our geographic indicator unit. This variable indicates the location of the public statement being made about China and is the best measure of local sentiment about China. GDELT documentation also indicates "is the best location to use for placing events on a map or in other spatial context", (Kalev Leetaru and Philip A. Schrodt, 'Gdelt', p. 5). Based on the cartesian coordinates of these locations, we merge locations such that there is a distance of at least 25km between all.

⁹³ This leaves us with a total of 25,171 observations across 1,207 locations. In this robustness checks we examine different sets of tone loactions. 3,734 of the city-level locations in the data have only 1 observation of AvgTone. We exclude these from the analysis in the robustness check as these locations have insufficient observations to populate all three of our referent categories (no CI, inactive CI, active CI). A location with only 1 observation of AvgTone could not possibly be coded as both "inactive CI" and "active CI".

⁹⁴ From 2011 to 2014 the percentage of respondents answering "Unfavorable" to the question "Do you have a favorable or unfavorable view of China?" in Pew Research polls rose substantially in a number of countries, particularly in the Western world, including from 61% to 91% in Japan, 36% to 55% in the United States, 26% to 38% in the United Kingdom, 37% to 44% percent in Brazil, and 25% to 28% percent in Russia. <http://www.pewresearch.org/topics/china/> accessed July 30, 2018. Although less stark, the Gallup World Poll saw an increase of from 50% to 53% in those viewing China "Mostly Unfavourable" or "Very Unfavourable" from 2011 to 2014. <https://news.gallup.com/poll/1627/china.aspx> accessed August 13, 2019. This also coincides with a recent *BBC World Service* poll across 17 countries which found an increase in negative ratings of China from 40% to 42% from 2014 to 2017, <https://www.bbc.co.uk/mediacentre/latestnews/2017/globescan-poll-world-views-world-service> accessed August 13, 2019.

⁹⁵ Available at <http://english.hanban.org/> accessed July 30, 2018.

precision, we were able to find exact coordinates for 433 of the CIs. The remaining 72 CIs were coded at no worse than city-level. Of the tone location sites, 5,548 were precisely identified to the city level, while 247 were identified at the administrative one level (state/province). The remaining 217 were only identifiable at the country level or corresponded to a media report outside any country. We exclude country and administrative one level locations from our analysis below and only compare city-level location sites in order to match the precision of the CI data.

Both the CIs and the tone location show a high degree of geographic variation, as shown in *Figure 1*, with CIs present on all six continents and Oceania. Interestingly, CIs are clustered in highly-developed countries in North America, Europe, and North-East Asia (South Korea and Japan). While this is undoubtedly a function of the comparatively higher number of universities in these locations, it is also suggestive of the CCP trying to employ grassroots image management in open democratic contexts where public opinion is likely to be especially important. The distribution of media tone appears to be relatively even across the globe, suggesting some degree of face validity for the data. Larger and redder circles indicate more positive tone, while smaller and bluer circles indicate more negative tone. While some clustering of redder and bluer patches exists, these clusters often appear to be subnational and do not display any obvious spatial autocorrelation.⁹⁶

Longitudinal mapping in *Figure 2*, with snapshots from 2005, 2010, 2015 and 2017 also reveals that media reports containing public statements about China, like CIs, have become more widespread over time. These maps show how CIs were initially located in the global North, but eventually spread across the globe. Likewise, the maps pick up the

⁹⁶ Testing for spatial autocorrelation for the sites we use in our analysis we find a Moran's I of 0.052 and Geary's c of 1.000. The latter statistic has a p-value of 0.495 failing to reject the null hypothesis of no spatial autocorrelation. The p-value of the Moran's I statistic, 0.000, does suggest the correlation is statistically significant, but given the low value of the correlation coefficient, spatial autocorrelation does not appear to be a major feature of the data.

Figure 1: Confucius Institute Locations and Media Tone

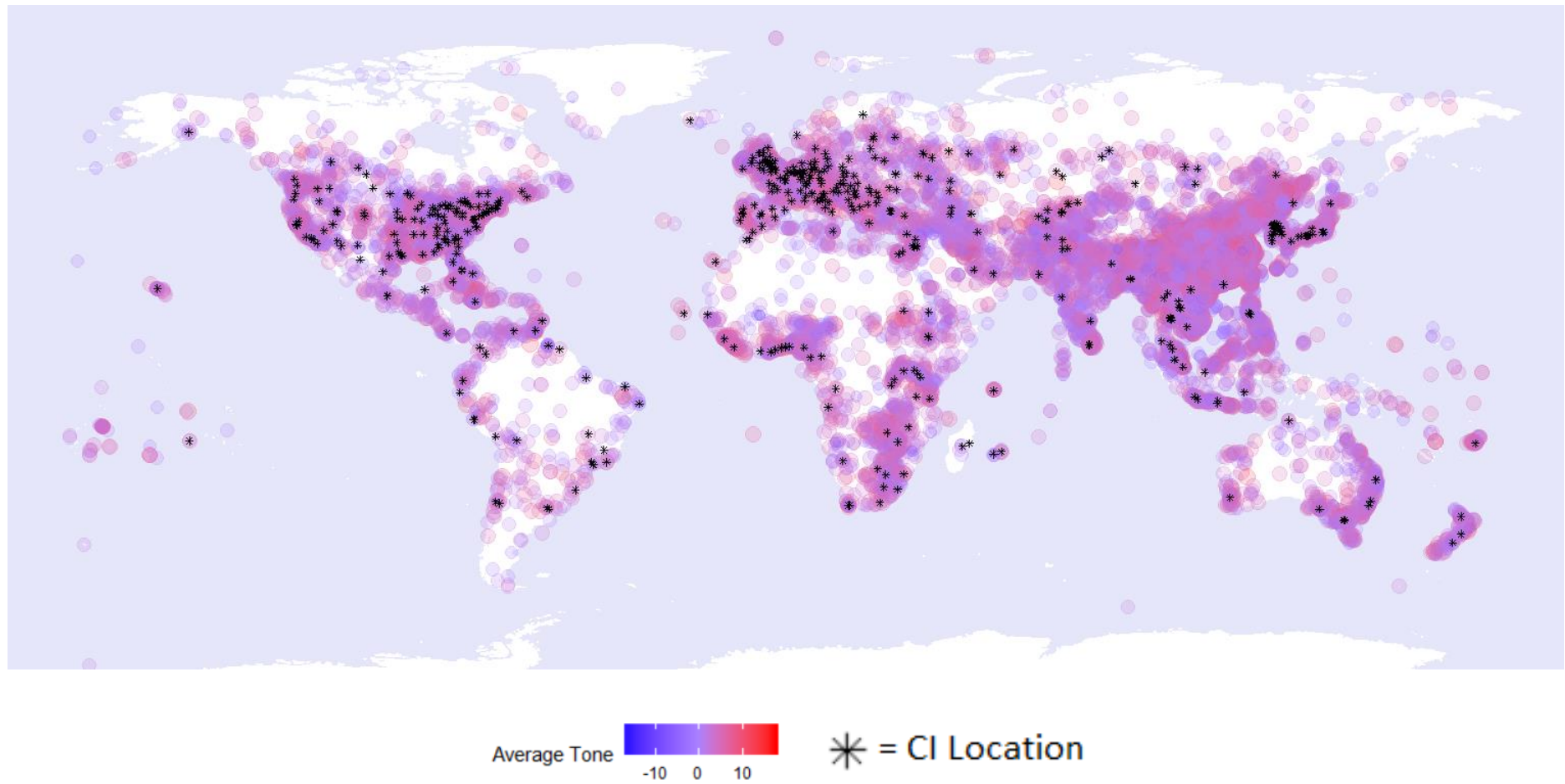
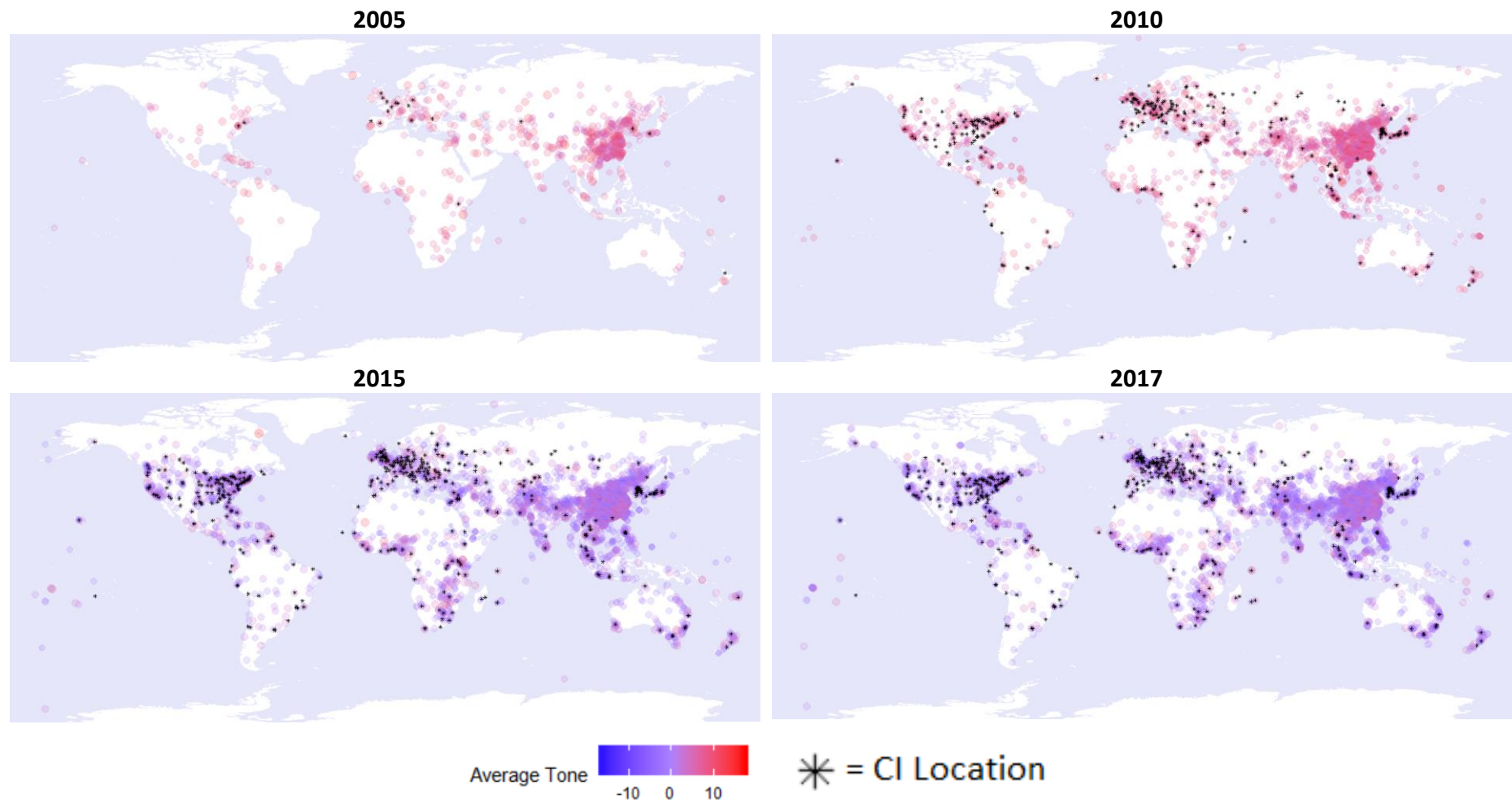


Figure 2 – CI Locations and Media Tone Over Time



structural shift in the tone of the data, with the 2015 and 2017 maps far bluer compared to the 2005 and 2010 maps, indicating an overall negative shift in media tone.

Method

We take advantage of the spatial-temporal nature of the data to employ spatial-temporal methods similar to those used by Knutsen et al.⁹⁷ First, we code outcome sites (in this case the *Average Tone* locations) as either having no proximate CI, one or more “active” proximate CI, *active*, or one or more “inactive” proximate CI, *inactive*. The active/inactive distinction utilizes the temporal nature of the data to distinguish between sites that *will have* a CI but where that CI has not yet opened. As discussed in Knutsen et al., this approach enables us to control for the potential of endogenous selection effects wherein CI placement is biased by existing media tone about China and/or other unobserved variables. Thus, in our first models below, we can generate a difference-in-difference measure that compares the “treatment” of an active CI site, controlling for time-invariant selection effects. Similar to Knutsen et al. the reduced form for this specification is:

$$Y_{it} = \beta_1 * active + \beta_2 * inactive + \alpha_c + \gamma_t + \varepsilon_{it}$$

where the dependent variable is the media tone Y for each location i at time t , given by month/years. Media tone is regressed on *active* and *inactive* CI indicator variables. The regression includes country (α_c) and month/year (γ_t) fixed effects. Like Knutsen et al., we cluster standard errors by outcome location to account for any exogenous shocks correlated by location.

While the country fixed-effects (α_c) control for any time *invariant* country characteristics, and the month/year (γ_t) fixed effects control for any *global* temporal shock,

⁹⁷ Carl Henrik Knutsen, Andreas Kotsadam, Eivind Hammersmark Olsen, and Tore Wig, ‘Mining and Local Corruption in Africa’, *American Journal of Political Science*, Vol. 61, No. 2, 2017, pp. 320-334.

there still may be spuriousness in the absence of country-year fixed effects. In particular, the opening of a CI may well coincide with some country-year improvement in ties between country c and China. Unfortunately, country-year fixed effects are impractical given the nature of our data as an unbalanced panel, wherein many country-years have only a few observations. Introducing country-year fixed effects in this instance is likely to over-fit the model. However, since our data is *sub-national* and includes many tone-location sites in each country, many of our locations have *no* CI, either active or inactive. If increases in tone are driven by some exogenous country-year effect other than the opening of CIs, then the impact of a CI on a tone-location should be indistinguishable from non-CI locations which would also respond to the country-year influence.

We can further mitigate for potential country-year spuriousness by taking advantage of the fact that our data is an (unbalanced) panel of *sub-national* tone locations, wherein some sites have multiple observations of tone at different points in time. Accordingly, we can directly test for CI effects by comparing media tone locations before and after the CI opens by employing location-level fixed effects, δ_i , again as is similarly employed in Knutsen et al. This specification approach allows for a direct interpretation of the presence of a CI and has the added benefit of including fixed effects which account for time-invariant, location-specific, factors. Importantly, *within* a given country there is substantial variation in the timing of CI openings, so different locations are unlikely to be associated with the same (or any) country-year shock. The reduced form is given below as:

$$Y_{it} = \beta_1 * active + \delta_i + \alpha_c + \gamma_t + \varepsilon_{it}$$

Intuitively, we would expect the influence of CIs on media tone to be stronger when the CI is in closer proximity. CIs are located at universities, which themselves are often centres of intellectual and cultural life in a community insofar as they host public events,

have faculty provide expert commentary to local media, and so on. However, given that, like Knutsen et al., we have no *a priori* expectation for what our exact cut-off distance for the proximity of the CI to the tone location should be, we employ several different cut-off distances in our models below. While effects should remain sufficiently local, this also allows us to check if the effect diminishes/disappears when the nearest CI is substantially afield.

MAIN RESULTS

The results in *Table 1* show clear support for the hypothesis that the presence of an active CI improves local media tone towards China compared to location-times with an inactive CI, all other things being equal. The difference between an active site and an inactive site is positive and significant at the 5% level in Models 1 (sites with 25km of a CI) and 2 (sites within 50km of a CI). In Model 3 (sites within 100km of a CI) the difference-in-differences is still positive but is of a slightly smaller magnitude and the p-value of the F-test is now only significant at the 10% level, suggesting that increasing distance renders the positive CI effect on media tone less meaningful. When restricting the active tone locations to those sites that *only* have a CI within 200km to 1000km in Model 4, we see that the difference-in-differences between active and inactive CI sites is now statistically insignificant. We see this as further support for the spatial logic of our hypothesis that CI's influence proximate media tone.

A visual example of this spatial decay is presented in *Figure 3*. Zooming in on the University of Sierra Leone in Freetown, we compare media tone before (left-hand map) and after (right-hand map) the opening of the Confucius Institute in September 2012. In both instances we normalize average media tone to “1” in the smallest radius capture area (roughly 25km). The left-hand map shows how media tone in and near Freetown (in red), captured in that smallest circle, prior to the CI opening is nearly indistinguishable from media tone at

increased distances, drawn at roughly 50km, 200km and 475km. Conversely, in the map on the right which captures media tone after the CI opened, we see that media tone is most positive near Freetown (in bright red) but less positive the further one gets from the center, as seen in bluer circles capturing media tone within roughly 75km, 150km and 450km.

Table 1: Impact of CI on Media Tone: Difference in Difference

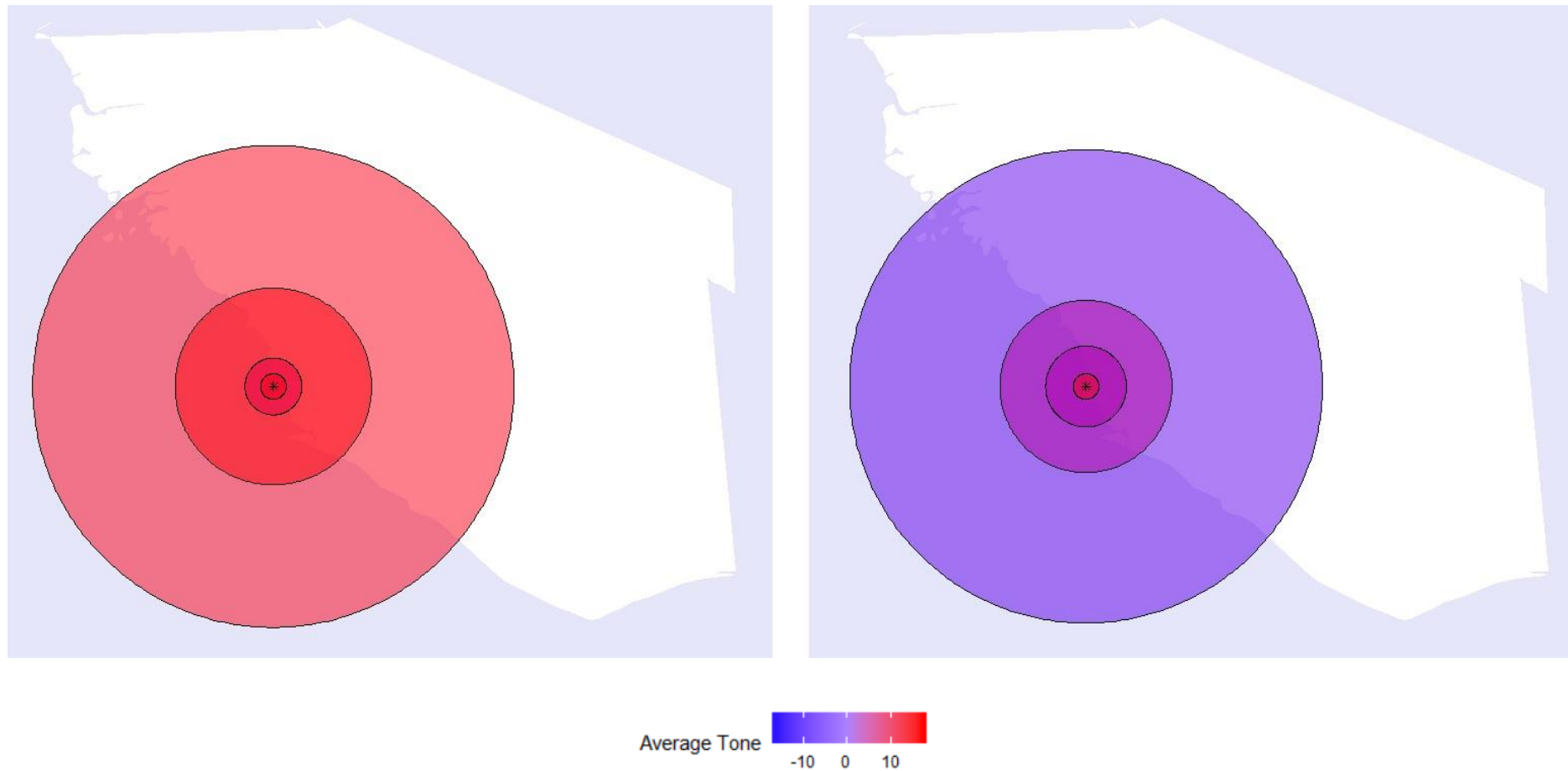
| | (1) Within 25km | (2) Within 50km | (3) Within 100km | (4) Within 200 & 1000km |
|---------------------------|--------------------|--------------------|---------------------|----------------------------|
| Active | 0.263*** (4.12) | 0.241*** (3.80) | 0.227*** (3.38) | 0.194 (1.22) |
| Inactive | 0.073 (0.84) | 0.073 (0.85) | 0.067 (0.72) | 0.083 (0.43) |
| Difference in Differences | 0.190** | 0.168** | 0.160* | 0.111 |
| F-test: Active-Inactive=0 | 5.34 | 4.36 | 3.83 | 1.11 |
| F-test: p-value | 0.0210 | 0.0369 | 0.0506 | 0.2920 |
| Mean Average Tone | 2.913 | 2.913 | 2.913 | 2.913 |
| R-squared | 0.6350 | 0.6348 | 0.6348 | 0.6318 |
| Number of Observations | 25,171 | 25,171 | 25,171 | 25,171 |

*** significant at 1% level, ** significant at 5% level, * significant at 10% level. Absolute value of T-statistics given in parentheses. All models include country and month/year fixed effects. Standard errors are clustered by location.

Substantively, having an active CI nearby improves media tone about China, on average, by roughly 6% of the sample mean in Models 1 and 2 compared to an area with an inactive CI, all other things held equal. While this is not an overwhelming impact at first glance, it is a sizeable return given the relatively low cost of CIs and the myriad factors that can otherwise influence media tone.⁹⁸ Examining actual stories shows how substantively significant a change of tone can be. For example, a story by *Reuters* about protests in Hong Kong was coded very close to the sample mean of 2.913 and used relatively neutral language like “leaving the two sides far apart in a dispute over how much political control China should have over Hong Kong” and “China accords Hong Kong some autonomy and freedoms

⁹⁸ Figures from 2015 indicate that Hanban spent a total of \$310 million that year, \$228 million of which was for the operational costs of Confucius Institutes (Hanban 2015). For comparison, in 2013, Amazon.com founder Jeff Bezos purchased the Washington Post for \$250 million. Generally, states are drawn to public diplomacy initiatives like CIs because they are relatively cheap compared to other policy options (see Paul Sharp, ‘Revolutionary States, Outlaw Regimes and the Techniques of Public Diplomacy’, p. 107.).

Figure 3: Normalized Media Tone Around Freetown, Sierra Leone before and after Confucius Institute



(Left-hand map shows media tone prior to CI opening in September 2012 at radii of ~25km, 50km, 200km and 475km. Right-hand map shows media tone after CI opening at radii of ~25km, 75km, 150km and 450km. In both instances the 25km tone is normalized to “1” such that the radii on both maps are comparable in terms of percentage of the 25km tone).

not enjoyed in mainland China.”⁹⁹ A story from the Pakistani outlet the *Express Tribune* is coded at 3.016, which is roughly the 0.19 difference-in-differences from Model 1, is more positive than the Reuters story. It reports some details about economic agreements and plans in Pakistan and depicts a chief minister highlighting the positive aspects of the relationship, noting “that there was complete agreement” between the two ruling parties of the countries about development and that recent “projects had taken the two countries’ friendship to a new height.”¹⁰⁰ The tone is noticeably more upbeat but is not at the positivity level of, for example, a ceremonial report in *Belarus News* reporting on Belarus’ leader Alexander Lukashenko sending New Year’s greetings to Xi Jinping (tone 11.46).¹⁰¹ These examples highlight that a seemingly modest shift in tone can substantively alter how the Chinese political system and foreign policy are presented abroad. Further examples are provided in Table 5 in the supplemental online appendix.

The results of the location fixed-effects models in *Table 2* also support our hypotheses, albeit the coefficient on active CI is only statistically significant at the 5% level in the 25km proximity model. The coefficient remains positive in the 50km and 100km models, but is no longer statistically significant, and the magnitude of the coefficient has decreased. However, this is in line with our difference-in-differences models above where significance and magnitude also decreased in distance. Moreover, this loss of statistical significance is not entirely unexpected as the sample in these models is significantly restricted. That said, the substantive results in the 25km model (Model 5) is remarkably

⁹⁹ Donny Kwok and Yimou Lee, ‘Hong Kong Police Warn Protesters Against Occupying Buildings,’ *Reuters*, October 2, 2014, <https://in.reuters.com/article/hongkong-china/hong-kong-police-warn-protesters-against-occupying-buildings-idINKCN0HO07R20141002?feedType=RSS&feedName=topNews> (accessed August 8, 2018).

¹⁰⁰ Correspondent, ‘Economic Development: ‘Facilities for Chinese Textile Sector will be Replicated Here’, *The Express Tribune*, July 29, 2016, <https://tribune.com.pk/story/1152115/economic-development-facilities-chinese-textile-sector-will-replicated/> (accessed August 9, 2018).

¹⁰¹ ‘Lukashenko sends Chinese New Year Greetings to Xi Jinping,’ *Belarus News*, February 8, 2016, <https://eng.belta.by/president/view/lukashenko-sends-chinese-new-year-greetings-to-xi-jinping-88801-2016> (accessed August 18, 2019).

similar to its difference-in-differences counterpart, with a coefficient on active of 0.181 compared to a difference-in-differences of 0.190. This substantive similarity across different types of identification strategies increases our confidence in the robustness of the result.

Table 2: Impact of CI on Media Tone: Location Fixed Effects

| | (5) Within 25km | (6) Within 50km | (7) Within 100km |
|------------------------|--------------------|--------------------|---------------------|
| Active | 0.181** (1.97) | 0.124 (1.37) | 0.091 (1.00) |
| Mean Average Tone | 3.345 | 3.231 | 3.114 |
| R-squared (within) | 0.5989 | 0.5945 | 0.5929 |
| Number of Groups | 317 | 413 | 558 |
| Number of Observations | 12,110 | 13,175 | 14,942 |

** significant at 5% level, T-statistics given in parentheses. All models include location and month/year fixed effects.

ROBUSTNESS CHECKS

We submit our results to a number of robustness checks in Table 3. In the first instance we restricted our investigations in the primary analysis to those tone locations that had a least 5 observations over the 220 months of the study. In our first robustness check (Model R.1), we include all locations that had at least 2 observations. Likewise, we check if our results are driven by those tone locations that had an unusually high number of observations (Model R.2). We exclude those locations in the upper 5th percentile of observations, or those with 180 or more month/year observations. In both instances our substantive findings remain the same and statistically significant at at least the 10% level. Finally, as we noted above, the GDELT coding algorithms appear to misclassify a non-negligible amount of news stories. A review of a sample of the stories did not reveal any obvious bias in this error, but tone locations with only a handful of media observations are more prone to skewing by erroneous coding. As such, we further test only those locations that had at least 25 month/year observations of tone (and many more individual observations of

Table 3: Robustness Checks

| | (R.1) + Low N Locations | (R.2) - High N Locations | (R.3) Only High N Locations | (R.4) Mixed Effects | (R.5) - China Media | (R.6) - Outlier Media | (R.7) CI Count | (R.8) Weekly | (R.9) Quarterly | (R.10) Duplicates | (R.11) Weighted |
|---------------------------|-------------------------------|--------------------------------|-----------------------------------|---------------------------|---------------------------|-----------------------------|----------------------|--------------------|--------------------|----------------------|--------------------|
| (ln) CI Count | | | | | | | 0.201** (1.95) | | | | |
| Active | 0.332*** (6.38) | 0.264*** (3.95) | 0.112 (0.97) | 0.382*** (5.24) | 0.212*** (3.33) | 0.179*** (3.81) | | 0.192*** (3.23) | 0.265*** (3.78) | 0.260*** (4.09) | 0.251*** (3.88) |
| Inactive | 0.192** (2.50) | 0.095 (1.04) | -0.096 (0.83) | 0.226** (2.56) | 0.065 (0.75) | -0.076 (1.11) | | 0.013 (0.09) | 0.081 (0.83) | 0.070 (0.82) | 0.068 (0.79) |
| Diff-in-Diff | 0.140* (2.50) | 0.169* (1.04) | 0.208** (0.83) | 0.156** (2.56) | 0.147* (0.75) | 0.255*** (1.11) | | 0.179*** (0.09) | 0.184** (0.83) | 0.189** (0.82) | 0.183** (0.79) |
| F-test: Active-Inactive=0 | 3.25 | 3.75 | 6.10 | 5.58 | 3.25 | 14.51 | | 4.04 | 3.86 | 5.31 | 4.90 |
| F-test: p-value | 0.072 | 0.053 | 0.014 | 0.018 | 0.072 | 0.000 | | 0.045 | 0.050 | 0.021 | 0.027 |
| Mean Average Tone | 3.299 | 2.813 | 3.343 | 2.913 | 2.922 | 2.691 | 3.299 | 2.510 | 2.710 | 2.654 | 2.651 |
| R-squared | 0.6233 | 0.6250 | 0.6553 | | 0.6477 | 0.6452 | 0.5973 | 0.6344 | 0.6398 | 0.6367 | 0.6260 |
| Prob > χ^2 | | | | 0.000 | | | | | | | |
| Number of Observations | 30,967 | 23,601 | 16,430 | 25,171 | 24,574 | 23,163 | 12,756 | 42,731 | 15,419 | 25,218 | 25,171 |

*** significant at 1% level, ** significant at 5% level, * significant at 10% level. Absolute value of T-statistics given in parentheses.

news stories) (Model R.3). Under this restriction, the result remains, and in fact both the magnitude and the statistical significance of the difference-in-differences increase notably.

Interestingly, in the model in which the most tone locations are included, Model R.1, we find that the coefficient on “inactive” CI sites is also positive and significant at the 5% level. While we are hesitant to read too much into results which are driven by locations with very few tone observations, as discussed above, this may be some evidence that CIs are also *established* in areas that have more positive than average existing levels of tone. Yet even if this selection effect is at play, the difference-in-differences in this model is substantively similar to that in Model 1, 0.140 or roughly 5% of the *Average Tone* mean, meaning that active CIs still boost positive coverage of China.

As noted above, the Moran I and Geary c statistics suggest that spatial-autocorrelation is not overwhelming in our tone data. Indeed, calculating Moran’s I, by year and at different bands, on the residuals from Model 1, results shown in Table 2 in the supplemental online appendix, show very little spatial autocorrelation in those residuals. However, to further ensure that our results are not biased by spatial relationships, our second approach to robustness more explicitly accounts for the possibility of spatial autocorrelation between our tone location sites. To this end, we employ a multi-level, mixed-effects model with random intercepts for each tone location in our sample. These results shown in Model R.4 again are consistent with those presented in the primary analysis both in terms of statistical significant and magnitude of effect, with a difference-in-difference of 0.156, or 5.4% of the *Average Tone* mean. The CI locational selection effect is again evident in this model, with the coefficient on “inactive” CI site significant at the 1% level.

Our third and fourth robustness strategies further address limitations and possible coding errors in the GDELT database. First, the data contains media reports from the Chinese state-owned media outlets discussed above. We identify 15,075 record entries from Chinese

state-owned media outlets, or roughly 5% of our sample. There is strong reason to suspect bias in the media tone from these outlets, although it is plausible that the theorized impact of CIs may still be evident in these reports – that is while Chinese state-owned media is likely to be positively biased, the difference-in-difference after the opening of a CI may further increase the positive sentiment. Furthermore, as noted above, it is the case that some Chinese state-affiliated content is reproduced in local media on a wire service model. However, as a robustness check we drop these entries from *Average Tone* in Model R.5, finding no substantive difference in the results.¹⁰²

To address coding issues in the GDELT data, we also exclude the tails in the raw *Average Tone* data. There are several issues in these tails. First, in the 95th percentile of positive stories in our sample, over 97% of entries do not list a source URL, compared to 38% in the entire sample. Of the few stories that do indicate a source URL in that percentile, the content is often similar to the Belarussian New Year’s greetings described above, which are only loosely related to our theoretical understanding of media sentiment. Conversely, many of the extreme observations appear to be mis-coded, or again capturing media tone that is not closely related to our theoretical mechanism. Numerous stories in the most negative 5th percentile consist of reports about the Chinese government or leaders expressing condolences for terrorist attacks or natural disasters, which are clear coding errors. Many other stories refer to individual criminal cases, which may only involve China in a tangential way. Accordingly, in Model R.6 we exclude entries from the 5th and 95th percentile in calculating *Average Tone*. The difference-in-differences results are not only maintained, but indeed become substantially stronger both in terms of magnitude and statistical significance. We

¹⁰² We excluded media reports from *Xinhua*, *People’s Daily*, *Global Times*, *China Post*, *China Daily*, *CNTV*, *english.china.com*, www.ecns.cn, *Shanghai Daily*, *english.sina.com* and www.china.org.cn.

take these findings as evidence that the measurement errors in the GDELT data, if anything, lead us to *understate* the results in the primary analysis.

Our next robustness check takes advantage of the fact that some tone location sites have *multiple* proximate CIs (Model R.7). While the models above coded “active” CI sites as those for which *at least* one CI was active in proximity of the site for a given month/year, it is also possible that there is an effect on the extensive margin and *more* CIs would lead to a greater impact on media tone. Accordingly, we create a count variable of CIs for each location site and use this count as the primary explanatory variable in our location fixed-effects specification.¹⁰³ Using this count measure we find evidence that an increasing number of CIs leads to an increased positive change in local media tone, with a 100 per cent increase in the number of CIs (say from 1 to 2, or 2 to 4) increasing local media tone a further 0.201, or 6% of the sample mean of the Average Tone. Again, this result is substantively similar to our findings in the primary analysis and further strengthens our confidence in those results.

The data we use chooses month/year as the temporal dimension of the analysis as this is the highest level of precision we have for the opening of the CIs. However, in order to check that our results are not an artefact of this choice we also examine other temporal aggregations. In Model R.8 we aggregate the data by week, where we assign the final week of the month as the opening of the CI. In Model R.9 we aggregate both the AverageTone and the CI opening data by quarter. The results are robust to both of these choices. The active-inactive difference-in-differences of 0.179 in Model R.8 and 0.1.84 in Model R.9 are 7.1% and 6.9% of the sample means, respective. This is substantively quite similar to the result from Table 1, Model 1 of 6.5% of the sample mean.

¹⁰³ Where we take the natural log of the count to account for the fact that there are likely to be diminishing marginal returns to additional CIs. To make this log transformation we first add 1 to all observations.

Our next check addresses the fact the GDELT may often duplicate coding of events. These duplications mean that the tone of some events might be over-represented in a given location-month observation. In robustness check R.10 we identify and drop all observations which are exact duplicates based on location, the actors involved in the event, the Average Tone of the event, and the date (day, month and year). The results remain robust to the omission of these observations. Once again, the substantive effect of the active/inactive difference-in-difference is 7.1% of the sample mean, similar to the main result of 6.5%. In robustness check R.11 we also take advantage of the field “NumArticles” which is described in the GDELT codebook as “This is the total number of source documents containing one or more mentions of this event.”¹⁰⁴ We use this information to create a weighted “Average Tone” measure by location-month. The results are again robust to this construction with a substantive effect of the difference-in-difference that is 6.9% of the sample mean.

Tenth, since it is possible that the opening of a CI is an endogenous event, we use an instrumental variable approach as a robustness check. More details and full results are reported in the supplemental online appendix, but we use the instrument in three ways in Appendix Table 3. First, following Knutsen et al. we use the instrument for “active” projects alone (Model A.1).¹⁰⁵ Second, we combine both the difference-in-differences approach and the instrumental variable approach to test difference-in-differences when instrumenting for the “active” projects (Model A.2). Finally, we instrument for our count of CIs (Model A.3). In all instances night time light has a high degree of statistical significance in the first stage, the instrument appears both strong and valid, and the second-stage results are substantively comparable to our primary analysis above.

¹⁰⁴ Kalev Leetaru and Philip A. Schrodt, ‘Gdelt’, p. 5

¹⁰⁵ Carl Henrik Knutsen, et al., ‘Mining and Local Corruption in Africa’.

Finally, we cross validate our substantive result against an alternative, albeit more limited, outcome measure. Full discussion and results can again be found in the supplemental online appendix. Round 6 of the Afrobarometer survey conducted in 2014 and 2015, geocoded by BenYishay et al.¹⁰⁶ included a battery of questions on China which we use as a basis for an individual-level, public opinion, outcome variable. We use the methodology above to identify survey respondents as being within 25 km of an active CI, an inactive CI, or not proximate to either. Results are consistent with our findings above (Model A.15), with the presence of an active CI increasing the chance that a respondent gives a positive view of China by 4%.

CONCLUSION

This paper proposed and tested the idea of grassroots image management by a rising power by focusing on China's efforts as manifested in its Confucius Institute initiative. It argued that the Chinese Communist Party attempts to actively manage China's image among ordinary citizens abroad. The CI project is a major part of this effort at grassroots image management, yet previous research had not systematically measured its global impact. Using a spatial-temporal research design, this paper found that the tone of media reports on events about China in areas where active CIs are located improved significantly compared to areas where a CI had not yet, but would, open. These findings are robust to multiple specification and estimation choices, as well as being qualitatively consistent with results using Afrobarometer household-level opinion data.

A useful extension of this research would be to more broadly examine how grassroots image management mechanisms impacts localized public opinion on relevant issues. Our use

¹⁰⁶ Ariel BenYishay, Renee Rotberg, Jessica Wells, Zhonghui Lv, Seth Goodman, Lidia Kovacevic, and Dan Runfola, *Geocoding Afrobarometer Rounds 1-6: Methodology & Data Quality*. (Williamsburg, VA: AidData at William & Mary, 2017).

of the GDELT data enabled us to create a measure of media perception about China across the globe and over time. However, we accept that the construction of the measure, and measurement errors therein, mean it is not a perfect conceptual fit as an outcome measure for our theory of grassroots image management. As such, we view our results as a conservative test of our theoretical claims. More direct approaches of measuring changes in the tone of particular local media outlets and/or local public opinion would be a welcome step forward in evaluating the success of China's grassroots image management efforts.

The strategy of grassroots image management has theoretical significance for how we understand processes of great power legitimation and ideational change at the international level. First, it suggests that the focus on political elites that has characterized much of the norm socialization literature is useful but incomplete. States, even authoritarian ones, care about how they are perceived by foreign publics because they know that foreign publics have some influence on the outlooks of their governments. The prevailing conception of international norms filtering down from the international system or being imposed on elites by a hegemonic power neglects the idea that public support provides a sturdier foundation than elite imposition.

Second, and specific to China, these findings demonstrate that a rising China is indeed reshaping its image abroad. China's overseas projects do not always have beneficial local consequences.¹⁰⁷ The CI project is at least partially successful in changing the images and ideas associated with China that circulate in the public discourse of foreign societies, even if by only mitigating global trends towards increasingly negative views of China. If anything, these results demonstrate the power of CIs insofar as they help improve China's image locally amid a general context in which opinions about China are worsening. This is

¹⁰⁷ Samuel Brazys, Johan A. Elkink, and Gina Kelly, 'Bad neighbors? How co-located Chinese and World Bank development projects impact local corruption in Tanzania', *Review of International Organizations*, Vol. 12, No. 2, 2017, pp. 227-253.

important as China's global investment strategy, known as the Belt and Road Initiative, aims to reshape regional and domestic economies.¹⁰⁸ The political impacts of the initiative are still unfolding and will continue to do so for many years, but a more amenable foreign public opinion environment will provide more latitude for the CCP to implement its strategies with less resistance. If the "China threat theory" does indeed pose obstacles for the CCP's foreign policy, "grassroots image management" appears poised to help smooth some of the frictions associated with negative images about China's political system and intentions.

¹⁰⁸ Krishna Chaitanya Vadlamannati, Yuanxin Li, Samuel Brazys, and Alexander Dukalskis, 'Building Bridges or Breaking Bonds? The Belt and Road Initiative and Foreign Aid Competition', *AidData Working Paper*, No. 72, April 30, 2019, Williamsburg, VA: AidData at William & Mary.

Supplementary Online Appendix

Appendix Table 1: Data Sources and Collapsed Summary Statistics (from 25km Models)

| Variable | Source | Max | Min | Mean | Std Dev. | Observations |
|----------------------|--|-------|--------|-------|----------|--------------|
| Average Tone | https://www.gdeltproject.org/ | 18.28 | -15.18 | 2.913 | 3.955 | 25,171 |
| Active | http://english.hanban.org/ | 1 | 0 | 0.355 | 0.479 | 25,171 |
| Inactive | http://english.hanban.org/ | 1 | 0 | 0.126 | 0.332 | 25,171 |
| China View (Binary) | BenYishay et al. 2017 http://geo.aiddata.org http://www.afrobarometer.org | 1 | 0 | 0.628 | 0.483 | 53,935 |
| China View (Ordinal) | BenYishay et al. 2017 http://geo.aiddata.org http://www.afrobarometer.org | 5 | 1 | 3.665 | 1.156 | 52,709 |

Appendix Table 2: Moran I Spatial Correlogram on Model I (Table 1) Residuals

| | | | |
|--|--|--|--|
| Moran's I spatial correlogram 2000 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.262 -0.005 0.146 1.830 0.034 (0-2] 0.010 -0.005 0.103 0.147 0.441 (0-3] 0.030 -0.005 0.086 0.406 0.342 (0-4] -0.006 -0.005 0.078 -0.016 0.493 *1-tail test | Moran's I spatial correlogram 2001 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] -0.037 -0.005 0.145 -0.220 0.413 (0-2] -0.007 -0.005 0.104 -0.021 0.492 (0-3] -0.050 -0.005 0.090 -0.499 0.309 (0-4] -0.014 -0.005 0.081 -0.112 0.455 *1-tail test | Moran's I spatial correlogram 2002 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] -0.035 -0.006 0.181 -0.159 0.437 (0-2] 0.038 -0.006 0.131 0.330 0.371 (0-3] -0.028 -0.006 0.104 -0.210 0.417 (0-4] -0.035 -0.006 0.096 -0.307 0.380 *1-tail test | Moran's I spatial correlogram 2003 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.158 -0.005 0.142 1.148 0.125 (0-2] -0.038 -0.005 0.105 -0.314 0.377 (0-3] -0.055 -0.005 0.090 -0.549 0.291 (0-4] -0.054 -0.005 0.082 -0.600 0.274 *1-tail test |
| Moran's I spatial correlogram 2004 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] -0.134 -0.005 0.145 -0.897 0.185 (0-2] -0.064 -0.005 0.108 -0.544 0.293 (0-3] 0.089 -0.005 0.085 1.109 0.134 (0-4] 0.022 -0.005 0.075 0.351 0.363 *1-tail test | Moran's I spatial correlogram 2005 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] -0.126 -0.006 0.185 -0.649 0.258 (0-2] -0.221 -0.006 0.137 -1.580 0.057 (0-3] -0.091 -0.006 0.108 -0.792 0.214 (0-4] -0.086 -0.006 0.097 -0.833 0.203 *1-tail test | Moran's I spatial correlogram 2006 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.072 -0.004 0.160 0.477 0.317 (0-2] 0.027 -0.004 0.109 0.282 0.389 (0-3] -0.086 -0.004 0.083 -0.987 0.162 (0-4] -0.187 -0.004 0.070 -2.610 0.005 *1-tail test | Moran's I spatial correlogram 2007 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.088 -0.003 0.101 0.896 0.185 (0-2] -0.004 -0.003 0.070 -0.014 0.495 (0-3] 0.049 -0.003 0.058 0.893 0.186 (0-4] -0.028 -0.003 0.051 -0.484 0.314 *1-tail test |
| Moran's I spatial correlogram 2008 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.084 -0.002 0.087 0.986 0.162 (0-2] 0.058 -0.002 0.064 0.947 0.172 (0-3] 0.030 -0.002 0.053 0.607 0.272 (0-4] 0.019 -0.002 0.045 0.480 0.316 *1-tail test | Moran's I spatial correlogram 2009 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.072 -0.002 0.067 1.111 0.133 (0-2] 0.070 -0.002 0.048 1.494 0.068 (0-3] 0.056 -0.002 0.040 1.465 0.071 (0-4] 0.053 -0.002 0.034 1.606 0.054 *1-tail test | Moran's I spatial correlogram 2010 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.025 -0.002 0.067 0.405 0.343 (0-2] 0.020 -0.002 0.049 0.443 0.329 (0-3] -0.006 -0.002 0.040 -0.105 0.458 (0-4] -0.032 -0.002 0.034 -0.871 0.192 *1-tail test | Moran's I spatial correlogram 2011 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.073 -0.002 0.060 1.241 0.107 (0-2] 0.013 -0.002 0.044 0.324 0.373 (0-3] 0.003 -0.002 0.037 0.124 0.451 (0-4] -0.009 -0.002 0.032 -0.227 0.410 *1-tail test |
| Moran's I spatial correlogram 2012 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.019 -0.002 0.058 0.355 0.361 (0-2] -0.019 -0.002 0.042 -0.415 0.339 (0-3] -0.055 -0.002 0.035 -1.534 0.062 (0-4] -0.028 -0.002 0.031 -0.861 0.195 *1-tail test | Moran's I spatial correlogram 2013 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.131 -0.002 0.059 2.247 0.012 (0-2] 0.137 -0.002 0.042 3.279 0.001 (0-3] 0.122 -0.002 0.035 3.554 0.000 (0-4] 0.105 -0.002 0.030 3.505 0.000 *1-tail test | Moran's I spatial correlogram 2014 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.065 -0.001 0.054 1.224 0.111 (0-2] 0.032 -0.001 0.039 0.866 0.193 (0-3] 0.039 -0.001 0.032 1.278 0.101 (0-4] 0.050 -0.001 0.027 1.871 0.031 *1-tail test | Moran's I spatial correlogram 2015 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.021 -0.001 0.048 0.455 0.325 (0-2] 0.030 -0.001 0.035 0.901 0.184 (0-3] 0.004 -0.001 0.028 0.172 0.432 (0-4] 0.013 -0.001 0.023 0.587 0.279 *1-tail test |
| Moran's I spatial correlogram 2016 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.120 -0.001 0.044 2.731 0.003 (0-2] 0.073 -0.001 0.033 2.268 0.012 (0-3] 0.052 -0.001 0.027 1.987 0.023 (0-4] 0.060 -0.001 0.023 2.659 0.004 *1-tail test | Moran's I spatial correlogram 2017 (mean) resid Distance bands I E(I) sd(I) z p-value* (0-1] 0.040 -0.001 0.047 0.880 0.189 (0-2] 0.009 -0.001 0.034 0.287 0.387 (0-3] 0.041 -0.001 0.028 1.507 0.066 (0-4] 0.012 -0.001 0.024 0.535 0.296 *1-tail test | | |

Additional Robustness Checks (full discussion)

As suggested in the main text, it is also possible that the opening of a CI is an endogenous event. Identifying strong and valid instruments can be challenging under any circumstances. It is particularly difficult to satisfy the exclusion restriction when considering media tone as an outcome variable as nearly all time-varying instruments may be picked up in media coverage. However, we identify satellite gathered night-time light as a possible instrument. The exclusion restriction seems appropriate as it would be unlikely that changes in night-time light *cause* an improvement of tone about China in local events described in the media. Using a data extraction from AidData’s GeoQuery tool, we gathered annual night time light data from the NOAA-DMSP series from 2000-2012, and monthly night time light data from the VIIRS series from January 2013 to January 2017. We use mean values at ~25km from the media tone locations. We use the instrument in three ways in Table A2. First, following Knutsen et al. we use the instrument for “active” projects alone (Model A.1).¹⁰⁹ Second, we combine both the difference-in-differences approach and the instrumental variable approach to test difference-in-differences when instrumenting for the “active” projects (Model A.2). Finally, we use night time light to instrument for our count of CIs (Model A.3). In all instances night time light has a high degree of statistical significance in the first stage, the instrument appears both strong and valid, and the second-stage results are substantively comparable to our primary analysis above.

¹⁰⁹ Carl Henrik Knutsen, Andreas Kotsadam, Eivind Hammersmark Olsen, and Tore Wig, ‘Mining and Local Corruption in Africa’, *American Journal of Political Science*, Vol. 61, No. 2, 2017, pp. 320-334.

Appendix Table 3: Instrumental Variable Estimations

| | (A.1) Active | (A.12) Difference in Differences | (A.13) CI Count |
|-------------------------------|---------------------|-------------------------------------|---------------------|
| Second Stage (ln) CI Count | | | 0.619*** (3.52) |
| Active | 0.599*** (3.53) | 0.480 (3.95) | |
| Inactive | | 0.222 (2.30) | |
| Difference in Differences | | 0.258 | |
| F-test: Active-Inactive=0 | | 5.58 | |
| F-test: p-value | | 0.018 | |
| First Stage Inactive | | -0.616*** (16.88) | |
| Night Light | 0.010*** (12.21) | 0.014*** (13.04) | 0.010*** (12.58) |
| Cragg-Donald F | 2721.17 | 5855.45 | 3261.16 |
| Kleinbergen-Paap F | 149.07 | 169.91 | 158.16 |
| Anderson-Ruben F | 12.23 | 13.11 | 12.63 |
| Mean Average Tone | 3.616 | 3.616 | 3.616 |
| Number of Observations | 20,672 | 20,672 | 20,672 |

In all models Night time light is the excluded instrument. *** significant at 1% level.

Finally, while the use of the GDELT data gives us an outcome measure with global coverage dating from 2000, given its limitations we cross validate our substantive result against an alternative, albeit more limited, outcome measure. Round 6 of the Afrobarometer survey

conducted in 2014 and 2015 included a battery of questions on China, including question 81b, which we use as a basis for an outcome variable *China View*:

“Now let’s talk about the role that China plays in our country. In general, do you think that China’s economic and political influence on [ENTER COUNTRY] is mostly positive, or mostly negative, or haven’t you heard enough to say?”¹¹⁰

The Afrobarometer surveys have been geo-coded by BenYishay et al. and we use our methodology above to identify survey respondents as being within 25 km of an active CI, an inactive CI, or not proximate to either.¹¹¹ Unlike other public opinion polls on China, the Afrobarometer surveys have been geo-coded at the enumeration area level (village) for individual respondents. We create both a binary response measure, and a measure that uses the original ordinal responses (very negative, somewhat negative, neither positive nor negative, somewhat positive, very positive). In these models we are also able to include individual-level baseline controls for age, gender and socio-economic status. Full results are presented in Appendix Table 4, but the results are qualitatively consistent with our findings above. The results from the binary model (Model A.4) suggest that the presence of an active CI leads to a 4% increase in the chance a respondent gives a positive view about China, with the difference-in-difference is significant at the 5% level.

¹¹⁰ Thomas A. Isbell, *Data Codebook for Round 6 Afrobarometer Survey*. (Rondebosch: Afrobarometer, 2017).

¹¹¹ Ariel BenYishay, Renee Rotberg, Jessica Wells, Zhonghui Lv, Seth Goodman, Lidia Kovacevic, and Dan Runfola, *Geocoding Afrobarometer Rounds 1-6: Methodology & Data Quality*. (Williamsburg, VA: AidData at William & Mary, 2017).

Appendix Table 4: Afrobarometer Results

| VARIABLES | (A.4) OLS | (A.5) Logit | (A.6) Ordered Logit |
|-------------------------------------|---------------------|---------------------|------------------------|
| Active | 0.050*** (0.010) | 0.232*** (0.046) | 0.117*** (0.040) |
| Inactive | 0.011 (0.013) | 0.050 (0.063) | -0.017 (0.069) |
| Observations | 53,107 | 51,914 | 51,889 |
| R-squared | 0.122 | | |
| Baseline Controls | YES | YES | YES |
| Year FE | YES | YES | YES |
| Country FE | YES | YES | YES |
| Difference in difference | 0.039 | 0.182 | 0.134 |
| F test/Chi2 test: active-inactive=0 | 5.909 | 5.579 | 2.859 |
| p value | 0.015 | 0.018 | 0.091 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 5: Additional “AverageTone” Examples

| Extract | Tone | Source |
|---|----------|---|
| Chinese President Xi Jinping visits New Zealand next week for three whole days. He'll be visiting Auckland and Wellington and will no doubt be followed by a massive Chinese media entourage. This is bigger than Lord of the Rings for New Zealand in terms of getting air time in China. Yet there's been very little coverage or sense of anticipation here. | 2.912966 | http://www.interest.co.nz/opinion/72919/britains-rise-machines-and-10-million-missing-jobs-here-comes-xi-just-study-abs-london accessed 14-08-2019 |
| “The times have now undoubtedly changed. China today is more for business than for generosity or mutual relations. There is no question about that, if Sri Lanka is careful enough in these business dealings. It is not directly the Chinese government that deals with Sri Lanka today but some of the major companies and banks, of course under the patronage of the Chinese government.” | 2.913165 | http://www.srilankaguardian.org/2014/12/too-much-china-connection.html accessed 14-08-2019 |
| But China was concerned about the lack of an even playing field in India that was slowing investment. For example, India launched a visa-on-arrival system for more than 40 countries last year including the United States, but not China. “Its not fair, China is the world’s second largest economy, enjoys a favorable position internationally, but in India we are put on a par with Afghanistan, with Iran.” | 2.913369 | https://www.reuters.com/article/us-india-china-envoy-interview/envoy-wants-india-to-do-more-for-chinese-companies-idUSKBN0L91C220150205 accessed 14-08-2019 |
| When China marked out an expansive swath of airspace above the East China Sea and effectively claimed it as under its control, it was seen as an abrupt escalation of an already tense territorial dispute. | 2.913727 | http://www.brisbanetimes.com.au/world/beijing-tactic-makes-waves-in-disputed-sea-20131129-2yh59.html accessed 14-08-2019 |
| Narendra Modi today took his first swipe at China as Prime Minister and nudged India strategically closer to a US-Japan alliance, agreeing to a clutch of diplomatically tricky proposals by Tokyo that are likely to leave Beijing uneasy. | 2.913907 | http://www.telegraphindia.com/1140902/jsp/front/page/story_18790077.jsp accessed 14-08-2019 |
| In the years preceding South Sudan's independence, the Chinese Communist Party established close relations with the SPLM. Good personal contacts exist with, among others, Vice-President Machar, and ex-SPLM Secretary General Pagan Amum, who is also allied with the rebels and is currently in prison in Juba. "China officially recognizes the legitimacy of Salva Kiir's government, but Beijing's personal ties to the rebels puts it in a special position." | 3.016241 | http://www.dw.de/crisis-in-south-sudan-activates-international-mediators/a-17345663 accessed 14-08-2019 |
| "We have co-ordinated with customs officials in China to extend working hours by more than two hours per day since early this week. However, even after the extension, we can only clear about 300 trucks, and around 400 others end up waiting each day," she said. | 3.016241 | https://english.vietnamnet.vn/fms/business/98372/seasonal-rush-creates-long-truck-queues-at-border-gate.html accessed 14-08-2019 |
| “Your visit to Kazakhstan last December was a groundbreaking one (...) you made a significant contribution to shaping a new stage of the strategic cooperation between the two nations. For the last 20 years we have been focused on oil and gas supplies from Kazakhstan and on construction of oil and gas pipelines. Now we are turning to a new stage of cooperation”, President Nazarbayev said at the talks with Premier of the State Council of the People's Republic of China, Li Keqiang. | 3.016241 | http://en.tengrinews.kz/politics_sub/China-to-bring-in-production-capabilities-to-Kazakhstan-261911/ accessed 14-08-2019 |
| The Venezuelan and Chinese central banks also reached an agreement to share information on statistical methodologies, monetary policy, and funding mechanisms. The accord was signaled by both parties as a “breakthrough” for enhancing economic ties. Since 2001 the two countries have constructed what has been labeled as a “strategic alliance”. A high level bilateral session initiates in Caracas today with the arrival of Chinese president Xi Jinping. | 3.016591 | http://venezuelanalysis.com/news/10797?page=1&nocache=1&c=UUFntDSi9_oguS723W3FOIsQ3Mz74Nuh2jtiIrxsg&mkt=en-us accessed 14-08-2019 |

