WORKING PAPER 4 | SEPTEMBER 2015

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# Who talked (and thought) about the Millennium Development Goals?

JOHN W. MCARTHUR AND CHRISTINE ZHANG

Global Economy and Development at BROOKINGS

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**Acknowledgements:** We thank Krista Rasmussen for outstanding research assistance and Homi Kharas for helpful comments on an earlier draft of this paper.

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# Who talked (and thought) about the Millennium Development Goals?

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## I. INTRODUCTION

In September 2015, the Sustainable Development Goals (SDGs) are being adopted as the world's shared global economic, social, and environmental agenda through 2030. They will build upon the Millennium Development Goals (MDGs), a set of development targets that gradually became the common reference point for global policy efforts after being established at the U.N. Millennium Summit in September 2000.

The 17 SDGs reflect the complexity of the world's challenges. On one level, they focus on finishing the job of the MDGs, i.e., the "second half" of eliminating extreme poverty. On another, they broaden the agenda to include global priorities not addressed by the MDGs, such as inequality, infrastructure, and peace and justice, alongside a better articulation of global environmental priorities. They also break down the barriers between developed and developing countries, setting out a universal agenda through which global absolutes are married with country-specific contexts.

A considerable amount of public dialogue will be required to translate the international agreements into practical forms of implementation. Analysis, deliberation, and debate will need to span public officials, academic communities, and engaged citizens alike.

To that end, it is a useful juncture to take stock of the recent history of MDG-focused public conversations and how they might inform opportunities for the SDGs. In this paper, we do so by examining three categories of print publications: major English-language newspapers; leading academic journals across a variety of relevant disciplines; and policy research papers produced by the World Bank, Asian Development Bank, and Inter-American Development Bank.

In evaluating these publications, we ask three simple questions:

1. Have there been discernible trends in media references to the MDGs—by year, publication, and geography?

2. Have there been discernible trends in MDG references across academic journals and disciplines?

3. How does the early pattern of MDG media references compare to the emerging early pattern of SDG media references?

For context, this paper does not aim to present a complete assessment of all MDG-related public media conversations. Instead, it focuses on the frequency of MDG references across articles published by a cross section of prominent newspapers, academic journals, and multilateral development bank research papers. Note that the search procedure does not require the MDGs to be the actual focus of an article in order to be counted; rather, the MDGs need only to be mentioned. The methodology thereby reflects an expansive notion of "MDG coverage," the term we use in this paper to include both articles that might concentrate on the MDGs as objectives and those that might simply mention the MDGs as a reference point.

The paper proceeds in six sections. Following this introduction, Section II describes data sources and methods. Results begin in Section III, which considers MDG coverage in major newspapers. Section IV considers a cross section of prominent academic journals. Section V examines research papers produced by multilateral development banks. Section VI presents a brief discussion and conclusion.

## II. DATA AND METHODS

The primary period of inquiry is from September 1, 2000 through December 31, 2014. September 2000 was the month of the U.N. Millennium Summit that established the targets subsequently known as the MDGs. As a check on early trends for the SDGs, we also briefly consider newspaper publications for the six months from January 1 through June 30, 2015. Data on article counts for the different publications are available as online supplements. For a more detailed methodology description, see the Appendix.

### *A. Newspapers*

Our sample includes 16 daily newspapers that are both searchable using LexisNexis and generally prominent in their respective geographic domains.[1] We focus only on English-language papers in order to enable comparability. Within the sample there are 12 newspapers with LexisNexis data for the full period. This includes four United States-based publications: the Los Angeles Times, The New York Times, USA Today, and The Washington Post. (We are unfortunately not able to include The Wall Street Journal because it is not searchable in the LexisNexis full-text database.) The sample also includes five United Kingdom-based publications: the Financial Times, The Guardian, The Independent, The Daily Telegraph, and The Economist. The Economist is the only weekly publication in the sample, but we include it due to its unique global reach. Three other international publications are included in the full sample: The Globe and Mail (Canada), the South China Morning Post (Hong Kong SAR), and The Sydney Morning Herald (Australia).

LexisNexis has less extensive historical data available for developing country-based newspapers, but we nonetheless include a cross section of relevant English-language publications for purposes of comparison. To that end, the sample includes four publications from developing countries: India's Hindustan Times (available in LexisNexis as of September 2004), The Times of India (available as of January 2010), South Africa's The Star (available as of January 2006), and Nigeria's Vanguard (available as of January 2010). We do not consider any of these publications to be perfect representations of national MDG coverage, but each is a major independent newspaper within its domestic media market.

### *B. Research-focused publications*

Our academic research sample includes top English-language publications from a number of MDG-relevant disciplines. The sample does not purport to include the full universe of relevant journals but instead aims to include a cross section of prominent and potentially relevant sources. At the level of general science, we consider both Nature and Science, the world's two most prestigious overarching research journals. Within economics, we investigate three top-tier general journals: the American Economic Review (AER), the Journal of Political Economy (JPE), and the Quarterly Journal of Economics (QJE). We also examine the Journal of Development Economics (JDE), which is arguably the leading field journal. For the broader social science of development studies, we examine World Development (WD). For international relations, we consider the International Studies Quarterly (ISQ). For the field of education, we examine the Comparative Education Review (CER). For global

health and nutrition, we consider The Lancet, the New England Journal of Medicine (NEJM), and the American Journal of Clinical Nutrition (AJCN).[2]

It is slightly more complicated to compare articles across journals relative to comparing articles across newspapers. This is because most newspapers in the sample are published daily (or often six times per week) and are of roughly similar length, so the number of MDG-referencing articles is relatively comparable across publications. Scholarly journals, by contrast, have significant variation in both periodicities and numbers of articles published per issue. We therefore examine both the *number* and the *percentage* of pieces referencing the MDGs in each journal, in order to estimate the extent of MDG emphasis in each journal.

Consider, for example, a journal that publishes 20 articles per week, with an average of one per week mentioning the MDGs. This would amount to 52 MDG-referencing articles per year, representing fairly regular attention and visibility for MDG-relevant issues, even if only equivalent to five percent of 1040 articles over the course of the year. Compare this to another journal that publishes only 10 articles four times a year, and only two of the annual 40 make any reference to the MDGs. This would also represent five percent of the articles, but it would imply that readers of the journal would only rarely see reference to the Goals.

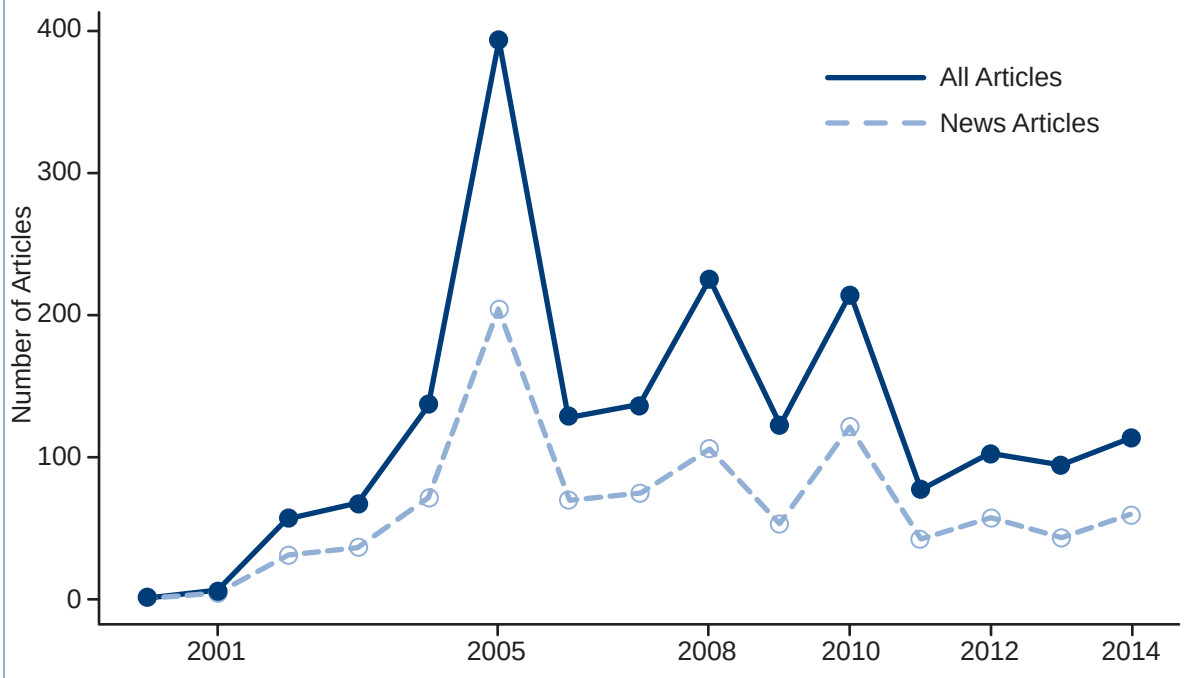
*C. Multilateral development bank research papers*

A considerable amount of the world's policy-relevant research is conducted by individuals working in multilateral development banks (MDBs). Many of the policy research papers produced by these institutions are published online as final products. To capture the extent to which the research agendas within these institutions are aligned with achieving the MDGs, we consider the extent to which papers produced in relevant publication series reference the MDGs. Our MDB analysis includes publications from the World Bank, Asian Development Bank, and Inter-American Development Bank. The African Development Bank was excluded from our analysis, because its online document library only allows publications to be searched by category, rather than by keyword.

## III. RESULTS PART ONE: PRINT MEDIA

Figure 1 shows the total number of MDG-referencing print stories across the 12 publications that have data available from September 2000 through the end of 2014—i.e., excluding the papers from India, Nigeria, and South Africa, as well as blogs by The New York Times. The dotted line indicates news stories only, and the solid line indicates the sum of news stories, opinion pieces, and other types of articles. Following a gradual build-up of attention during the early years, 2005 still marks the peak year of MDG references across the entire sample, with nearly 400 articles across the 12 newspapers. 2005 was something of a breakout year for the MDGs, characterized by a sequence of major global events that began with the January launch of the U.N. Millennium Project's recommendations for how to achieve the MDGs. These were put forward by the then-U.N. secretary-general's independent advisory body, which formed, according to early MDG political shepherd John Ruggie (2003), the "core" of the U.N.'s "elaborate implementation plan" for the Goals.[3] This was followed by the March launch of the U.K. Commission for Africa's recommendations for promoting partnership in that region; the July Gleneagles G-8 policy summit and preceding Live 8 public concerts; and the September U.N. World

**Figure 1: Annual MDG coverage across 12 major newspapers, 2000-2014**




Source: Authors' calculations based on LexisNexis (2015).

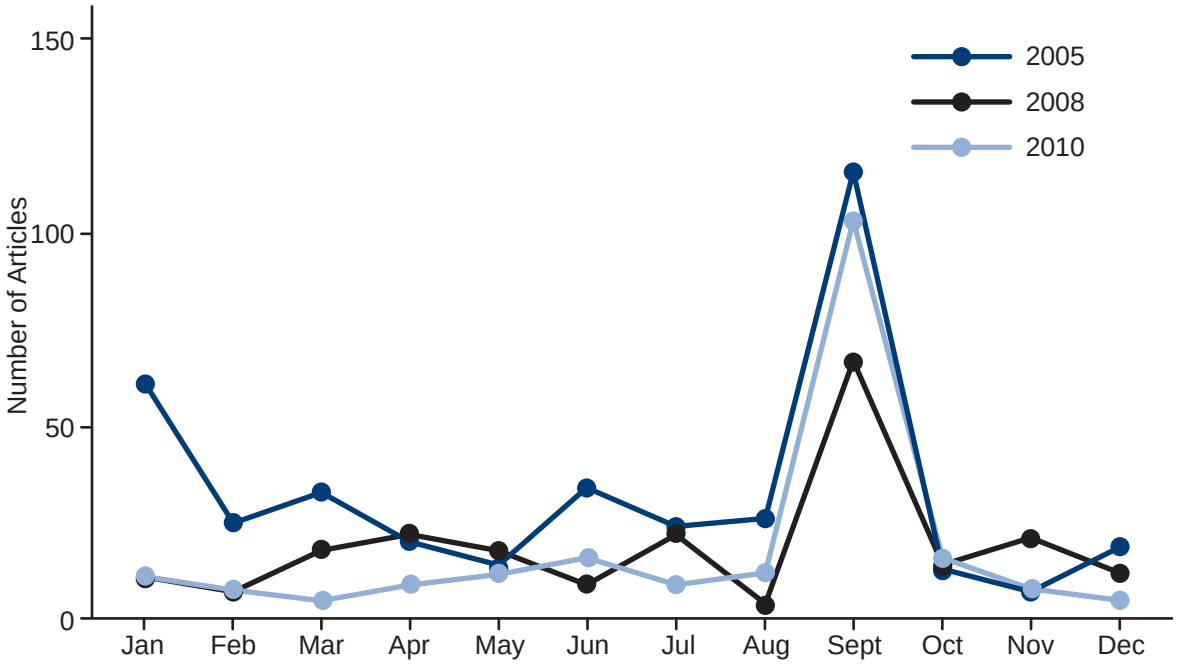
Note: Includes *The Daily Telegraph, The Economist*, the *Financial Times, The Globe & Mail, The Guardian, The Independent, Los Angeles Times, The New York Times, South China Morning Post, The Sydney Morning Herald, USA Today*, and *The Washington Post*.

Summit, which marked the first major five-year checkpoint following up on the Millennium Declaration.

The two years with the next-highest intensity of MDG coverage were 2008 and 2010, with 225 and 214 articles, respectively, across the 12 publications. Although these years did not include an extended sequence of high-profile global political moments like 2005, they did include major events at U.N. headquarters. In 2008, there was the MDG high-level event on September 25, reflecting the approximate "midpoint" between 2000 and 2015. It was here, for example, that Bill Gates gave his first U.N. address, which focused on the importance of the MDGs. Then in September 2010, the U.N. hosted another official summit on the MDGs at its headquarters.

Figure 2 suggests that these U.N. political summits play a major role in driving media attention. For each of 2005, 2008, and 2010, the article count in September is at least two times higher than in any other month. The pattern for 2005 is somewhat distinct, since it includes a relative high point in January, linked to the U.N. Millennium Project launch, and then a relative jump again in June, prior to the G-8 summit. But September 2005 remains the month with the highest intensity of MDG references in the entire sample.

**Figure 2: Monthly MDG coverage across 12 major newspapers: 2005, 2008, 2010**




Source: Authors' calculations based on LexisNexis (2015).

Note: Includes *The Daily Telegraph, The Economist*, the *Financial Times, The Globe & Mail, The Guardian, The Independent, Los Angeles Times, The New York Times, South China Morning Post, The Sydney Morning Herald, USA Today,* and *The Washington Post*.

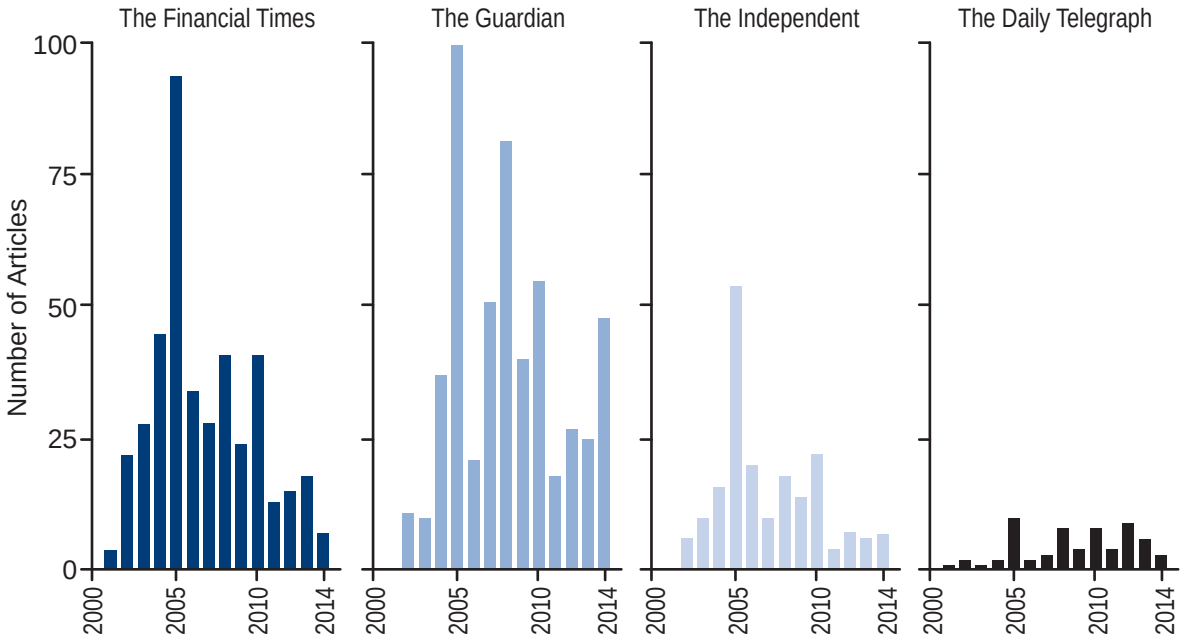
The detailed search results offer windows into a variety of interesting historical details. For example, although in retrospect the 2000 U.N. Millennium Summit is seen as seminal in having set forth the MDG targets, only The New York Times picked up the story at the time. A two-page article, authored by Barbara Crossette (Sept. 9, 2000), the newspaper's then-U.N. bureau chief, is the only MDG news coverage within the sample.[4]

As another example, in the weeks leading up to the September 14-16 2005 U.N. World Summit, considerable press attention was dedicated to both the policy issues and to the controversies surrounding John Bolton, who was installed as the U.S. ambassador to the U.N. in August of that year. One of Ambassador Bolton's first actions upon assuming office was to recommend the deletion of MDG references from the summit outcome document, a move that sparked considerable media discussion (e.g., "Bolton's Mischief" from the Los Angeles Times on August 30; "U.N. Members Dig In Heels In Aid Dispute With U.S." from The New York Times on September 3; "Keep our Pledge to the World's Poor...Even if it Offends the US" from The Sydney Morning Herald on September 8). In the end the U.S. government decided to shift course, and President George W. Bush ended up publicly endorsing the MDGs for the first time at the World Summit itself, prompting still more media attention (e.g., "Bolton and U.N. Are Still Standing After His First Test" from The New York Times on September 18).[5]

*Differences across countries*

Segmenting the news publications by geography reveals some interesting patterns. Figure 3 shows the total MDG article counts for four major U.K. newspapers: the Financial Times, the Guardian, The In-

**Figure 3: MDG coverage across 4 major United Kingdom newspapers, 2000-2014**

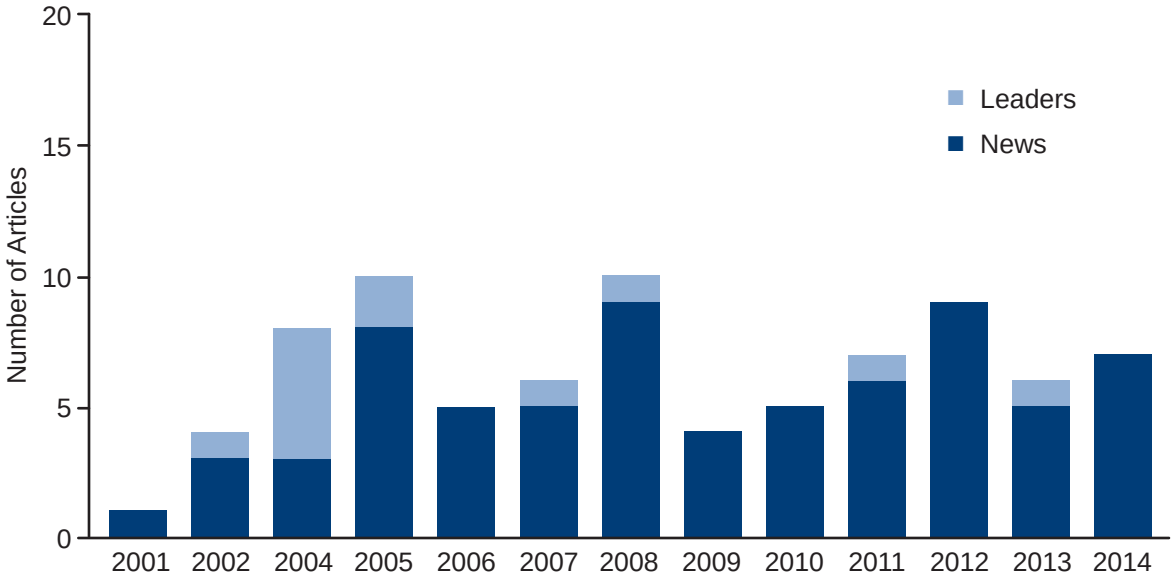



Source: Authors' calculations based on LexisNexis (2015).

dependent, and the Daily Telegraph. Some readers might not be surprised that The Guardian has relatively high coverage rates, as a traditionally progressive publication with a long history of engagement on social issues. Since 2010, it has even hosted a global development microsite with partial support from the Bill and Melinda Gates Foundation.[6] But the Financial Times is similarly intensive in its coverage of MDG issues over the years, and The Independent trails not far behind. In comparison, the traditionally conservative-leaning Daily Telegraph looks minimalist in its MDG coverage. Article counts for The Economist are presented in Figure 4. Interestingly, that publication saw a small boost in coverage in 2005 and 2008, compared to other years, but otherwise has a high consistency in the number of MDG references over the period.

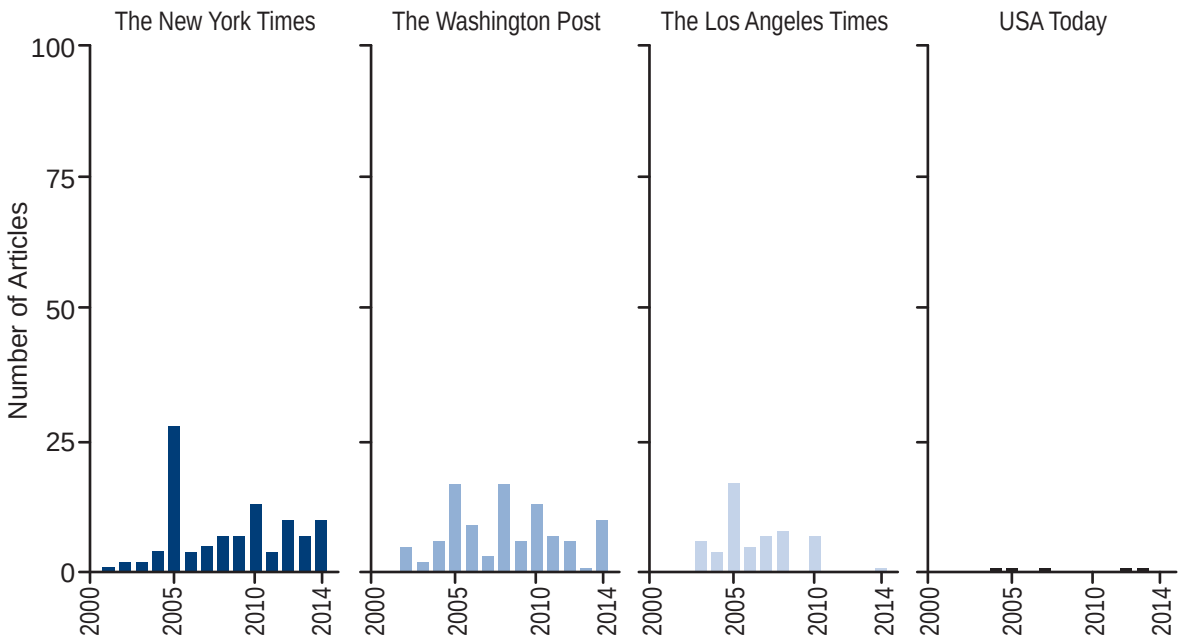
U.S. trends are shown in Figure 5 and differ considerably compared to U.K. publications. Indeed, The Daily Telegraph's coverage level is low compared to its U.K. peers in Figure 3, but it is not too different from The New York Times or The Washington Post, holding aside the special year of 2005. From 2006 onward, these two U.S.-based publications each averaged between seven and eight MDG-referencing articles per year, meaning that if one were to have read every word of every article, one would have seen a reference to the MDGs roughly once every six weeks. By contrast, a USA Today reader would have been unlikely ever to see an MDG reference. Over the entire time frame of analysis, that paper has only published 5 articles mentioning the MDGs.

**Figure 4: MDG coverage in The Economist, 2001-2014**




Source: Authors' calculations based on LexisNexis (2015). Leaders refer to opinion pieces appearing at the beginning of the publication. In this category, we include three By Invitation pieces from the years 2002 ("Weapons of mass salvation" by Jeffrey Sachs) and 2004 ("Doing the sums on Africa" by Kofi Annan; "Courage to fulfil our responsibilities" by Jeffrey Sachs).

**Figure 5: MDG coverage across 4 major United States newspapers, 2000-2014**




Source: Authors' calculations based on LexisNexis (2015).

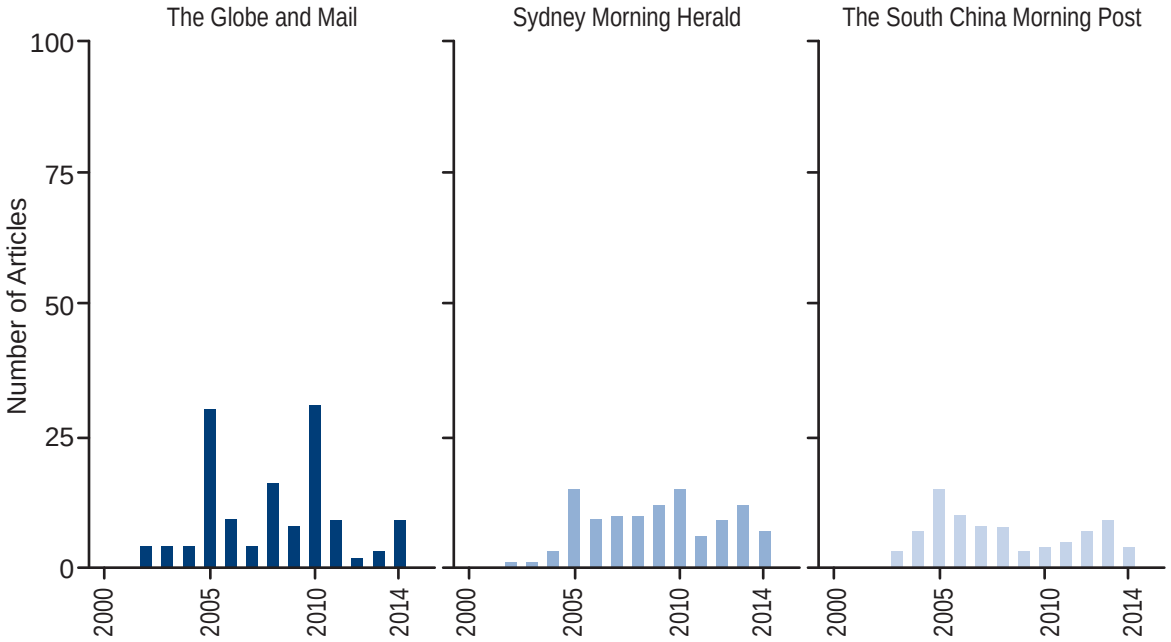
Figures 6A and 6B show the MDG reference counts for major English-language publications outside the United Kingdom and United States. The top panel, Figure 6A, shows the Canadian Globe and Mail, The Sydney Morning Herald, and the South China Morning Post, all of which are locally prominent papers distinct from U.K. and U.S. media markets. The Globe and Mail follows a similar trend as The New York Times, with large spikes in 2005, 2008 and 2010, the latter being a year when Canada hosted the G-8 Muskoka summit and the G-20 Toronto summit. The South China Morning Post and The Sydney Morning Herald show less year-to-year variation in coverage, with a boost in 2005 and then only around six to ten articles per year thereafter.

The bottom panel, Figure 6B, presents both the New Delhi-based Hindustan Times and the Mumbai-based Times of India, two leading publications in the world's most populous English-speaking democracy, in addition to Vanguard from Nigeria and The Star from South Africa. For the years in which there is complete information, all four newspapers include considerable coverage, especially the Indian and Nigerian publications. Note that the vertical axis on this panel graph is extended to 150 in order to account for Vanguard.

Compared to the other sources, the intensity of U.K.-based public deliberations sheds additional light on the country's increased engagement on global development issues over the course of the MDG period. Notably, the U.K. became the first G-7 country to fulfill the longstanding official development assistance target of 0.7 percent of gross national income. That pledge was initially made by the Blair-led Labour government prior to the 2005 G-8 Gleneagles

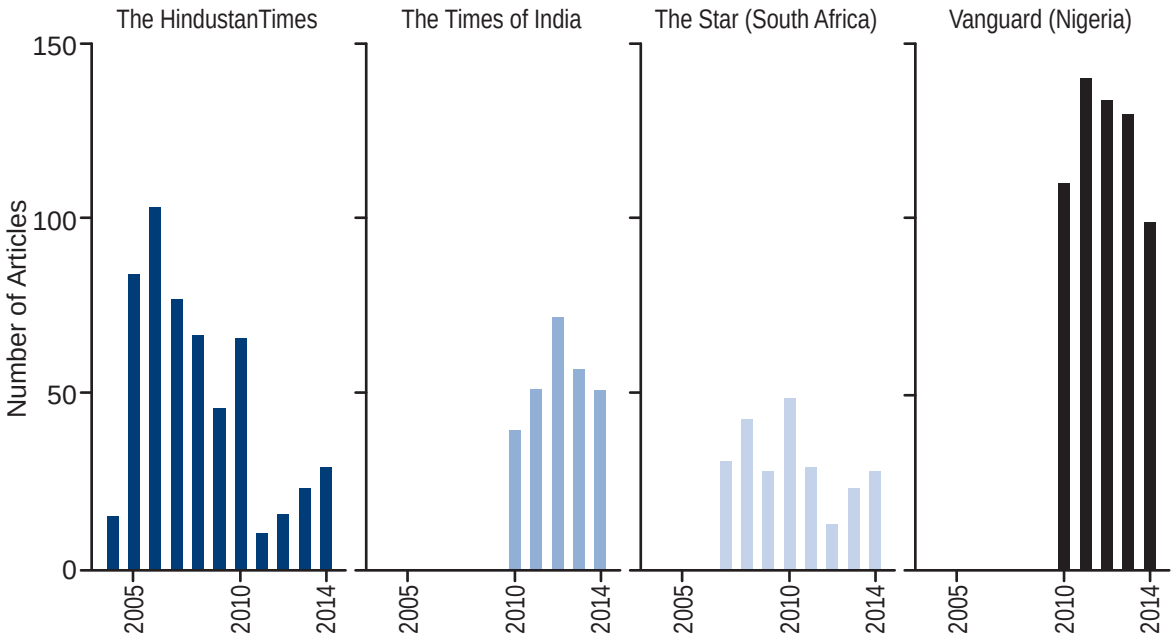
**Figure 6: MDG coverage from select papers around the world, 2000-2014**

a. Canada, Australia and Hong Kong SAR




Source: Authors' calculations based on LexisNexis (2015).

b: India, South Africa and Nigeria



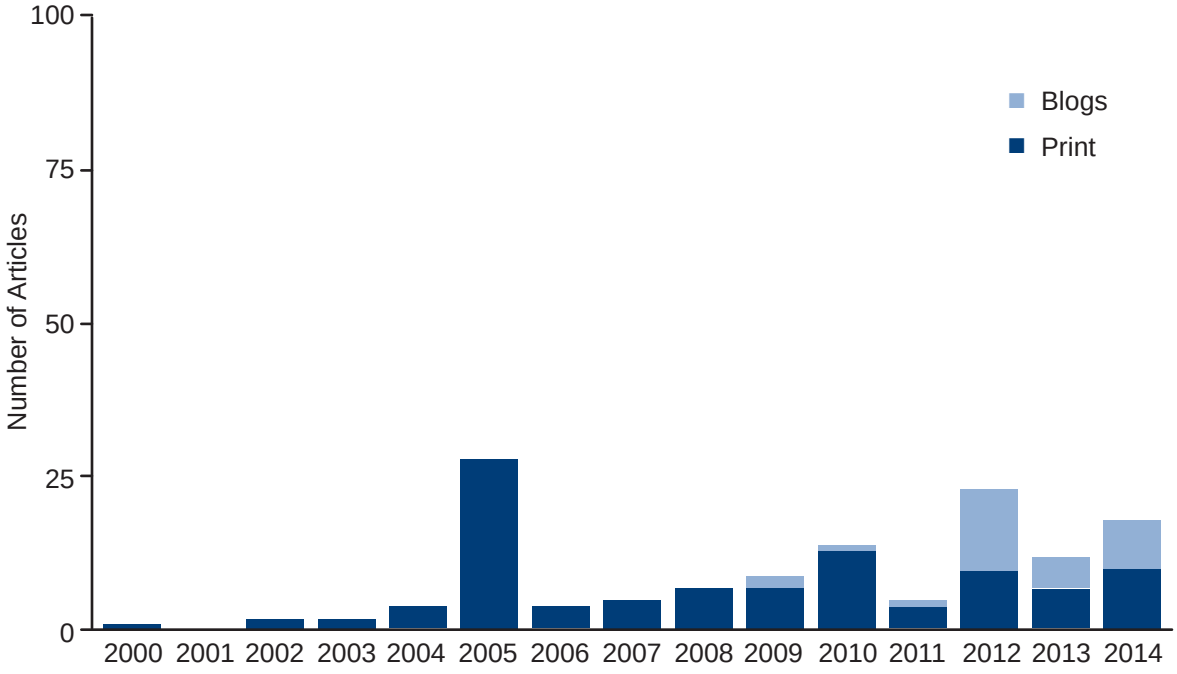

Source: Authors' calculations based on LexisNexis (2015). Data available starting in September 2004 for The Hindustan Times, January 2010 for The Times of India, January 2006 for The Star, and January 2010 for Vanguard.

summit and was fulfilled in 2013 by the Cameron-led Conservative-Liberal coalition government. The MDG article counts suggest that the U.K.'s commitments have been at least partly fueled by very active public debates—much more active than in Canada or the United States.

*The rise of blogs and digital media*

The very nature of publishing and consuming news has changed dramatically since the launch of the MDGs. The New York Times, for example, now has many more digital subscribers than print subscribers, roughly 1 million compared to approximately 625,000 (Lee, 2015). Since a majority of readers now consume their news online, boundaries have blurred between articles published on blogs on the paper's website and articles published via both the print and digital editions. For the purposes of comparability across the less digitally intensive years closer to 2000, Figures 1, 2, and 4 above only include articles published in The New York Times's print edition. But LexisNexis enables assessment of some newspapers' published blogs, and the results for The New York Times are captured in Figure 7. Here we see that the first New York Times blog references to the MDGs appear in 2009. Since then, the share of blog-based MDG articles has steadily grown; over the years 2012 through 2014, blog articles represented roughly the same number as print ones.

**Figure 7: MDG coverage in New York Times print editions plus blogs, 2000-2014**




Source: Authors' calculations based on LexisNexis (2015).

## IV. RESULTS PART TWO: RESEARCH-FOCUSED PUBLICATIONS

Figures 8A and 8B present the total number and percentage of MDG-referencing articles across the sample of academic journals. In the top panel, the clear standout is the weekly publication The Lancet, one of the world's most eminent general medical journals. Its first mention of the MDGs was published on March 23, 2002 in "The Health (and Wealth) of Nations," by editor-in-chief Richard Horton. The journal subsequently published by far the greatest number of articles mentioning the MDGs over the period, with 1,223 in total. This was vastly more than the New England Journal of Medicine, which had 32 articles. The bottom panel indicates that The Lancet's MDG mentions represented only a modest share of the journal's total article count, at less than 5 percent. But even with this small percentage, the large absolute number implies that, as of 2005, Lancet readers were exposed to about two MDG references per week, or eight per month, over the course of 10 years.

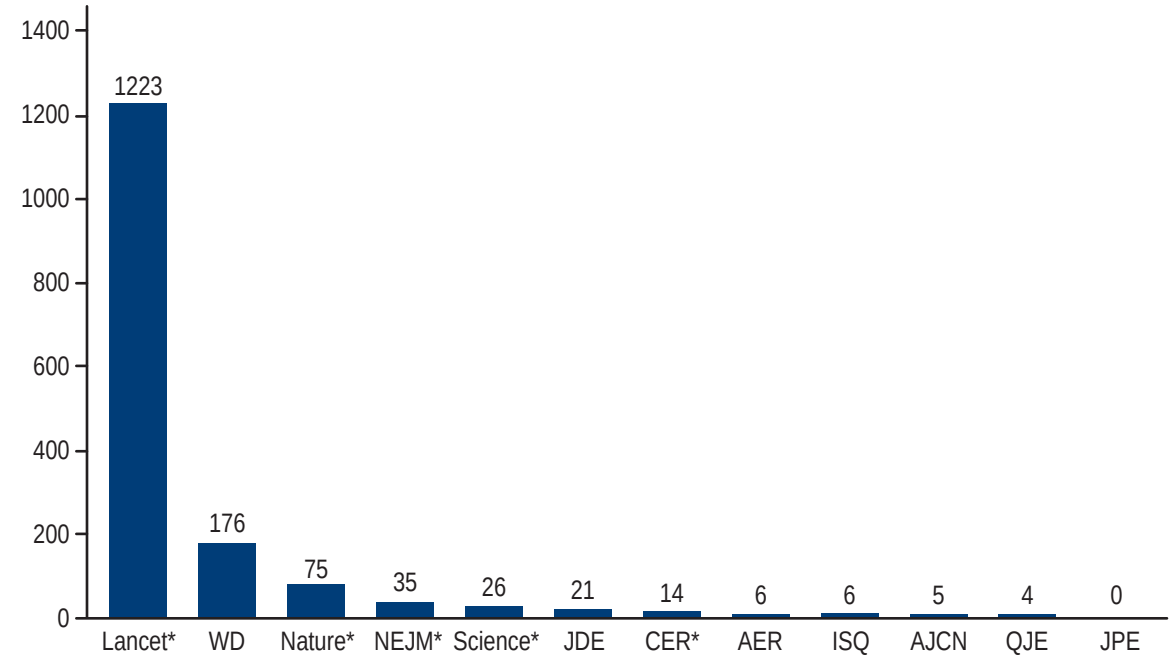
Figure 9 shows the changing composition of The Lancet's year-to-year coverage. The vast majority of articles were categorized as opinion and analysis rather than as original research, the former including survey pieces that distilled recent developments on key topics. For example, a June 2011 article by Rosann Wisman et al. entitled "A Blueprint for Country-Driven Development" contains an overview of current efforts at country-driven development and provides a set of recommendations for the future. Nonetheless, The Lancet has also published a large number of original research articles referencing the MDGs, 177 in total, with at least 12 per year from 2006 onward. This alone would rank The Lancet first among publications in Figure 8A.

Figure 8B shows that the journal with the largest share of articles referencing the MDGs, 8.1 percent, and the second largest absolute articles, 176, was World Development, the generalist monthly development studies journal. This was equivalent to an average of 1.4 MDG mentions per month from 2005 onward. Figure 10 demonstrates that the journal's intensity of MDG references generally grew over time after the first one in 2002, with slight boosts in 2005, 2008, and 2013 marking slight boosts from the preceding respective years. Of course, a much larger share of articles in World Development likely focused on issues pertinent to the MDGs without mentioning the MDGs by name. That they did so without referencing the MDGs is likely a reflection of the extent to which the relevant research community considered the MDGs to be a relevant lens for academic inquiry.

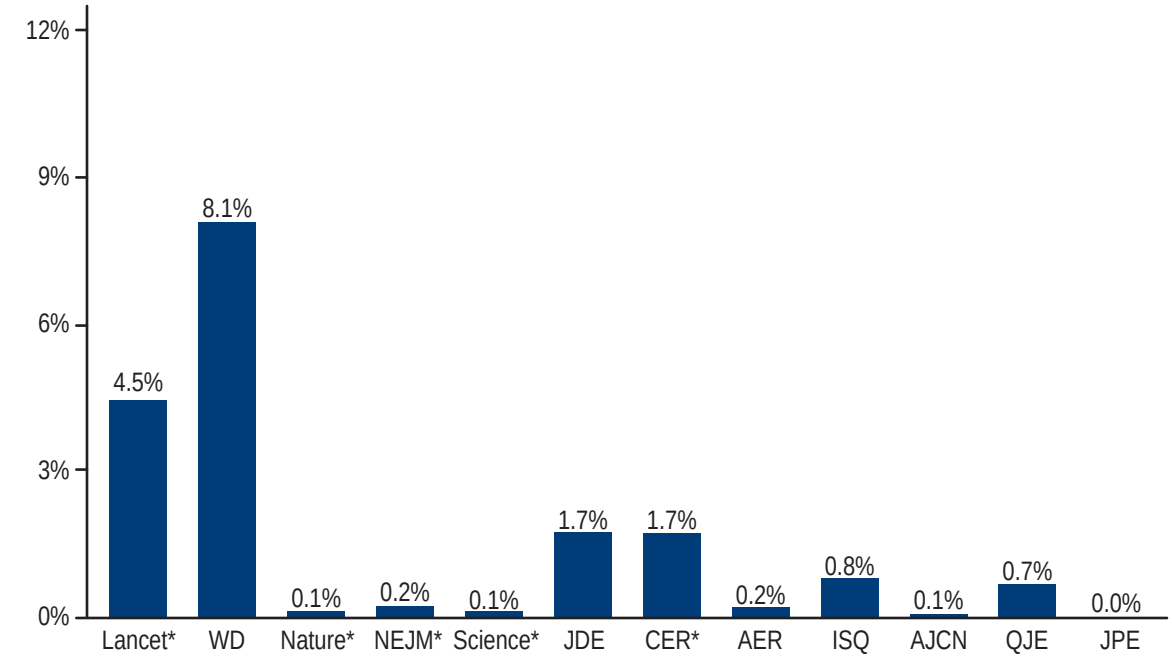
Following The Lancet and World Development, there is a big downward jump in article counts. Only two other journals saw cumulatively more than 1 percent of their articles mentioning the MDGs. One was the Journal of Development Economics (21 articles, 1.7 percent of total), shown in Figure 11, which did not include its first mention of the MDGs until 2007. Coverage increased in subsequent years, reaching up to 5.1 percent in 2010. This is vastly more MDG referencing than in the leading general economics journals, which seemed to more or less ignore the MDGs as a relevant reference point for academic inquiry: the American Economic Review (6 articles, 0.2 percent); the Quarterly Journal of Economics (4 articles, 0.7 percent); and the Journal of Political economy (zero articles). For the American Economic Review, four of these

**Figure 8: Articles referencing MDGs in 12 academic journals, 2002-2014**

a. Total Number of Articles



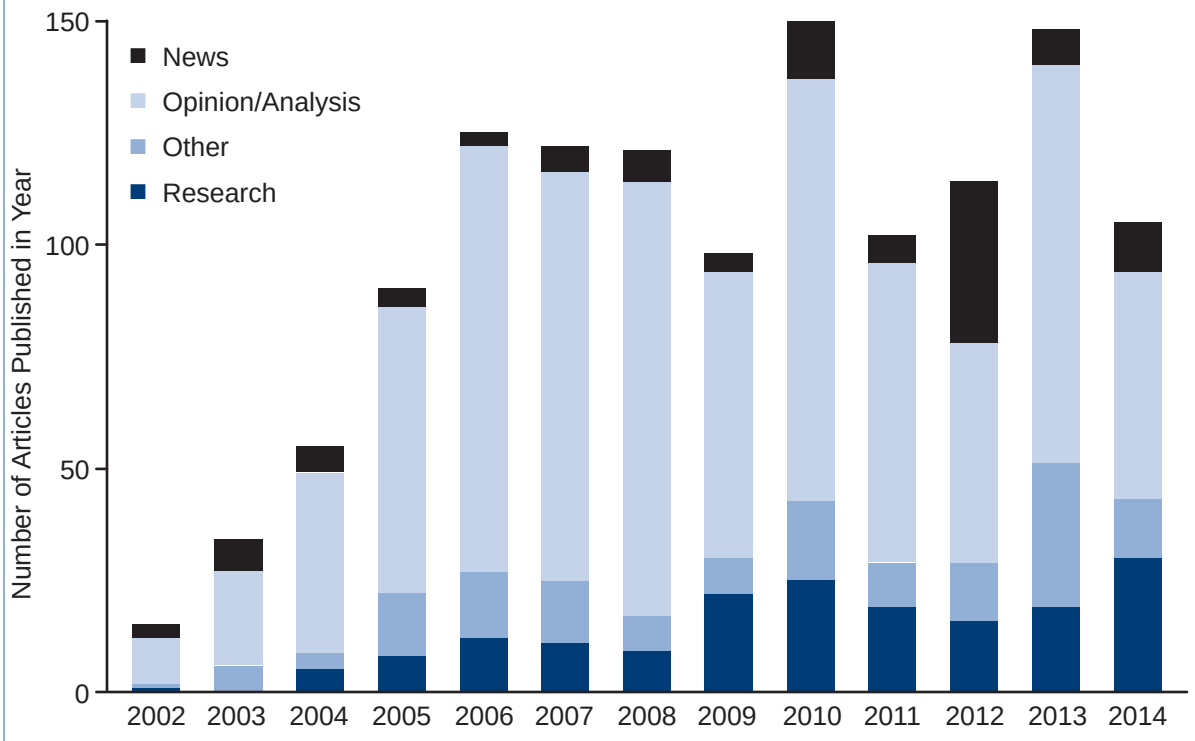

b. Share of Articles




Source: Authors' calculations based on JSTOR (2015), ProQuest (2015), and publisher websites.

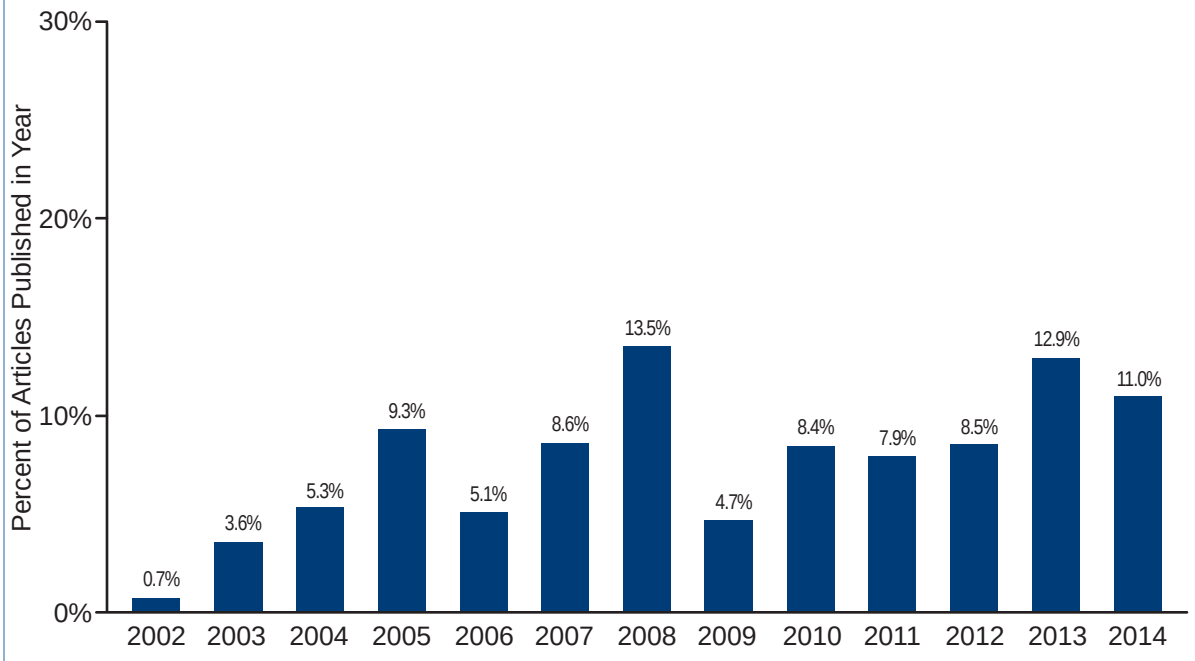
Note: * indicates inclusion of original research articles plus other categories. WD = World Development; NEJM = New England Journal of Medicine; JDE = Journal of Development Economics; CER = Comparative Education Review; AER = American Economic Review; ISQ = International Studies Quarterly; AJCN = American Journal of Clinical Nutrition; QJE = Quarterly Journal of Economics; JPE = Journal of Political Economy.

**Figure 9: Lancet articles referencing MDGs by article type, 2002-2014**



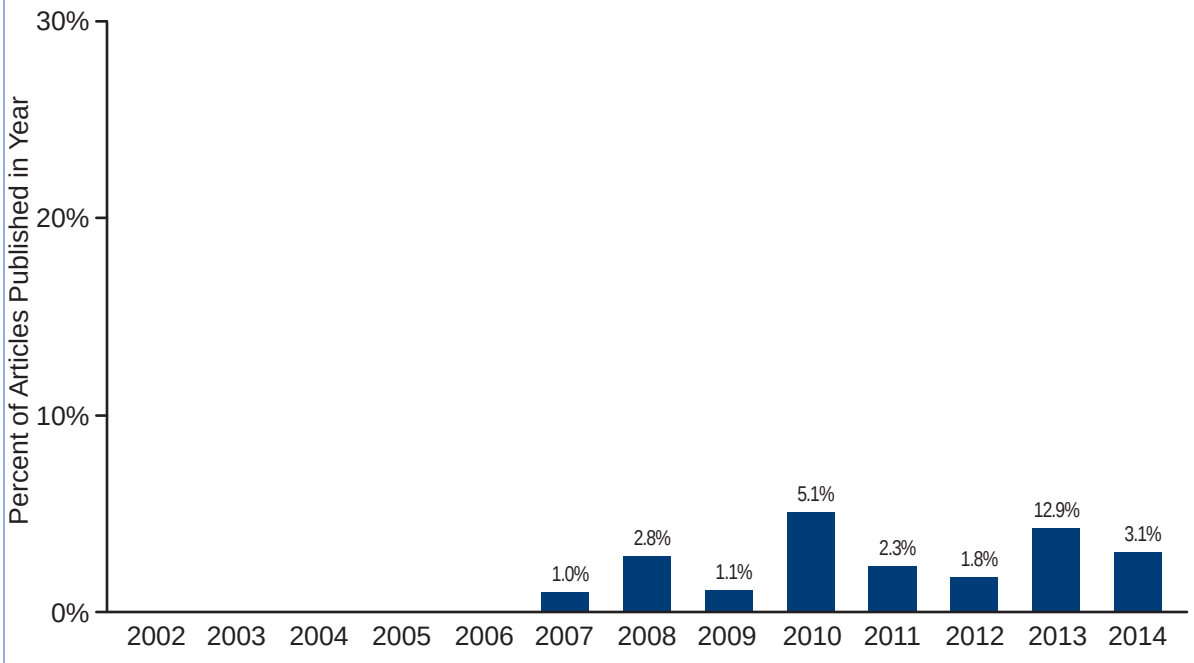

Source: Authors' calculations based on ProQuest (2015).

**Figure 10: World Development articles referencing MDGs, 2002-2014**



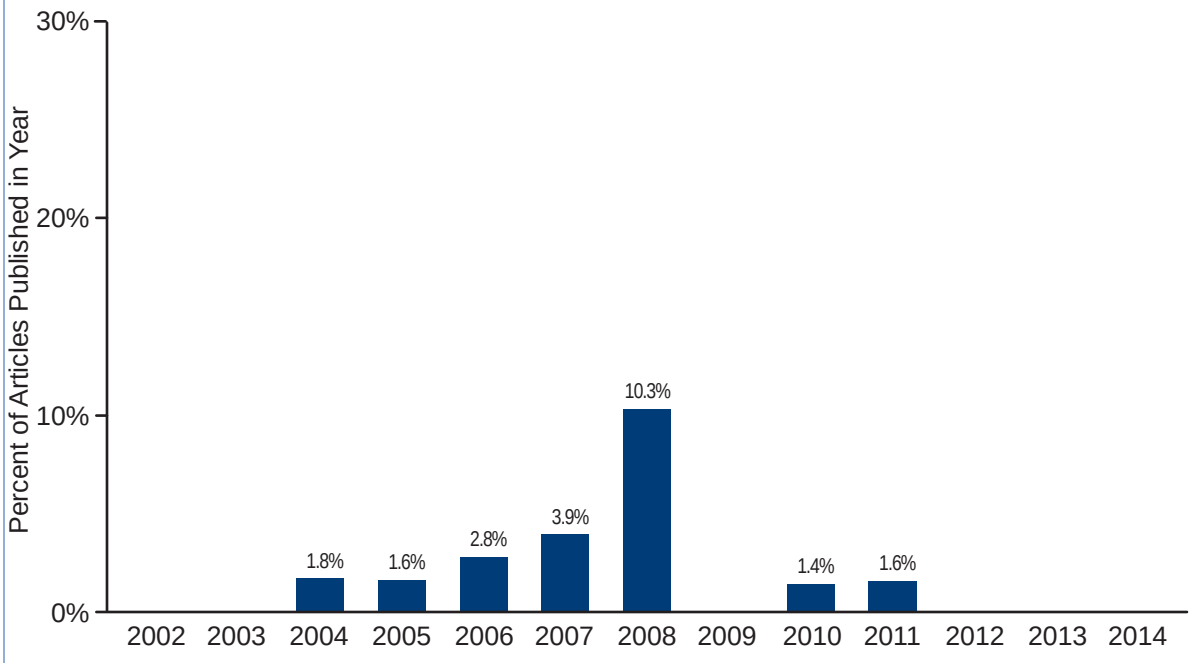

Source: Authors' calculations based on ProQuest (2015).

**Figure 11: Journal of Development Economics articles referencing MDGs, 2002-2014**




Source: Authors' calculations based on ProQuest (2015) and publisher website.

**Figure 12: Comparative Education Review articles referencing MDGs, 2002-2014**




Source: Authors' calculations based on JSTOR (2015).

were published in the annual Papers and Proceedings issue, which includes invited papers presented at the American Economics Association's annual meeting.[7]

The other journal to have more than 1 percent of cumulative articles mention the MDGs was the Comparative Education Review, with 14 articles, or 1.7 percent of its total. Figure 12 shows that, like other publications, it saw a gradual increase in references during the first half of the MDG period, culminating in a peak year of attention in 2008. However, references then dropped off considerably in following years, with no mention of the MDGs in 2009, 2012, 2013, or 2014.

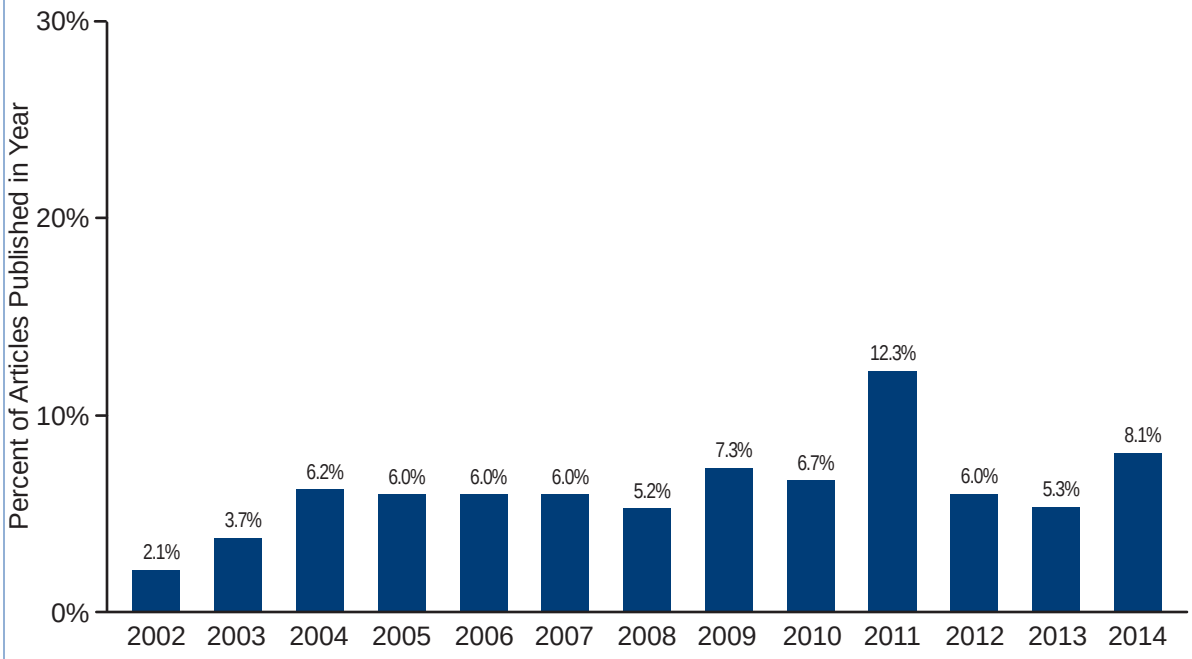
It is worth noting that both Nature and Science have dedicated more attention to the MDGs than any of the leading general economics or general international studies journals. Nature had slightly more total MDG articles over the period, including three research articles and 72 non-research articles, with more MDG-linked news pieces. Science actually had the earliest MDG-referencing article among the academic publications in the sample, a March 15, 2002 special cover story by Caroline Ash and Barbara Jasny on "Unmet needs in public health." It then published one MDG-referencing research article and 25 non-research articles through 2014. Many non-research articles synthesize available evidence. For example, a November 21, 2003 article by M.A. Stocking on "Tropical soils and food security: The next 50 years" summarizes research on changing soil quality and its impact on food production.

## V. RESULTS PART THREE: MULTILATERAL DEVELOPMENT BANK RESEARCH PAPERS

Although the U.N. system has generally been understood to be the lead coordinator of MDG efforts, multilateral development banks often play a key role in influencing country-level financing and implementation priorities, especially in low-income countries. Thus, the extent to which internal MDB processes took the MDGs seriously as programmatic priorities had an important influence on many countries' approaches to implementing the MDGs. Examining policy research papers thereby serves as one proxy for intensity of institutional interest.

In considering the three MDBs for which data are available, the World Bank has the most extensive series of policy research papers. The annual number grew from 189 in 2002 to 447 in 2014. Over the full period, the World Bank published an average of 338 papers per year, of which only around 22 per year, or 6.5 percent, even mentioned the MDGs.[8] A discernible spike occurred in 2011, when 50 out of 407 papers, or 12 percent, included MDG references (Figure 13). Nearly half of these were a special series of country case study reports on African infrastructure (e.g., "Ghana's Infrastructure: A Continental Perspective"), produced by the Africa Infrastructure Country Diagnostic project as product of the 2005 G-8 Summit in Gleneagles.[9] All of the papers in this series mention the MDG target for water and sanitation.

**Figure 13: World Bank Policy Research Papers referencing MDGs, 2002-2014**




Source: Authors' calculations based on World Bank (2015).

The Asian Development Bank (ADB) published a much smaller number of research papers and briefs over the period, ranging from a few dozen to 196 per year. Of these, a very small share mentions the MDGs, with only 24 out of 1,448 doing so over the period, or roughly 1.7 percent of the total. For the Inter-American Development Bank, the numbers are similar, with a total of 26 MDG mentions out of 1,155 papers, or 2.3 percent of the total. It appears that the research endeavors of the MDBs did not place a significant emphasis on explicit questions of MDG achievement.

## IV. DISCUSSION AND CONCLUSIONS

The MDGs are often viewed as a uniting force for the global development policy community, but not much attention has been paid to their role in shaping public conversations or the research that informs policy. The frequency of MDG-referencing articles in top news and research publications serves as a rough proxy for intensity of public and academic debate. A handful of discernible results are worth emphasizing.

1. Global public conversations seem to have started very slowly over the first few years after 2000, before spiking up to an all-time peak in 2005. It is remarkable that at the time of writing, a full decade later, September 2005 remains the month with the highest ever frequency of MDG news mentions.

2. U.N. summits are consequential in framing public conversations. The September 2008 and September 2010 U.N. events produced major spikes in public attention and debate.

3. The U.K.'s long-term path of intensified global development policy efforts since 2000 interacted with relatively rigorous public debates. The contrast is stark when compared against the lower intensity of references in prominent U.S., Canadian, and Australian papers.

4. The major papers from India and Nigeria had the highest rates of MDG coverage in the study, with South Africa's representative paper not far behind. The sample period is censored for these sources, so conclusions about the diffusion of MDG references over time are not possible, yet the intensity of MDG references suggests that the MDG discussions were not all "top-down" in their global nature, as is often implied. Apparently, local media were commonly using the goals as a reference point.

5. The Lancet is the quantitative standout publication in terms of the absolute frequency of MDG mentions. This could be a result of editorial decisions, a reflection of academic questions being asked by the global health community, or some combination of both. In any case, it is likely not a coincidence that global health has been the MDG realm to register the most significant incremental gains. It appears to have been underpinned by a robust long-term sequence of academic debates, which do not appear to have taken shape with similar intensity in other relevant disciplines. The closest comparator is the general development studies journal World Development. But other prominent journals in the fields of economics, education, or general science paid much less attention to the MDGs.

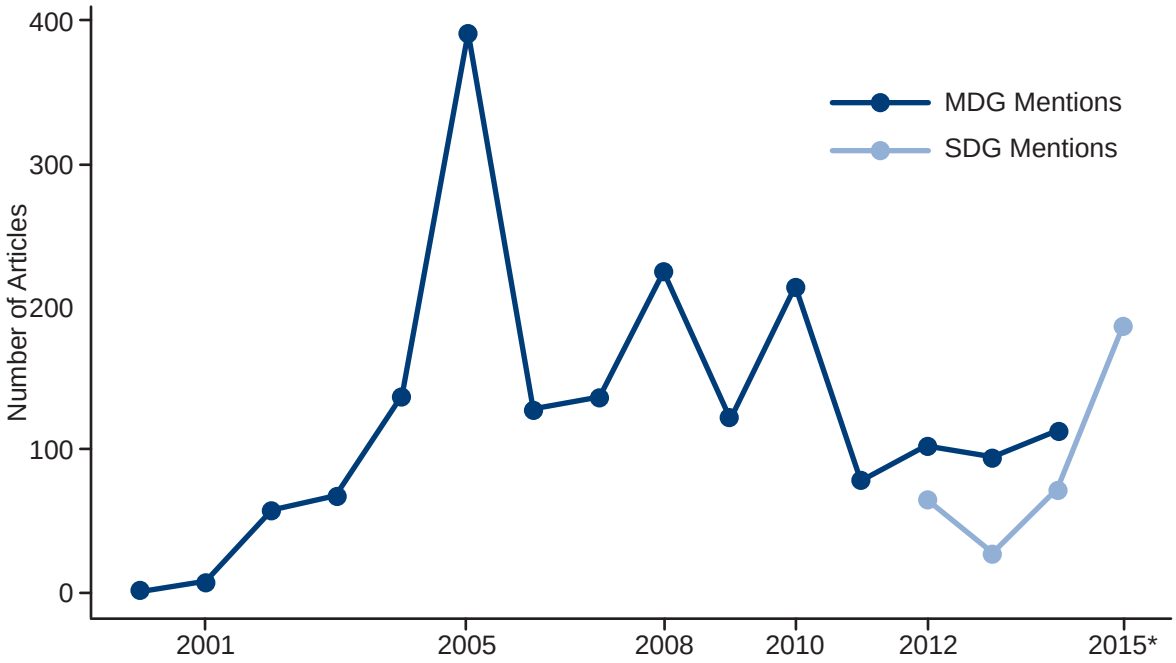
6. The multilateral development banks do not appear to have paid particularly strong research attention to questions of MDG achievement. For the World Bank and regional development banks, this might have reflected a view of the MDGs as something other than explicit policy objectives. It might also have been a product of implicit disregard for research questions prompted by U.N.-led processes. It could further have been a result of institutional focus on middle-income countries, where the MDG-type emphasis on extreme poverty was considered less relevant. More detailed

internal evaluations would be required to provide clearer answers to these questions.

Many researchers will rightly defend their efforts as being MDG-relevant even if not mentioning the MDGs by name. Certainly, many of the efforts contributing to MDG progress—for example in global health—have been made by people who likely do not have the MDGs explicitly in mind when focusing on their day-to-day tasks. This might often be the case even when those tasks are benefiting from other MDG-motivated commitments. But at the same time, the small number of MDG mentions in most journals assessed here suggests gaps in the extent to which some of the world's most important policy priorities are deliberated among relevant scientific communities. This is particularly pertinent for researchers working at international public institutions with an explicit mandate to pursue those same priorities.

7. The SDGs will require more intensified public and academic debates than the MDGs, since they entail more complexity. They address more issues that require action from more actors across more country contexts. The world has never before tackled such an intensive policy challenge, and it will only succeed through rigorous public and scientific debate.

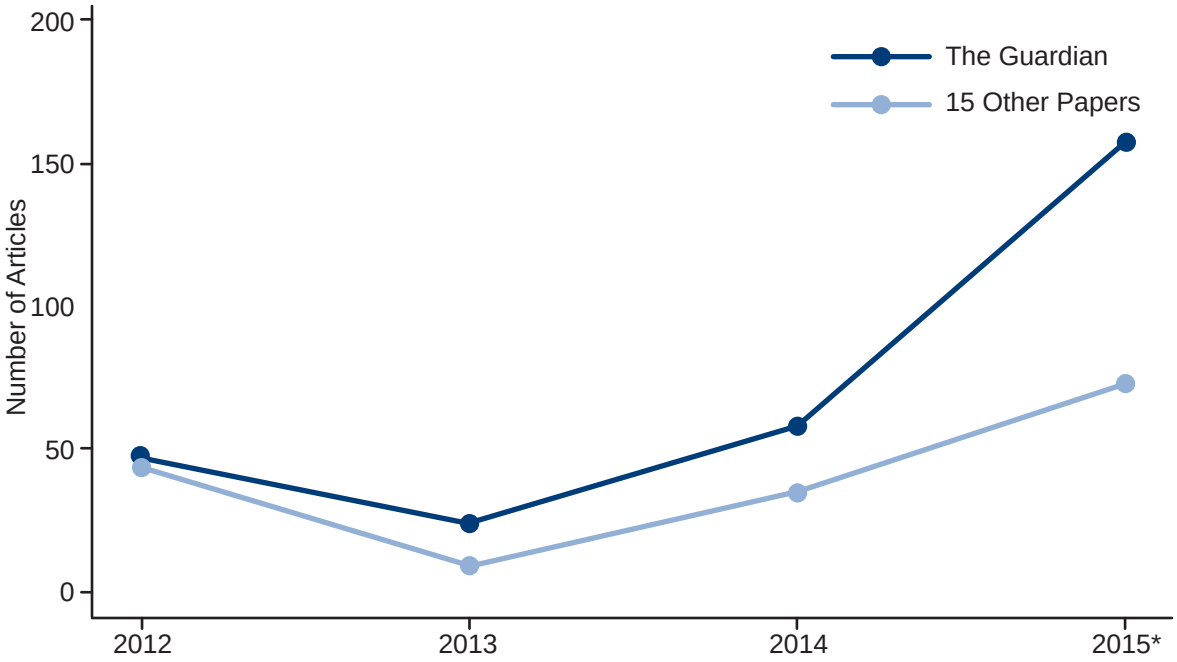
**Figure 14: Annual MDG and SDG coverage across 12 major newspapers, 2000-2014**




Source: Authors' calculations based on LexisNexis (2015).

Note: Includes *The Daily Telegraph, The Economist, the Financial Times, The Globe & Mail, The Guardian, The Independent, Los Angeles Times, The New York Times, South China Morning Post, The Sydney Morning Herald, USA Today*, and *The Washington Post*. Excludes: *New York Times Blogs, Hindustan Times, The Star, The Times of India*, and *Vanguard* because of incomplete coverage over the timeframe. *2015 data only include January 1 through June 30

**Figure 15: SDG coverage across 16 major newspapers, January 2012 - June 2015**




Source: Authors' calculations based on LexisNexis (2015).

15 Other papers include *The Daily Telegraph, The Economist, The Financial Times, The Globe & Mail, Hindustan Times, The Independent, Los Angeles Times, The New York Times* (print and blog), *The Star, South China Morning Post, The Sydney Morning Herald, The Times of India, USA Today, Vanguard*, and *The Washington Post*. *2015 data only include January 1 through June 30

Fortunately, there are signs that the emerging SDG discourse could already be much richer than the MDG discourse. Figure 14 shows the frequency of SDG references in the period since 2012, when the term was first articulated at the U.N.'s Rio+20 summit in Brazil. This figure uses the same 12 global newspapers as Figure 1. During the first half of 2015, there were already more references to the SDGs than there were to the MDGs during in all but the peak years of 2005, 2008, and 2010. If the "September summit effect" is repeated, then 2015 might well see more references to the SDGs, in their year of launch, than the MDGs saw during any year of their tenure. This might be a product of the unprecedentedly inclusive global consultation process that led to the formation of the SDGs. However, Figure 15, which shows the year-to-year composition of SDG references—this time adding in the four papers from India, Nigeria, and South Africa as well as New York Times blogs—indicates that the majority of the SDG references have been published by one paper, The Guardian, so the intensity of coverage has not yet been equally widespread.

The MDGs have set the stage for the SDGs in creating a common reference point for international policy deliberations. The results in this paper show that, over the past 15 years, MDG-focused public conversations have taken hold in some but certainly not all segments of global society. During the next 15 years, an even loftier new generation of "global goals" will need to fill the current gaps in discourse and, in turn, inspire a significantly richer global conversation.

## APPENDIX: METHODOLOGY

*Newspapers*

The core method for evaluating the news publications involved three steps.

- First, we conducted a full-text search in LexisNexis, looking for any articles that mention the "millennium development goals" or relevant permutations of the term. For example, the search would generate a positive response for an article referencing "millennium development goals" (plural) and also for a simpler reference to a "millennium goal." These permutations account for the fact that the MDGs have not always been referenced by their formal label, especially in earlier years.

- Second, we cleaned and categorized the sample. This entailed removing duplicate articles, such as when two editions of a newspaper use two respective titles for the same underlying story. It also entailed identifying letters to the editor and excluding them from the sample, since they are generated by readers rather than by the newspapers themselves.[10] For most newspapers we categorized whether each article represents news or opinion.

- Third, we conducted a simple count of the articles referencing a permutation of the "millennium development goals."

Using the same three-step method, we also identified articles referencing "sustainable development goals" from the beginning of 2012—the year the term was first adopted as part of the U.N.'s Rio+20 conference—through June 30, 2015.

During the period of assessment, the newspaper industry experienced considerable change linked to the digital revolution. Today, traditional media outlets arguably represent only a small portion of relevant modern news sources, particularly given the rise of social media and many digital-only publications. We offer two points regarding this issue. First, in the current paper we are interested in assessing changes over the full MDG period, so time-series comparisons hinge on examining units of observation that were available as of 2000. Second, we do consider and segment out the advent of blog-based coverage in outlets like the New York Times.

*Research-focused publications*

Journals were searched using a combination of Proquest, JSTOR, and publisher websites, applying the same basic full-text methodology as for newspapers, although we exclude journal articles that only mention the MDGs in abstracts or citations. Some journals—like The Lancet, the New England Journal of Medicine, Nature, and Science—publish both original research articles and other types of articles, including news and opinion pieces. We therefore group academic journal articles under four categories: (a) research, (b) news, (c) opinion, and (d) analysis. This has implications for estimating "total article" denominators when calculating percentages referencing the MDGs.

For each journal publishing only research articles, the total number of articles per year was obtained using the same source as the one used to calculate the number of MDG-referencing articles. The same method

was not always possible for journals publishing different types of articles. For those journals, yearly data on the total number of articles segmented by article type was obtained either from the publisher's website or, in the case of Nature, provided directly by the journal's editorial office. For Science and The Lancet, we were unable to obtain precise estimates of total annual articles segmented by article type. For the Comparative Education Review, the number of articles mentioning the MDGs was quite small and did not merit distinguishing between article types. Instead, for these three publications we report yearly data on all types of articles.

*Multilateral development banks*

Each institution's relevant publication series was searched using similar permutations as above. For the World Bank, this includes its Policy Research Working Paper series, which is searchable through the institution's eLibrary platform (World Bank 2015). For the Asian Development Bank (ADB 2015), we examine the online database of "papers and briefs," which are described as "ADB-researched working papers." For the Inter-American Development Bank (IADB 2015), we similarly investigate the online publication database's subsection of "working papers."

The African Development Bank's online document library only allows publications to be searched by category rather than by keyword. This does include a category for "Millennium Development Goals," which mainly includes the institution's annual MDG Reports. But it does not permit a way to search the more than 200 institutional working papers that have been published since 2000. We therefore limit the MDB sample to the World Bank, Asian Development Bank, and Inter-American Development Bank.

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## ENDNOTES

1. LexisNexis was the most comprehensive and searchable database of newspapers available to us at the time of writing. It also seems to be consistent with the newspapers' own direct databases. For example, a search for "millennium development goals" using The New York Times's Chronicle tool, which draws from its API, produces very similar results to a LexisNexis search.

2. We also considered including the Journal of the American Medical Association (JAMA). However, the full-text publication is not accessible via ProQuest, so it was not possible to generate fully comparable data. A cursory search of the JAMA homepage indicates that it had three research publications over the period.

3. Full disclosure: one of this paper's co-authors, John W. McArthur, was lead editor of the U.N. Millennium Project's final report to the secretary-general.

4. The opening sentence of the story reads, "Three days of brainstorming by the leaders of virtually all the world's nations ended tonight with a brave attempt to agree on a set of goals for the next millennium, and common values by which to govern" (Crossette 2000).

5. A fuller account of the early tensions between the U.S. government and the MDG effort is available in McArthur (2014).

6. See http://www.theguardian.com/global-development/2010/sep/14/about-this-site, accessed September 7, 2015.

7. One non-research piece from May 2008, a lecture on "The Economics of Climate Change" by Nicholas Stern, is excluded from the AER analysis.

8. Note that these numbers are slightly higher than the corresponding figures previously presented in McArthur (2012). The adjustment is due to updates in the coding structure of the World Bank's online research database, which now enables a more comprehensive text search.

9. There were 26 infrastructure case studies in total, 24 of which were published by the World Bank in 2011 (Tanzania and Uganda's were published in February 2012).

10. We recognize that editors of course have discretion in deciding which letters to publish.

The views expressed in this working paper do not necessarily reflect the official position of Brookings, its board or the advisory council members.

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