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# Cross-national comparison of the presence of climate scepticism in the print media in six countries, 2007–10

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## Abstract


Previous academic research on climate scepticism has tended to focus more on the way it has been organized, its tactics and its impact on policy outputs than on its prevalence in the media. Most of the literature has centred on the USA, where scepticism first appeared in an organized and politically effective form. This letter contrasts the way climate scepticism in its different forms is manifested in the print media in the USA and five other countries (Brazil, China, France, India and the UK), in order to gain insight into how far the US experience of scepticism is replicated in other countries. It finds that news coverage of scepticism is mostly limited to the USA and the UK; that there is a strong correspondence between the political leaning of a newspaper and its willingness to quote or use uncontested sceptical voices in opinion pieces; and that the type of sceptics who question whether global temperatures are warming are almost exclusively found in the US and UK newspapers. Sceptics who challenge the need for robust action to combat climate change also have a much stronger presence in the media of the same two countries.

**Keywords:** global climate change, international media, climate scepticism, USA, right-wing politics

## 1. Literature review

‘Climate scepticism’ and ‘climate denial’ are readily used concepts, referring to a discourse that has become important in public debate since climate change was first put firmly on the policy agenda in 1988. This discourse challenges the views of mainstream climate scientists and environmental policy advocates, contending that parts, or all, of the scientific treatment and political interpretation of climate change are unreliable. It persists today, espoused on sceptical websites (McIntyre 2012, Watts 2012) and in books (Montford

2010, Booker 2008, Lawson 2009), which contribute to a heterodox interpretation of climate change science by questioning whether its findings are genuinely problematic and whether policies to combat anthropogenic global warming are necessary. Despite a high degree of consensus amongst publishing climate researchers that global warming is occurring, and that it is anthropogenic (Anderegg *et al* 2010), this discourse, promoted largely by non-scientists, has had a significant impact on public perceptions of the issue, fostering the impression that elite opinion is divided as to the nature and extent of the threat<sup>3</sup>. For this reason it has become an increasingly important topic of study.

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<sup>3</sup> See for example the results of opinion polls conducted in the USA at <http://environment.yale.edu/climate/>.

As it emerged, climate scepticism was particularly to be found in the media, which in the 1990s began to register the contributions of businesses, think tanks and sceptical scientists as distinct voices within the US climate change policy debates. The term ‘climate scepticism’ emerged in around 1995<sup>4</sup>, the year journalist Ross Gelbspan authored perhaps the first book focusing directly on what would retrospectively be understood as climate scepticism (Gelbspan 1995). Academics took note of the discourse when they began to analyse media representations of climate change knowledge and its effect on public perceptions and policy-making (Lichter and Lichter 1992, Dunlap 1998, Mazur and Lee 1993, McComas and Shanahan 1999, Miller *et al* 1990, Trumbo 1995, 1996), but in the 1990s, they did not yet focus on it as a coherent and defined phenomenon.

This changed in the 2000s, when McCright and Dunlap played an important role in deepening the concept of climate scepticism. Examining what they termed a ‘conservative countermovement’ to undermine climate change policy, they explored its organization within right-wing think tanks, looking first at its claims-making activities (McCright and Dunlap 2000), and then its organization and tactics. They highlighted the way such groups draw on scientific ‘experts’ linked to fossil fuel industries and concluded that ‘our nation’s failure to enact a significant climate policy is heavily influenced by the success of the conservative movement in challenging the legitimacy of global warming as a social problem’ (McCright and Dunlap 2003, p 367). McCright and Dunlap went beyond the study of media representations of climate change knowledge to give a coherent picture of the movement behind climate scepticism in the US. Since these papers, academic interest has grown, with publications ranging from reflections on engagement with sceptics (Hoofnagle 2009, Nature 2010, 2011, Schneider 2009, Bowen 2008) to analysis of scepticism’s psychological appeal (Norgaard 2006a, 2006b).

Media analysis of climate change reporting was always of interest to academics but from the mid-2000s, it became one of the key areas of research interest, highlighting a tendency to give undue weight to voices questioning the science of climate change (Boykoff and Boykoff 2004, Boykoff 2007). Further research has continued to focus on the presence of sceptics in US print (Nisbet 2011, Antilla 2005) and broadcast (Feldman *et al* 2011) media, the latter concluding that, of the three main cable channels (CNN, MSNBC and Fox News), Fox was the most likely to be dismissive of climate change science. Yet there have been relatively few studies focusing on the media presence of sceptics outside the US, with the remaining research conducted largely into other Anglophone nations (Chubb and Nash 2010, Mazur 2009, Gavin and Marshall 2011). Dispensa and Brulle (2003) offer one of the relatively few studies that include a non-Anglophone nation in its analysis (contrasting media coverage of climate change in the US, New Zealand and Finland).

Another key area of interest has continued examining the organizational links between climate scepticism and

conservative think tanks/business communities (Oreskes and Conway 2010, Jaques *et al* 2008). Placing climate scepticism within the historical context of an anti-environmental, or even anti-scientific, turn in the politics of the American right (Buell 2003, Jacques 2006, Mooney 2006, Ashe 2011, Washington and Cook 2011, chapter 4) has helped explain its historical roots, but has also resulted in a tendency to view it as a discourse with conservative affinities, a hypothesis that has not been tested outside the US context.

This US focus is understandable given the emergence and successes of climate scepticism in US domestic politics, but it raises several questions, given that similar rhetoric and counter-environmental claims are discernible and strengthening in other national discourses, particularly in parts of Eastern Europe, the UK, Australia and Canada. We therefore ask, firstly, whether other countries have experienced the same prevalence of climate sceptical discourse as the US; secondly, whether the experiences of other countries bear out the American tendency to view climate scepticism as a predominately right-wing phenomenon; and thirdly, whether other nations have developed similarly functioning networks of climate sceptics who question the scientific underpinning of climate policy proposals. We offer an analysis of print media in six different nations, thus building on the understanding of climate scepticism found in the American-focused literature and assessing how far the US pattern is repeated abroad.

We address the first point by examining media reporting of climate change during a three-month period which includes what the media called ‘Climategate’ in November 2009, when scientists at the University of East Anglia were accused of manipulating scientific data and keeping critics out of academic publications. ‘Climategate’ received considerable attention in the USA, with many US based sceptics taking advantage of the situation to press their case in the public sphere, but ‘Climategate’ involved an English research institution and had implications for the global scientific community because of its links to the Intergovernmental Panel on Climate Change (IPCC). If other countries were experiencing a similar prevalence of climate scepticism to the US, this event would have been likely to prompt media reporting internationally. We therefore examine media reporting of climate change at this time (Nov 2009–Feb 2010) and in a separate period (Feb–Apr 2007), which focuses on the publication of the IPCC’s Fourth Assessment Report. This should offer insights into the extent to which the print media in countries outside the USA and the UK responded to a climate sceptical story with potential global relevance in contrast to a period when the focus of the international narrative was mainly about orthodox climate change science and policy.

On the second point, we address how far the overlap between right-wing thinking and anti-environmental sentiment holds good outside the US, by considering to what extent and in what ways climate sceptical discourse is evident in the right- and liberal/left-leaning print media (where appropriate) in the six countries analysed.

The focus on US politics has yielded a detailed understanding of the organization and power of climate

<sup>4</sup> A Nexis search for ‘climate + sceptic’, ‘climate + skeptic’ or ‘climate + denial’ begins to show relevant results from around this time.

sceptical organizations, but again it is unclear how far these patterns are replicated in other countries. On the third point, we look at what kind of sceptical message is delivered in different countries, using the climate scientist Rahmstorf's (2004) taxonomy of scepticism. We then offer some results on the prevalence of different types of climate scepticism in the six countries, focusing on the ways the USA may be different. In these ways we hope to shed some light on the prevalence and type of climate scepticism in very different political contexts around the world.

## 2. Methodology

Considerable intellectual effort has gone into the discussion about the need to differentiate clearly between the different types of sceptics and scepticism (Painter 2011, O'Neill and Boykoff 2010, Washington and Cook 2011). There are sharp differences between individual sceptics in their levels of scientific repute, their links (or lack of them) to lobby groups and their sources of funding<sup>5</sup>. Nigel Lawson and Benny Peiser of the Global Warming Policy Foundation (GWPF) in the UK and senator James Inhofe in the USA for example, who all appeared with frequency in our samples, clearly enjoy less scientific credibility than the climate sceptical scientists Richard Lindzen or Freeman Dyson. However, too wide a differentiation of sceptics would have stood in the way of the broader, headline results we were seeking.

We focused on the marked differences in what climate sceptics are sceptical about. For purposes of simplification, we broadly followed the three-fold distinction outlined by Rahmstorf (2004) between (1) trend sceptics (who deny the global warming trend), (2) attribution sceptics (who accept the trend, but either question the anthropogenic contribution saying it is overstated, negligent or non-existent compared to other factors like natural variation, or say it is not known with sufficient certainty what the main causes are) and (3) impact sceptics (who accept human causation, but claim impacts may be benign or beneficial, or that the models are not robust enough) and/or question the need for strong regulatory policies or interventions.

This basic three-type taxonomy was applied to an examination of climate scepticism in the print media in six countries, namely Brazil, China, France, India, the United Kingdom and the USA. The USA and the UK were chosen as the main examples of Anglophone countries where climate scepticism is common in the media. France was chosen as an example of a non-Anglophone developed country. Brazil, China and India were selected as examples of emerging economic and political powers, which play an increasingly important role at climate change negotiations.

The main period we monitored were the three months from 19 November 2009 to 18 February 2010. This included 'Climategate', but also the Copenhagen summit, the controversies surrounding errors in the IPCC reports, a cold winter in many parts of the northern hemisphere, and the formation of the sceptical lobby group, the GWPF in the

UK. The period was deliberately chosen as one in which you would expect a significant presence of sceptical voices to have a large sample with which to carry out the transnational comparisons. We also looked at a second period of three months from 1 February to 30 April 2007 to include the launch of the first two IPCC reports that year (known as WG-1 and WG-2 AR4), giving us a sense of whether climate change stories generally involved the reporting of sceptical voices, even when scepticism was not at the centre of the story<sup>6</sup>.

The newspapers chosen for scrutiny were *Folha de São Paulo* and *Estado de São Paulo* in Brazil, *People's Daily* and *Beijing Evening News* in China, *Le Monde* and *Le Figaro* in France, *The Hindu* and *Times of India* in India, the *Guardian/Observer* and the *Daily/Sunday Telegraph* in the UK<sup>7</sup>, and the *New York Times* and *Wall Street Journal* in the USA. Where possible, a left-leaning or liberal newspaper (the first mentioned above) and right-leaning newspaper were selected, although for obvious reasons this was not possible in the case of China<sup>8</sup>. In most cases, the articles were accessed and compiled using the Lexis Nexis or Factiva search engines, although in some cases the papers' own search facilities had to be employed<sup>9</sup>. The key words 'climate change' or 'global warming' were entered with the additional filter of 'at the start' where this was possible.

*Country differences.* The application of this methodology gave a total of 2064 articles across the period from November 2009 to February 2010. It is interesting to note that the two UK newspapers ran the highest number of articles on climate change or global warming in this period (551) followed by India (524) and Brazil (477). The relatively high quantity of coverage of climate change in these last two countries compared to others has been supported by other studies (Painter 2010). The US newspapers came next (202), closely followed by France (196), with the two Chinese papers some way behind (114).

All of the articles were examined for whether they contained sceptical voices. 'Containing sceptical voices' included all the three types of sceptics mentioned above. It also included direct and indirect quotes of individual sceptics, short mentions of them, generic quotes (such as 'sceptics say...'), opinion pieces authored by sceptics, and opinion pieces or editorials quoting or mentioning them<sup>10</sup>. This gave a total of 240 articles, or about 12% of the total number of articles covering climate change or global warming. The UK had the most with 106, followed by the USA with 68. India

<sup>6</sup> The period included the showing of a controversial TV documentary on Channel 4 called the *Great Global Warming Swindle*, which would have prompted some sceptical voices in the UK media, but probably not elsewhere.

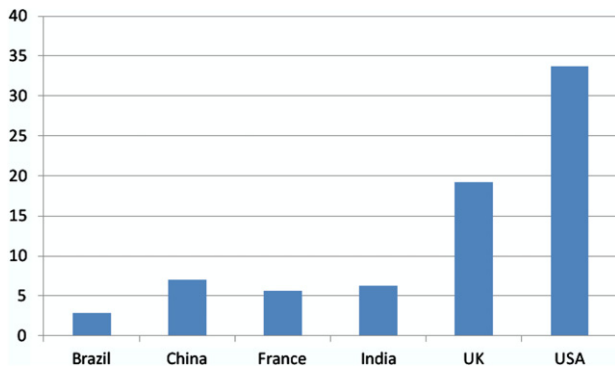
<sup>7</sup> Known hereafter as the *Guardian* and the *Telegraph*.

<sup>8</sup> In China we chose to contrast a leading governmental paper with a more 'popular' publication, but both are heavily conditioned by governmental discourse.

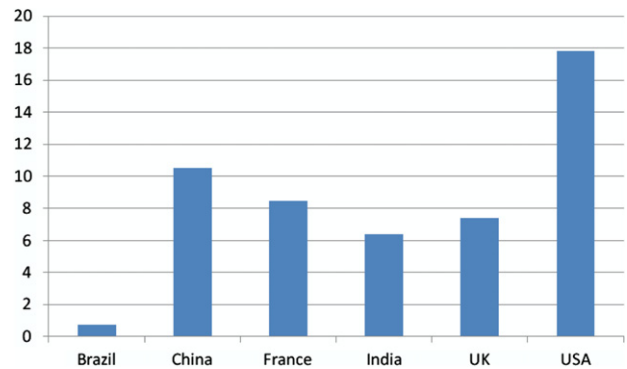
<sup>9</sup> For a full description of the methodology and the coding mechanics, see Painter (2011), chapter 4 and appendices 2 and 3. Six researchers carried out the content analysis for each country, and in China, Brazil and France, they were bilingual in the relevant language and English.

<sup>10</sup> If the same climate sceptic was quoted or mentioned more than once in the same article, this was still coded as one example of an article 'containing sceptical voices'.

<sup>5</sup> See Painter (2011) pp 21–24 for further discussion of this point.



**Figure 1.** The number of articles containing sceptical voices as a % of the total number of articles covering climate change or global warming, 2009–10.



**Figure 2.** The number of articles containing sceptical voices as a % of the total number of articles covering climate change or global warming, 2007.

(33), Brazil (14), France (11) and China (8) had considerably less.

Figure 1 represents the number of articles containing sceptical voices as a percentage of the total number of articles in each country’s sample. This is a more helpful indicator of the prevalence of sceptical voices, as it takes into account the very different news ‘hole’ available for articles on climate change in each of the newspapers examined. For example, the *Guardian*, *Telegraph* and *New York Times* have a far greater number of pages for news and other articles than *The Hindu*.

The US newspapers had the largest number of articles in percentage terms (34%) which contained sceptical voices over the period examined, and nearly double the next country which was the UK at 19%. The Chinese newspapers came next with 7% of all articles, although the figures were taken from a low base. India and France followed with roughly 6%, with Brazil last at 3%. So, despite the high number of articles in the Indian and Brazilian press covering the issue, a very low percentage of these included sceptical voices.

So, the results found in figure 1 would suggest that from the sample and period examined, the print media in the USA were significantly more likely than the print media in the other five countries to include sceptical voices. The figure of 19% for the UK media was swollen by the decision of the *Guardian* to run a series of in-depth features on ‘Climategate’ in February 2010 by the journalist and author Fred Pearce<sup>11</sup>.

We then looked at whether these results were broadly similar to a second (earlier) period, where one would expect less sceptical voices. As already mentioned, this period from 1 February to 30 April 2007 included the launch of the first two IPCC reports that year. The search engines found 1263 articles in this period which were divided between Brazil (396), the UK (390), the USA (185), France (129), India (125) and China last with 38. Of these 1263 articles, 88 contained sceptical voices, equivalent to about 7% of the total. This was significantly lower than the percentage figure for the first period, which was to be expected.

Figure 2 shows for this period the number of articles containing sceptical voices as a percentage of the total number

of articles in each country’s sample. As can be seen, the USA again has a significantly higher percentage of articles with sceptical voices in them: 18% compared to the 11% of China. However, the China figures are taken from a low number of articles (4 out of 38 containing sceptical voices). The next highest is France at 9%, followed by UK (7%), India (6%) and Brazil (1%). So again, we can conclude that even in a period when sceptical voices are not the central media story, as they were for ‘Climategate’, the USA print media included in this sample contained nearly twice as many such voices as the next country, expressed in percentage terms, suggesting that there is a significant difference between the habits of US climate change reporting and the other countries examined.

It is also worth pointing out that a simple count of the number of individual sceptic voices shows that the US and the UK print media contained significantly more such voices than the other four countries over the two periods. Together they represented more than 80% of such voices contained in the articles (209 of the total of 260).<sup>12</sup> The *Guardian* had the most at 74 over the two periods, followed by the *Telegraph* (70), the *New York Times*—*NYT* (42) and the *Wall Street Journal*—*WSJ* (23).<sup>13</sup> However, if such voices are expressed as percentages of the total number of articles discussing climate change or global warming over the two periods, the USA print media again came out on top: 65 sceptical voices in 387 articles (17%), compared to the UK’s 144 sceptical voices in 941 articles (15%). The other four countries shared 51 such voices over 1991 articles, equivalent to 3%.

A comparison between figures 1 and 2 show that for the USA and the UK the increase in the presence of sceptical voices was considerably more marked over the two periods compared to the other four countries: the USA rose from 18% to 34%, and the UK from 7% to 19%. China and France’s percentages actually dropped, India’s remained roughly the same, while Brazil’s rose slightly from 1% to 3%.

<sup>12</sup>The number of 260 sceptical voices found across the two periods was arrived at by including all the sceptics mentioned by name in the articles. So the same article could contain several mentions of the same sceptic, but this was only codified as one mention. However, if several different sceptics were mentioned in the same article, they were codified as different sceptical voices.

<sup>13</sup>Painter (2011) table 4.1, pp 56–7.

<sup>11</sup>In the 2007 period the *Guardian* actually has a lower percentage (4%) than both the Chinese and French newspapers.



Clearly the coverage of ‘Climategate’ was a major driver of the increases in the US and UK percentage figures. After all, such voices led the criticism of the behaviour of the scientists at the University of East Anglia. From other studies, it is clear that newspaper journalists and editors in the UK and the USA did see ‘Climategate’ as a (perhaps short-lived) game changer in terms of the amount of space they were prepared to give to climate sceptics<sup>14</sup>. They seem to have been far more willing to turn to sceptical voices in this period than their counterparts in other countries. In contrast, journalists from Brazil, India, China and France did not pay as much attention to the story for a whole series of reasons, including geographical distance, language barriers, the complexity of the issues, and a view by some that the basics of climate science were not called into question.

Our data would support the evidence for a sharp difference in editorial approach between (parts of) the Anglo-Saxon world and the non-Anglo-Saxon world. However, it is not clear the extent to which ‘Climategate’ was the only, or even the main driver, of the greater prevalence of sceptical voices in the US and UK press. For example, Boykoff has argued that while ‘Climategate’ was a ‘hot button issue’ during this time in the UK and US press, it remained a ‘relatively minor ‘signal’ quantitatively over this period amidst the ‘noise’ of overall climate change or global warming coverage’ (Boykoff 2011, p 36). Moreover, the presence of organized sceptical groups or individual climate sceptics in those two countries, and their virtual absence in the other four countries, could have been just as important driver of media outcomes as editorial decisions. As has been well-documented, they are adept at getting their voices heard in the media when the opportunities arise (Dunlap and McCright 2010, Oreskes and Conway 2010).

### 3. Scepticism as a right-wing phenomenon

Climate scepticism has a strong presence within the Republican Party and the Tea Party movement in the USA. It should be stressed that this presence is to be found only in parts of the Republican Party, as senator and 2008 presidential candidate John McCain for example accepted the need to limit greenhouse gas emissions. However, climate scepticism has not been so closely associated with mainstream right-wing parties in other countries (Boykoff 2011, chapter 6). Few studies have been carried out as to whether climate scepticism (in its various forms) is more likely to be found in right-leaning media. The literature that does exist suggests that there is a correspondence.

For example, Carvalho and Burgess found important differences in the coverage of three British broadsheet newspapers in the period 1985–2001, which they attribute in part to the ‘profound ideological differences’ between them ‘in their representations of scientific knowledge claims’ (Carvalho and Burgess 2005). In short, the conservative, right-of-centre *Times* was more inclined to question the science compared to the liberal, social democratic *Guardian*

or the *Independent*, which they describe as following no declared party-political line. Boykoff and Mansfield also suggest from their study of the British tabloid press that the politically conservative stance of the *Daily Mail* explained in part why the paper reflected mainstream science the least of the papers they examined over the period 2000–6 (Boykoff and Mansfield 2008).

The total number of articles containing sceptical voices over the two periods in all twelve newspapers we examined comes to 328. If the articles in the Chinese newspapers are taken out of the sample, as the right/left splits are not relevant, this leaves a total of 316 articles. If we then divide up the newspapers according to their political tendency (*Folha de São Paulo*, *Le Monde*, *The Hindu*, the *Guardian* and the *New York Times* as more left-leaning, *Estado de São Paulo*, *Le Figaro*, the *Times of India*, the *Telegraph* and the *Wall Street Journal* as more centrist or right-leaning), then—perhaps surprisingly—we find that slightly more articles containing sceptical voices are found in the left-leaning or liberal newspapers (159) than in the more centrist or right-leaning newspapers (157).

However, a different picture begins to emerge if the 316 articles are divided between those found on the news pages and those found on the opinion or editorial pages. The splits are 100 articles containing sceptical voices in the news pages of the left-leaning newspapers compared to 75 for the right-leaning newspapers, and 59 compared to 82 on the opinion/editorial pages.

Important variations can be found when these figures are presented as a percentage of the total number of articles covering climate change, and broken down by country. In Brazil, *La Folha* had nine articles containing sceptical voices over the two periods, equivalent to nearly 2% of all the articles covering climate change. *O Estado* had eight articles, also equivalent to 2%. In similar fashion, the figures for the French newspapers are 7% for *Le Monde* and 6% for *Le Figaro*; and in India, 7% for *the Hindu* and 6% for the *Times of India*. So there is little variation between the two newspapers in these three countries despite their different political leanings.

In the UK and the USA, the differences are more marked. In the UK, the *Guardian* had 11% of articles over the two periods containing sceptical voices compared to the *Telegraph*’s 19% (and this despite the *Guardian*’s aforementioned decision to cover ‘Climategate’ extensively). In the USA, the equivalent figures are 25% for the liberal *NYT* and 28% for the right-leaning *WSJ*.

Differences become more noticeable after a closer examination of the opinion and editorial pages. In total, articles in these sections of the newspapers represented 141 of the 316 articles containing sceptical voices, equivalent to 44%. But the six newspapers from Brazil, France and India accounted for just 29 of the 141 (21%), significantly fewer than the 112 (79%) in the four UK and US newspapers.

If we look more narrowly at whether the sceptical voices found in the opinion pages are left uncontested, then a clearer distinction emerges between the left-leaning and right-leaning newspapers. In France, the sample is small, but the three opinion pieces found in *Le Monde* were written by

<sup>14</sup>Painter (2011) pp 43 ff., Painter (2010) pp 75ff. and O’Neill (2010).

scientists and included sceptical voices in order for them to be refuted. There were no opinion pieces authored by sceptics. In contrast, the right-leaning *Le Figaro* included three opinion pieces authored by sceptics, one of them by the prominent sceptic and Education Minister under the socialist Jospin government, Claude Allègre.

In the UK, the *Guardian* ran 14 opinion pieces containing sceptical voices, all of which were countered or balanced by mainstream scientists. The *Telegraph* on the other hand ran 34 opinion pieces, more than half of which (19) were not contested. 11 of these were written by Christopher Booker, a regular *Sunday Telegraph* columnist and author of the sceptical book, the *Real Global Warming Disaster*.

The difference in the USA is particularly marked. The *NYT* ran 14 opinion pieces which included sceptical voices, all of which were contested. In contrast, the *WSJ* ran 17 opinion pieces, all but one of which was left uncontested. Seven of these were written by regular columnists at the paper. A similar picture can be found in the editorials of the two papers, where all of the *NYT*'s editorials which included sceptical voices were dismissive of sceptical arguments, whereas in all but one of the *WSJ*'s such voices were uncontested<sup>15</sup>.

In conclusion, we can say that from our sample, there is little evidence for much difference in the percentage of articles containing sceptical voices between left-leaning and right-leaning or centrist newspapers in Brazil, France and India. However, in the USA and the UK, where sceptical voices generally appear in much higher numbers, the differences are more marked. The strongest evidence for a distinction between left-leaning and right-leaning newspapers can be found in the opinion pages in France, the UK and the USA, where right-leaning newspapers are much more likely to include uncontested sceptical voices.

#### 4. Types of sceptical message

The work by McCright and Dunlap has highlighted the effectiveness of organized climate sceptic groups in influencing US policy making in the 1990s and early 2000s, including their central role in the rejection of the Kyoto Protocol by the US Congress (McCright and Dunlap 2003). Applying the Rahmstorf taxonomy described above, we wanted to test if the USA stood out compared to other countries for the presence of sceptics who have serious doubts about the scale and nature of the impacts and/or question the need for robust action to combat climate change (the type 3 sceptics described above).

Of the 260 times individual sceptics were quoted in the articles over the two periods, 184 of them were of types 1 and 2, namely those who deny global temperatures are warming or question the anthropogenic contribution to global warming<sup>16</sup>. This is well over twice the amount of times type 3 sceptics were mentioned (76). The country variations are notable.

<sup>15</sup> Painter (2011) p 63.

<sup>16</sup> A type 1 or 'trend sceptic' included those who question whether there has been any significant temperature rise either over the last century, or over the last ten years.

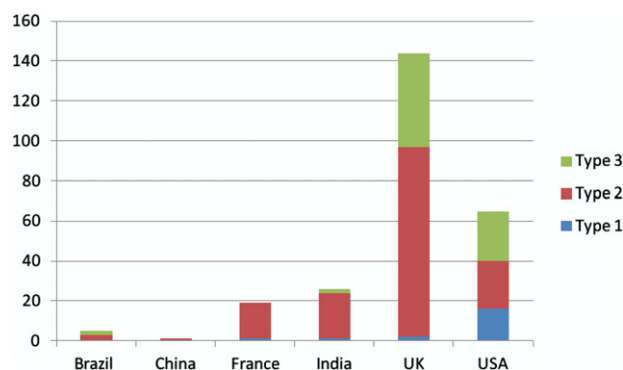


Figure 3. Types of sceptics by country.

Figure 3 shows the total number of individual sceptical voices by country, divided into the three types. Type 1 sceptics (those who deny temperatures are warming), marked in blue, are almost exclusively found in the US newspapers (16 of the 20 times they are quoted). This is partly a reflection of the media prominence of James Inhofe, the US Republican senator.

Type 2 sceptics, marked in red, are spread across the four countries where there is a moderate to strong presence of sceptical voices. However, it is notable that in France and India, they represent a much higher percentage (95% and 88% respectively) than in the UK (66%) and the USA (37%).

Of the 76 times type 3 sceptics, marked in green, were quoted or mentioned in all six countries, only 4 were in the non-Anglo-Saxon media. In other words type 3 sceptics are virtually absent from the media examined in Brazil, China, France and India. In sharp contrast, they enjoyed a strong presence in both the UK and the US print media (47 and 25 times respectively), but in percentage terms the US has slightly more (38% compared to 32%).

Such results would support the view that the USA is particularly notable for the presence of sceptics who question the need for strong climate change policy proposals. It would also be true of the UK, where the GWPF has had a major impact in the media since its formation in November 2009. In a recent study of the ten UK national newspapers, the two most quoted sceptics by some margin were the two prominent leaders of the GWPF, Nigel Lawson and Benny Peiser<sup>17</sup>. They are generally known more as policy sceptics than trend or attribution sceptics.

#### 5. Conclusions

The two newspapers chosen from France and the three developing countries stand out for giving considerably less space to sceptics compared to the media included in the survey from the USA and the UK. The US newspapers had, by some margin, the highest proportion of articles containing sceptical voices expressed as a percentage of all the articles covering global warming or climate change.

There is some evidence for arguing that there is a strong correspondence between the political leaning of a newspaper

<sup>17</sup> Painter (2011) p 4.

and its willingness to quote or use uncontested sceptical voices in opinion pieces. The distinction between news pages and opinion pages is important as much of the scepticism is found in the latter category. In right-leaning newspapers such as the *Wall Street Journal* and the *Telegraph*, there is very little uncontested scepticism in their news reporting.

There is also evidence for seeing a greater presence in the US media of the sort of scepticism which strongly attacks the scientific legitimacy of climate change policy proposals compared to all the other five countries (with the notable exception of the UK).

These results prompt further research into several areas, including the study of other countries such as Australia, Canada, Norway and Eastern Europe, where climate scepticism is known to be prevalent; and an updating of the period of study to 2011/2012 to see if the presence of sceptical voices in the UK and US media has been maintained after the decline in media interest in 'Climategate'.

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