

Connectivity and Freedom: Exploring the Relationship between Internet Access, Freedom of the Net, and Media Freedom

Cynthia English
Gallup
Cynthia_English@gallup.com

Elizabeth Steele
Gallup
Elizabeth_Steele@gallup.com

Lee Becker
University of Georgia
lbbecker@uga.edu

Tudor Vlad
University of Georgia
tvlad@uga.edu

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Introduction

Internet connectivity, and the access to information that accompanies it, is viewed by many as an important element of democracy. The United Nations Educational, Scientific and Cultural Organization (UNESCO) “recognizes that the Internet holds enormous potential for development. It provides an unprecedented volume of resources for information and knowledge and opens up new opportunities for expression and participation.”ⁱ The State of Global Connectivity reportⁱⁱ published by Internet.org in February, 2015 states, “The internet is a powerful tool for connecting people to information, ideas, resources, services, and other people. It’s driving the global economic engine, creating new jobs, transforming industries, and in some cases, creating entire new industries. With the benefit of connected devices, people from all over the world are changing the way business is done, how governments relate to their people, and people relate to their governments.” With so much promise it’s no wonder great efforts have been made to increase connectivity, as well as ensure Internet freedom for people around the world.

This paper compares data on Internet connectivity gathered by the Gallup World Poll against data from the International Telecommunications Union (ITU) - the United Nations specialized agency for information and communication technologies - to get a sense of the comparability of these two types of data sources. The ITU indicator is an individual measure, the Gallup indicator measures at a household level, raising questions about the comparability of these metrics; however, a strong relationship between these two items does exist. Additional analysis evaluates the relationship between Internet access and Internet freedom. It stands to reason that people living in countries with a higher level of Internet freedom are more likely to have and utilize access to the Internet than people living in countries with less Internet freedom.

Residents in countries with constrained media environments may be less likely to get Internet access in the home due to a lack of interest in the information available online and fear of its misuse as a tool of surveillance.

Finally, the paper examines the relationship between public opinion and elite assessments of media freedom overall. Media Freedom at the level of the nation-state historically has been indexed by professional or elite evaluators. Surveys of the general public about media freedom provide an alternative—or complementary—strategy for assessing the level of media freedom in a country. This paper examines the correspondence between the assessments of media freedom by the elite and by the public. It finds that the elite evaluators and public largely agree in their assessments of media freedom. It then examines discrepant cases to determine if outliers represent methodological errors, cases where the public either lagged behind the elite assessments or anticipated them, or cases where there was a substantive difference between the elite and the public because they were measuring different things. The last of these explanations seems to be the likely one, given the data available.

Related Literature

Media freedom is recognized as a fundamental human right in Article 19 of the Universal Declaration of Human Rights. Two organizations, Freedom House and Reporters Without Borders, every year assess levels of press freedom among countries around the world relying on expert evaluators. They examine characteristics of the media systems, such political or economic pressures on media journalists and protection of press freedom by media organizations and judicial systems.

The information provided by these press freedom indexes is used by governments, non-governmental organizations, and media scholars. These ranking and ratings have often been criticized by those who are evaluated or by their governments (Font de Matas, 2010), as well as by academics (Holtz-Bacha, 2011). The criticism ranges from pro-U.S. or pro-Western bias to lack of conceptual precision or lack of methodological detail and clarity.

The creation of the RWB index has been perceived as an alternative tool to the FH ranking. In 2006, for example, the German political opposition accused the ruling coalition of doing nothing to strengthen the "defaulted and endangered" media freedom in the country, when Reporters Without Borders downgraded Germany by five ranks (Spiegel Online, 2006). Prime Minister Silvio Berlusconi's spokesman Paolo Bonaiuti said in a plenary session of the European Parliament: "The left has made them (the press freedom indices, author's note) become famous like Pink Floyd. (...) Why do 27 left-wing European MPs accuse Italy over a lack of freedom of information when everybody knows it's not true?" (Adnkronos, 2010). His statement followed a change in the status of the Italian media from "free" to "partly free" in 2009. The Malawi government in 2011 argued that the RWB report did not properly reflect the media situation,

when the country plunged 67 places in the index (Media Institute of Southern Africa, 2012). Two Walter Cronkite School of Journalism and Mass Communication professors criticized the 2012 RWB ranking of the U.S. (Grobmeier, 2012) when the arrests of journalists who participated in the "Occupy" movement led to a drop of 27 places in the index. (The Freedom House measure for that year showed only a one point drop in the country's rating.)

Public support for institutions has been an important area of research in political science. Listhaug and Wiberg (1995) argued that confidence in institutions is an indicator of acceptance of or support for the legitimacy of the political system. According to Norris (1999), confidence in institutions is one of the dimensions of the broader concept of political support. Norris and Inglehart (2009) saw confidence in political institutions as an indicator of regime support. Listhaug and Wiberg (1995) made a distinction between confidence in private institutions and confidence in government institutions.

Becker and Vlad (2010) examined the relationship between press freedom measured by Freedom House and Reporters Without Borders and media freedom assessed in two international general public surveys. One was a 2007 BBC World Service Poll that included five questions dealing with the media in a survey conducted in 14 countries (BBC World Service Poll, 2007). One of the questions asked respondents to use a 5-point scale to indicate how free they thought the media in their country was to report the news accurately, truthfully and without bias. The survey was conducted in October and November of 2007. Samples were national in nine of the 14 countries and urban-only in the other ones. Sample sizes ranged from 500 to 1,500.

WorldPublicOpinion.Org (2008), based at the University of Maryland, conducted a survey in 28 countries and territories that included questions regarding the media. In a majority

of countries, the respondents were asked how much freedom the media in their country have. Sample sizes varied from 597 to 2,699.

The relationship between the measure of public perceptions of media freedom and the Freedom House measure of press freedom for the 14 countries included in the 2007 BBC World Service Poll was slight at best. The Pearson Product Moment Correlation Coefficient was .31, while the Spearman rho was .23. The correlations between the BBC World Service Poll measures and the Reporters Without Borders were similar, with a .37 Pearson r and a .25 Spearman rho.

The relationship between the WorldPublicOpinion.Org measure of press freedom from the point of view of the general public and the Freedom House measure was considerably stronger, a .81 with Pearson r and a .76 with Spearman rho.

The Reporters Without Borders evaluations produced a similar .70 (Pearson) and .71 (Spearman). The researchers argued that the different findings were the result of different measurement of public assessments of press freedom. The BBC World Service Poll used an anchored scale and the WorldPublicOpinion.Org measure used verbal descriptions. The BBC question was also reverse coded; that is, respondents were asked to go from 5 to 1 rather than the reverse, which is more common.

In the most recent and robust of these analyses (Becker, English and Vlad, 2012), the researchers found correlation coefficients of .74 and .64 (Spearman's rho) between a measure of media freedom from the Gallup World Poll and the ratings of press freedom of Freedom House and Reporters Without Borders, respectively. These findings are based on an analysis of a measure of press freedom used in surveys conducted in 134 countries around the world in 2011. The results replicate findings from 2010 from a smaller sample of 111 countries (Becker, English

& Vlad, 2011). This paper focus specifically on the Freedom House media freedom and internet freedom measures.

Expectations

While a variety of sources are used to estimate the extent of Internet connectivity, Internet freedom, and press freedom in different countries, the Gallup World Poll provides an opportunity to explore the relationship between these external measures and related public opinion data. It is expected that a positive relationship will exist between the ITU and Gallup measures of Internet connectivity, as well as between Freedom House's Freedom of the Net measure and Gallup's measure of Internet access. Previous research has found a modest positive relationship between Freedom House and Gallup's media freedom measures suggesting this will continue as newer data is accessed.

Methods

Different methods exist for measuring Internet access around the world. A widely used source of estimates of Internet penetration is the ITU, the United Nations specialized agency for information and communication technologies. ITU gathers its data from a variety of sources, including commercial companies and government ministries. Sometimes it makes estimates based on other sources of information (ITU, 2014).

Much of ITU's work in the area of indicator definitions and statistical methodologies is carried out through its two expert groups: the Expert Group on Telecommunication/ICT Indicators (EGTI) and the Expert Group on ICT Household Indicators (EGH). Created in 2009 and 2012, respectively, these two expert groups revise and review ITU's supply-side and demand-side statistics, and discuss methodological issues and new indicators. Both groups, which are open to all ITU members and to experts in the field of ICT statistics and data

collection, work through online discussion forums and annual face-to-face meetings. They periodically report back to the World Telecommunication/ICT Indicators Symposium (WTIS), ITU's main forum on ICT statistics. In 2011, EGTI opened a discussion item on the IDI on its online forum, and members were invited to provide suggestions on how to improve the IDI methodology. It has been a standing item on the EGTI forum since then.

In 2013, EGH revised the Partnership on Measuring ICT for Development core list of ICT indicators, and subsequently updated the ITU Manual for Measuring ICT Access and Use by Households and Individuals (ITU, 2014), which includes the revision of some of the indicators on ICT household access and individual use of ICT included in the IDI.⁴ Interested experts are invited to join the EGTI and/or the EGH discussion forum to share experiences, contribute to the discussions and participate in the decision-making process (ITU, 2014).

The best known and most widely used measure of the press freedom is that of Freedom House (Becker, Vlad & Nusser, 2007). Freedom House was founded in 1941 to promote democracy globally. Since 1978, Freedom House has published a global survey of freedom, known as *Freedom in the World*, now covering 195 countries and 14 territories (Freedom House, 2014). This indicator is widely used by policy makers, academics, and journalists. In 1980, as a separate undertaking, Freedom House began conducting its media freedom survey—*Freedom of the Press: A Global Survey of Media Independence*—which in 2013 covered 197 countries and territories (Freedom House, 2014).

To measure the press freedom concept, Freedom House attempts to assess the political, legal, and economic environments of each country and evaluate whether the countries promote and do not restrict the free flow of information. In 2013, the research and ratings process involved several hundred analysts and senior-level advisers (Freedom House, 2014). These

analysts and advisers gather information from professional contacts, staff and consultant travel, international visitors, the findings of human rights and press freedom organizations, specialists in geographic and geopolitical areas, the reports of governments and multilateral bodies, and a variety of domestic and international news media. The ratings are reviewed individually and on a comparative basis in a series of six regional meetings with the analysts, ratings advisers with expertise in each region, other invited participants and Freedom House staff. Freedom House then compares the ratings with the previous year's findings. Major proposed numerical shifts or category changes are subjected to more intensive scrutiny. These reviews are followed by cross-regional assessments in which efforts are made to ensure comparability and consistency in the findings. Freedom House asks the raters to use 23 questions divided into three broad categories covering the legal, political and economic environments. Each country is rated in these three categories and assigned a value, with the higher numbers indicating less press freedom.

Freedom House describes their *Freedom of the Net* variable as a measure of the “subtle and not-so-subtle ways that governments and non-state actors around the world restrict our intrinsic rights online.”ⁱⁱⁱ Each country is assigned a numerical score, based on methodology developed in consultation with international experts. This methodology includes three categories: ***obstacles to access*** (infrastructural and economic barriers to access, legal and ownership control over internet service providers, and independence of regulatory bodies), ***limits on content*** (legal regulations on content, technical filtering and blocking of websites, self-censorship, the vibrancy/diversity of online news media, and the use of digital tools for civic mobilization), and ***violations of user rights*** (surveillance, privacy, and repercussions for online speech and activities, such as imprisonment, extralegal harassment, or cyberattacks.)

The Gallup World Poll regularly surveys adult residents in more than 160 countries and areas, representing more than 98% of the world's adult population. In most cases, randomly-selected, nationally-representative samples of the entire civilian, non-institutionalized, age 15 and older population of each country are used. Exceptions include areas where the safety of interviewing staff is threatened, scarcely populated islands in some countries, and areas that interviewers can reach only by foot, animal, or small boat. Gallup typically surveys 1,000 individuals in each country, with at least 2,000 interviews being conducted in large countries like China, Russia and India. Margin of error for each country study is typically around +/-3 percent.

Telephone surveys are used in countries where telephone coverage represents at least 80% of the population or is the customary survey methodology. In Central and Eastern Europe, as well as in the developing world, including much of Latin America, the former Soviet Union countries, nearly all of Asia, much of the Middle East, and all of Africa, an area frame design is used for face-to-face interviewing.

Once collected, the data set goes through a rigorous quality assurance process before being publicly released. After review by the regional directors, Gallup scientists perform additional validity reviews. The data are centrally aggregated and cleaned, ensuring correct variable codes and labels are applied. The data are then reviewed in detail for logical consistency and trends over time. Once the data are cleaned, weighted, and vetted, the final step is to calculate approximate study design effect and margin of error. Specific details on each country's sample size, month/year of the data collection, mode of interviewing, languages employed, design effect, margin of error, and details about sample coverage are available upon request.

Gallup is entirely responsible for the management, design, and control of the Gallup World Poll and is not associated with any political orientation, party, or advocacy group and

does not accept partisan entities as clients. Any individual, institution, or governmental agency may access the Gallup World Poll regardless of nationality.

In each country, a standard set of core questions is fielded in each of the major languages of the respective country. Since the World Poll began in 2007, the Gallup World Poll included a measure about home access to the Internet. The question is: “Does your home have access to the Internet?” Response categories are “Yes” and “No”, with Don’t Know and Refused coded if volunteered. Beginning in 2010, the Gallup World Poll included a measure of public perceptions of media freedom. The question is: “Do the media in this country have a lot of freedom, or not?” Response categories are “Yes” and “No”, with Don’t Know and Refused coded if volunteered. The item cannot be asked in some of the countries in which the Gallup World Poll is fielded due to government censorship or, in some cases, the likelihood of interference with data collection. The data are aggregated by country, and the percentage of people in a country saying “Yes”, i.e., that the media in the country are free and their home has access to the Internet, are computed for each country for which the measures was used. In a few cases where multiple waves of data were collected in the same year, additional weighting was applied to properly determine an average for the year which takes into account samples sizes across waves. The media freedom item is a non-elite measure of media freedom (Becker, English & Vlad, 2012).

Findings

The first step in this analysis was to collect available country-level data from ITU about the percent of households with an Internet connection. ITU data from 119 countries were available and then compared with Gallup World Poll data on the percent of adults in each country who have Internet access in their household. The Gallup country-level data used for this analysis was collected in 2014 although historical data going back to 2005 are available. The

Pearson’s r correlation between the Gallup and ITU measures is .95 demonstrating a very strong relationship between the two measures.

While more than two-thirds of countries analyzed had differences of ten percentage points or less between the two measures, there were notable outliers (see Table 1.) In four countries the Gallup measure was more than ten percentage points lower than the ITU measure. Data from Japan and South Korea – both countries where Gallup conducts interviews on the telephone – are 22 and 17 percentage points lower in the Gallup data respectively. While both landline and cell phone sample was used in Gallup’s South Korea study, the Japan study only sampled from respondents in households with landline telephones, thus excluding any households with *only* mobile phone users. This exclusion could somewhat explain the lower percentage of households with Internet access reported.

Data collection in Syria – both for Gallup and ITU – would be challenged by extensive violence in the region. Gallup’s data collection, for example, excluded the Quenitra governorate and parts of Homs. The exclusion represents a total of 32% of the population. However, without more specific information about how ITU collects their information and how much of the country is included in estimates, it is uncertain which data source is more reliable in these measures.

Table 1: World Poll and ITU Internet Access Measures

	World Poll - Home Has Internet (% of households)	ITU Households with Internet (% of individuals)	Difference
Japan	74	97	-22
Syria	18	35	-17
South	82	99	-17

Korea			
Egypt	23	37	-14

There are far more outliers where the ITU estimates are twenty percentage points or more below Gallup's (see Table 2.) The largest differences are noted in Algeria, Jamaica, and Serbia. Gallup's Algeria study excluded sparsely populated areas in the far South, representing approximately 10% of the population. Again, without additional information on ITU measurement, it is uncertain what accounts for these differences.

Table 2: World Poll and ITU Internet Access Measures

	World Poll - Home Has Internet (% of households)	ITU Households with Internet (% of individuals)	Difference
Tunisia	37	17	20
Nigeria	26	6	20
Guatemala	29	9	20
Vietnam	33	13	21
El Salvador	34	13	21
Ukraine	57	36	21
Spain	92	70	22
Mongolia	45	21	24
Chile	65	41	24
Serbia	66	40	26
Jamaica	48	21	27
Algeria	39	10	29

The relationship between Gallup's Internet measure and Freedom House's Freedom of the Net measure was also explored. One hypothesis under investigation was whether countries with greater Internet freedom would be more likely to have higher levels of Internet penetration and visa versa. Data for the Freedom House measure was only available in 57 countries for the most recent data available – collected from May 2013-May 2014 - while Gallup's data was from

data collected between Feb. 2014 and Dec. 2014. The Freedom House measure was reverse coded such that higher numbers demonstrated a greater amount of Internet freedom. The Pearson's r correlation between the two measures was modest at .425. This is statistically significant at the .05 level.

There are several countries with low levels of Internet freedom as reported by Freedom House that has high levels of Internet penetration (see Table 3.) In Bahrain, the United Arab Emirates, Russia, Belarus, and Turkey, for example, more than two-thirds of the population has access to Internet in their homes. Although Singapore rates relatively better than these countries in terms of Internet freedom, there is still a notable difference between the two measures for this country.

Table 3: World Poll and Freedom House's Freedom of the Net Measures

	World Poll - Home Has Internet (% of households)	Freedom House Freedom on the Net May 2013 to May 2014 (reverse coded)	Difference
Turkey	69	45	24
Singapore	89	60	29
Belarus	67	38	29
Russia	74	40	34
United Arab Emirates	87	33	54
Bahrain	81	26	55

Conversely, in several countries with relatively higher rates of Internet freedom, Internet access in households was relatively low (see Table 4). For example, fewer than ten percent of residents in Uganda, Malawi, Rwanda, and India report Internet access in their home.

Table 4: World Poll and Freedom House's Freedom of the Net Measures

	World Poll - Home Has Internet (% of households)	Freedom House Freedom on the Net May 2013 to May 2014 (reverse coded)	Difference
Uganda	6	66	-60
Philippines	18	73	-55
Malawi	7	58	-51
India	7	58	-51
Angola	12	62	-50
South Africa	27	74	-47
Rwanda	5	50	-45
Zambia	13	57	-44
Bangladesh	10	51	-41
Kyrgyzstan	25	66	-41
Cambodia	12	53	-41
Nigeria	26	67	-41

Press freedom measures from both Gallup and Freedom House were available in 135 countries in 2014. The Freedom house measure was reverse coded such that higher numbers demonstrated a greater amount of press freedom. The Pearson's r correlation between the two measures is .679 (see Table 5.) Historical comparisons for previous years from Gallup and Freedom House also show similar positive relationships.

Table 5: World Poll and Freedom House Press Freedom Measures (*Pearson Correlations*)

World Poll % Yes, Media Has A Lot Of Freedom (Pearson Correlations)	Freedom House Press Freedom 2011 (Status 2010)	Freedom House Press Freedom 2012 (Status 2011)	Freedom House Press Freedom 2013 (Status 2012)	Freedom House Press Freedom 2014 (Status 2013)	Freedom House Press Freedom 2014 (Status 2014)

2010	-0.741**			
2011		-0.733**		
2012			-0.659**	
2013				-0.662**
2014				-0.679**

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The biggest differences between the Gallup and Freedom House measures exist in countries where the residents perceive greater press freedom than elite evaluators (see Table 6.) In Rwanda, for example, where experts say the press is “not free” 87% of adults say the media in their country have a lot of freedom. With the exception of Senegal, Panama, and Paraguay where the press is described as “partly free” by Freedom House, all the countries in the table below have press that are “not free” and a majority of citizens who say the press are. From this group of countries only in Kazakhstan do fewer than 50% of residents say their press have a lot of freedom.

Table 6: World Poll and Freedom House Press Freedom Measures (*Pearson Correlations*)

	World Poll - Yes, Media in (COUNTRY) have a lot of Freedom (%)	Freedom House - Press Freedom (Reverse coded)	Difference
Iraq	58	28	30
Kazakhstan	46	15	31
Zambia	70	38	32
Panama	84	51	33
Tajikistan	53	18	35
Paraguay	77	41	36
Russia	55	17	38
Senegal	90	52	38
Myanmar	66	27	39
Sri Lanka	64	24	40
Pakistan	76	35	41
Cambodia	76	31	45

Azerbaijan	59	13	46
Egypt	79	27	52
Thailand	77	25	52
Rwanda	87	21	66

There are a few cases of note where citizens are somewhat more critical of their press freedom than elite evaluations would suggest they should be (see Table 7.) Fewer than 60% of adult residents in Lithuania and Latvia, for example say their press has a lot of freedom, but both countries are described as “free” by Freedom House.

Table 7: World Poll and Freedom House Press Freedom Measures (*Pearson Correlations*)

	World Poll - Yes, Media in (COUNTRY) have a lot of Freedom (%)	Freedom House - Press Freedom (Reverse coded)	Difference
Lithuania	47	75	-28
Montenegro	40	61	-22

Conclusions

Gallup’s measures of Internet penetration generally show a strong relationship with the ITU Internet connectivity measures with few exceptions at the country level. Freedom House’s Internet freedom measure was shown to have a modest positive correlation with Gallup’s Internet access data, although several notable differences were found suggesting that high Internet freedom does not always lead to higher levels of Internet access in a country, at least not

during the time period studied. It could be that some residents in these countries are opted out of Internet access due to the constrained media environment. Gallup's media freedom measure has a good correlation to Freedom House's measures, although some outliers exist where citizens are either more critical or less critical of press freedom than elite evaluators. See Appendix A for full Pearson's r correlations for Gallup and Freedom House's historical data.

Future Research

Additional research is needed to explore whether the level of freedom of the media and online are known to most citizens. While many are able to answer the question about media freedom in their own country when Gallup asked, it is unclear how these opinions are being formed. For example, in several countries where media freedom is rated low by elite experts, citizens are more likely to say their media have a lot of freedom. While these cases are infrequent, it does demonstrate how both elite evaluations and citizen perceptions have a role to play in understanding these complex subjects. It is also unclear whether online freedom specifically, has any effect on a family's likelihood to get Internet access in their home.

Finally, Gallup is asking individual-level Internet access and use questions on the World Poll in 2015. Once this data become available, it will be possible to more directly compare this measure with the ITU individual level variable, as well as explore how access and use may vary across populations. Early data from the World Poll suggests there may be variance on the kinds of people who utilize Internet access when it is available to them and those that don't. For example, older respondents may be less likely to use the Internet even when it is available in their home. Future research will dive further into these subjects as data becomes available.

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Appendix A: World Poll and Freedom House Measures (Pearson Correlations)

	Freedom House Freedom on the Net - January 2009 to December 2010	Freedom House Freedom on the Net - January 2011 to May 2012	Freedom House Freedom on the Net - May 2012 to April 2013	Freedom House Freedom on the Net - May 2013 to May 2014	Freedom House Press Freedom 2011 (Status 2010)	Freedom House Press Freedom 2012 (Status 2011)	Freedom House Press Freedom 2013 (Status 2012)	Freedom House Press Freedom 2014 (Status 2013)	Freedom House Press Freedom 2014 (Status 2014)
World Poll: Home Has Access to Internet, 2010	-.395*								
World Poll: Home Has Access to Internet, 2011		-.293							
World Poll: Home Has Access to Internet, 2012			-.347**						
World Poll: Home Has Access to Internet, 2013				-.241					
World Poll: Home Has Access to Internet, 2014				-.355**					
World Poll: Media Has A Lot of Freedom, 2010					-.741**				
World						-.733**			

Poll: Media Has A Lot of Freedom , 2011								
World Poll: Media Has A Lot of Freedom , 2012								
World Poll: Media Has A Lot of Freedom , 2013								
World Poll: Media Has A Lot of Freedom , 2014								

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).

ⁱ <http://www.unesco.org/new/en/communication-and-information/freedom-of-expression/freedom-of-expression-on-the-internet/>
ⁱⁱ https://fbnewsroomus.files.wordpress.com/2015/02/state-of-connectivity_3.pdf Accessed on November 16th, 2015.
ⁱⁱⁱ <https://freedomhouse.org/report-types/freedom-net> Accessed November 17th, 2015.