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Assessing global interest in financial inclusion information

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Abstract

This paper investigates the general level of interest in financial inclusion information using global data. Descriptive statistics and correlation analyses were used to assess the global interest in financial inclusion information. Using Google Trends monthly data from 2004 to 2021, the results show that the term 'financial inclusion' was more popular on the web in year 2017 than in any other year. Secondly, the highest level of interest in the term 'financial inclusion' by internet users was recorded in non-crisis months particularly after the global financial crisis but before the COVID-19 pandemic while the lowest interest in the term 'financial inclusion' by internet users was recorded in crisis months particularly during the global financial crisis and during the COVID-19 period. Thirdly, web search for information about financial inclusion was more popular in Zimbabwe, Rwanda, Fiji, Uganda and Zambia, while news search for information about financial inclusion was more popular in Fiji, India, Malaysia, Kenya, Singapore and Nigeria. This suggests that there was more interest in the term 'financial inclusion' among internet users in developing countries than in developed countries. Also, there is a negative correlation between interest in financial inclusion information and the level of country development.

Keywords: Google Trends, financial inclusion, web search, development, internet.

1. Introduction

This study analyses the global interest in information about financial inclusion over time and across regions. Understanding the global interest in financial inclusion information is important because it can help policy makers to identify the period and locations where there is growing interest in financial inclusion information. Such insight can help policy makers to channel policy efforts to increase information about financial inclusion in locations where financial inclusion is not popular and of little interest to internet users. Insights from the analysis in this paper can help to shape the timing of the dissemination of financial inclusion information.

Financial inclusion involves bringing unbanked adults into the formal financial sector so that they can have access to basic and affordable financial services which they can use to improve their welfare (Ozili, 2018). The term ‘financial inclusion’ has been a dominant buzzword in the international development community for over two decades now. Over the years, technological progress has increased the number of ways through which people can access information about financial inclusion using their mobile devices, Google, and other search engines (Yawe and Prabhu, 2015). Therefore, we know that information about financial inclusion is increasing, and the term financial inclusion is becoming a popular term on the internet. A quick search of the term ‘financial inclusion’ on Google can confirm the popularity of the term ‘financial inclusion’ on Google as many people are interesting in gaining information about financial inclusion. What we don’t know yet is the period, the region, and the location where the term ‘financial inclusion’ has become more popular or less popular. What we don’t know yet is the period, the region and the location where financial inclusion information is more popular or less popular.

In this paper, I analyse the global interest in financial inclusion information over time and across regions. Popularity count data obtained from Google Trends database were used to analyse the popularity of financial inclusion information in the world. The findings show that the term ‘financial inclusion’ became more popular on the web in year 2017 than in any other year. Also, the highest level of interest in the term ‘financial inclusion’ by internet users was recorded in non-crisis months particularly after the global financial crisis but before the COVID pandemic while the lowest interest in the term ‘financial inclusion’ by internet users was recorded in crisis

months particularly during the global financial crisis and during the COVID-19 period. Countries with the highest web search for information about financial inclusion are Zimbabwe, Rwanda, Fiji, Uganda and Zambia, while news search for information about financial inclusion was more popular in Fiji, India, Malaysia, Kenya, Singapore and Nigeria.

This study contributes to the literature in the following ways. Firstly, it contributes to the broad financial inclusion literature (e.g. Sarma and Pais, 2011; Ozili, 2018; Beck et al, 2015; Ghosh and Vinod, 2017; Ozili, 2021a). It contributes to this literature by examining the reach of financial inclusion across countries. Secondly, it contributes to the literature that examine the role of ICT and the internet in promoting financial inclusion to improve the welfare of members of society. Lastly, this paper contributes to the policy literature on international development. It contributes to this literature by identifying locations where policy makers need to do more in ensuring that financial inclusion becomes a dominant mainstream concept towards greater development.

The structure of the paper is as follows. Section 2 reviews the literature on financial inclusion, and also reviews the literature on the role of the internet for financial inclusion. Section 3 presents the research data and methodology. Section 4 presents the empirical results. Section 5 presents the conclusion.

2. Literature review

Early interest in financial inclusion information began in the early 1990s. Collard et al (2003), Midgley (2005), Dayson (2004), and Bhatia and Chatterjee (2010) are some of the notable early studies on financial inclusion. Studies during this period focused on the need to reach unbanked adults. A decade later, in the 2010s, studies on financial inclusion began to explore the determinants (or antecedents) of financial inclusion, the consequences of financial inclusion, and developing indices for measuring the level of financial inclusion, as documented in Sarma and Pais (2011), Demirgüç-Kunt and Klapper (2012), Ozili (2018), Beck et al (2015), Ghosh and Vinod (2017), Markose et al (2020) and Ozili (2021b). Subsequently, in 2020, a review of these studies was conducted in the review of Ozili (2021a). Ozili (2021a) shows that financial inclusion affects,

and is influenced by, the level of financial innovation, poverty, the stability of the financial sector, the state of the economy, financial literacy, and regulatory frameworks which differ across countries. Another review in Demirgüç-Kunt and Singer (2017) show that a large number of studies show a consensus that financial services have substantial benefits for consumers, especially women and poor adults.

Recent studies investigate the impact of financial inclusion on various aspects of economic life. For instance, Sha'ban et al (2020) examine the cross-country variation in financial inclusion across 95 countries from 2004 to 2015. They find that financial inclusion is significant and positively associated with GDP per capita, employment, bank competition, human development, government integrity, and internet usage. Demir et al (2020) investigate the interrelationship between Fintech, financial inclusion and income inequality. They analyse 140 countries using data from the Global Findex survey for the period 2011, 2014 and 2017. They argue that Fintech affects inequality directly and indirectly through financial inclusion. They use quantile regression analysis, and find that financial inclusion is a key channel through which Fintech reduces income inequality, and the effect is more pronounced in high income countries. Lee et al (2020) examine the effect of financial inclusion on firms' sales growth in developing countries. They find that financial inclusion helps firms to increase their sales growth during normal times and in non-Asia regions. N'dri and Kakinaka (2020) investigate the effect of financial inclusion and mobile money on the welfare of individuals. They examine the case of individuals in a small African country 'Burkina Faso'. They find evidence that financial inclusion plays a significant role in alleviating poverty, and once individuals are able to access financial services through mobile money, the positive effect become more substantial.

Other studies focus on the determinants of financial inclusion. For instance, Xu (2020) investigate whether social trust is important in promoting financial inclusion. The author used data from the Global Findex database to measure financial inclusion and used data from the World Values Survey to measure societal trust. Xu finds that social trust is a significant and positive determinant of financial inclusion after controlling for individual and country characteristics. Eldomiaty et al (2020) examine whether the level of financial inclusion is affected by institutional control of corruption, government effectiveness, political stability and voice and accountability. They use a

fixed generalized linear model to estimate four indicators of financial inclusion; namely, borrowed from a financial institution index, saved at a financial institution index, credit card ownership index and debit card ownership index. They analyse data from a global sample for the period 2011, 2014 and 2017, and find that control of corruption, government effectiveness, political stability and voice and accountability are significant institutional factors affecting financial inclusion.

Other studies analyse the contribution of technological progress and the internet to financial inclusion outcomes. For instance, Ozili (2018) show that the internet is an important enabler of financial inclusion as it allows users to use their digital devices to access affordable financial services over the internet. Evans (2018) examines whether internet-enabled mobile phones can increase the level of financial inclusion. The author examined African countries from 2000 to 2016. The author finds a positive relationship between internet access and the level of financial inclusion, implying that rising levels of internet usage is associated with increased financial inclusion. Sanderson et al (2018) investigate the determinants of financial inclusion in Zimbabwe. They find that internet connectivity, as well as age, education, financial literacy, income, have a positive effect on the level of financial inclusion in Zimbabwe. Lenka and Barik (2018) investigate the effect of internet usage and the growth of mobile phone on the level of financial inclusion in the South Asian Association for Regional Cooperation (SAARC) countries from 2004 to 2014. They applied principal component analysis to construct a financial inclusion index that served as a proxy for the accessibility of financial services in the SAARC countries. They estimated their results using the fixed effect, random effect, and panel correction standard errors regression models. The results show a positive and significant relationship between the growth of financial inclusion and expansion of both mobile phone and internet usage. Bayar et al (2021) investigate the impact of internet and mobile phones usage on the level of financial inclusion in 11 post-communist countries of the European Union from 1996 to 2017. They use the panel co-integration and causality methodology, and find a positive relationship between the rate of internet usage and the level of financial inclusion in countries such as Bulgaria, Croatia, Czech Republic, Hungary, and Poland. Omar and Inaba (2020) investigate whether financial inclusion can reduce the level of poverty and income inequality. They examine 116 developing countries

from 2004 to 2016. They construct a novel index of financial inclusion using a broad set of financial sector outreach indicators. They find that per capita income, ratio of internet users, age dependency ratio, inflation, and income inequality significantly influence the level of financial inclusion in developing countries.

Overall, these studies collectively show that the internet is an enabler of financial inclusion. But these studies have not empirically analysed the general interest in financial inclusion globally. This study fills this gap in the literature.

3. Research Design

3.1. Data

Web search and news search data for the term ‘financial inclusion’ were extracted on 04/10/2021 from Google Trends database from the website <https://trends.google.com/trends/>. The sample period for the web search monthly data is from the earliest available month beginning from January 2004 to September 2021 while the sample period for the news search monthly data is from the earliest available month beginning from January 2008 to September 2021. The monthly data for web search is reported below in table 1. The monthly data for news search is reported below in table 2.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2004	0	0	0	13	0	0	0	0	0	10	0	0
2005	9	0	8	17	0	22	7	7	7	0	0	6
2006	0	22	5	5	9	10	10	4	17	8	15	8
2007	7	7	9	7	3	9	9	17	3	17	21	5
2008	13	27	23	15	18	11	14	12	9	3	11	20
2009	12	17	15	16	17	17	21	14	16	11	11	12
2010	16	19	17	24	18	25	16	23	21	41	20	25
2011	23	45	31	30	33	26	33	30	31	15	22	30
2012	25	29	30	29	32	34	33	26	31	32	25	31
2013	38	39	43	34	30	26	32	28	41	32	32	30
2014	36	37	39	33	37	44	46	67	59	41	50	40
2015	59	49	37	36	36	34	31	39	41	38	29	29
2016	41	43	34	42	32	41	47	51	51	48	63	63

2017	52	62	79	68	62	59	60	43	58	47	49	40
2018	43	49	50	50	50	44	43	50	56	49	51	42
2019	38	55	44	46	45	43	51	50	49	46	38	44
2020	44	42	39	31	36	32	45	37	39	39	34	33
2021	56	58	55	50	47	51	56	49	50			

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Table 2. Worldwide News Search Data from Google Trends Database

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2008	0	0	0	0	0	0	0	0	32	0	0	0
2009	0	0	0	0	0	0	0	0	0	0	0	0
2010	29	29	0	0	0	0	0	0	0	0	100	0
2011	0	56	44	26	47	0	0	0	0	0	0	23
2012	0	46	22	0	43	0	0	0	0	28	27	0
2013	38	14	0	0	0	13	12	0	0	24	0	13
2014	24	0	10	0	0	11	0	11	0	51	0	0
2015	0	12	11	0	11	23	11	11	40	10	9	10
2016	9	0	8	0	36	9	17	33	17	25	25	26
2017	49	10	56	35	35	54	70	27	14	28	0	15
2018	27	0	0	16	0	50	33	51	53	0	18	0
2019	19	61	40	21	20	41	19	0	41	20	0	23
2020	0	38	0	43	15	0	0	0	0	0	0	12
2021	0	21	0	0	17	0	0	35	19	0		

3.2. Methodology

Coding: The monthly numbers obtained from Google Trends database represent search interest relative to the highest point on the chart for a given country and time. A value of 100 is the peak popularity of the term ‘financial inclusion’. A value of 50 means that the term ‘financial inclusion’ is half as popular. A score of 0 means there was not enough data for the term ‘financial inclusion’.

Method of analysis: The method used to analyse the Google Trends data is the arithmetic summation method, method of averages and simple percentage analysis.

Data category: The data is divided into two categories: the ‘web search’ data count and the ‘news search’ data count. The ‘news search’ data count captures information about financial inclusion that is reported in the news media to inform the public about financial inclusion activities of the government and the private sector. The ‘web search’ data count captures broad information that is reported in the web about financial inclusion.

4. Results

4.1. The year with the highest interest in the term “financial inclusion”

In the web search data category, table 3 shows that there was a relatively high worldwide ‘web search’ for the term ‘financial inclusion’ in 2017. This indicates that the level of interest in financial inclusion reached 56 out of 100 points as shown in the averages column. This implies that the term ‘financial inclusion’ was more popular on the web in year 2017 than in any other year.

Table 3. Worldwide Web Search Data from Google Trends Database

Year	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Total	Average
2004	0	0	0	13	0	0	0	0	0	10	0	0	23	1.9
2005	9	0	8	17	0	22	7	7	7	0	0	6	83	6.9
2006	0	22	5	5	9	10	10	4	17	8	15	8	113	9.4
2007	7	7	9	7	3	9	9	17	3	17	21	5	114	9.5
2008	13	27	23	15	18	11	14	12	9	3	11	20	176	14.7
2009	12	17	15	16	17	17	21	14	16	11	11	12	179	14.9
2010	16	19	17	24	18	25	16	23	21	41	20	25	265	22.1
2011	23	45	31	30	33	26	33	30	31	15	22	30	349	29.1
2012	25	29	30	29	32	34	33	26	31	32	25	31	357	29.8
2013	38	39	43	34	30	26	32	28	41	32	32	30	405	33.8
2014	36	37	39	33	37	44	46	67	59	41	50	40	529	44.1
2015	59	49	37	36	36	34	31	39	41	38	29	29	458	38.2
2016	41	43	34	42	32	41	47	51	51	48	63	63	556	46.3
2017	52	62	79	68	62	59	60	43	58	47	49	40	679	56.6
2018	43	49	50	50	50	44	43	50	56	49	51	42	577	48.1
2019	38	55	44	46	45	43	51	50	49	46	38	44	546	45.8
2020	44	42	39	31	36	32	45	37	39	39	34	33	451	37.6
2021	56	58	55	50	47	51	56	49	50				472	
Total	512	600	558	546	505	528	554	547	579	477	471	458	6,335	

Descriptive statistics:

Mean	26	32	29	29	27	28	29	29	31	28	28	27		
Median	25	37	31	30	32	26	32	28	31	32	25	30		
Maximum	59	62	79	68	62	59	60	67	59	49	63	63		
Minimum	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Std. Dev.	18	19	19	16	18	15	18	19	20	17	18	16		

In the news search data category, table 4 shows that all the annual average counts (in the averages column) are below the 50 count mark. This means that the term ‘financial inclusion’ was not popular in the news in any particular year between 2008 to 2021 as many people did not go to the news to search for information about financial inclusion.

Table 4. Worldwide News Search Data from Google Trends Database

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total	Average
2008	0	0	0	0	0	0	0	0	32	0	0	0	32	2.7
2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	29	29	0	0	0	0	0	0	0	0	100	0	158	13.2
2011	0	56	44	26	47	0	0	0	0	0	0	23	196	16.3
2012	0	46	22	0	43	0	0	0	0	28	27	0	166	13.8
2013	38	14	0	0	0	13	12	0	0	24	0	13	114	9.5
2014	24	0	10	0	0	11	0	11	0	51	0	0	107	8.9
2015	0	12	11	0	11	23	11	11	40	10	9	10	148	12.3
2016	9	0	8	0	36	9	17	33	17	25	25	26	205	17.1
2017	49	10	56	35	35	54	70	27	14	28	0	15	393	32.8
2018	27	0	0	16	0	50	33	51	53	0	18	0	248	20.7
2019	19	61	40	21	20	41	19	0	41	20	0	23	305	25.4
2020	0	38	0	43	15	0	0	0	0	0	0	12	108	9
2021	0	21	0	0	17	0	0	35	19	0			92	9.2
Total	195	287	191	141	224	201	162	168	216	186	179	122	2272	

Descriptive statistics:

Mean	13.9	20.5	13.6	10.1	16.0	14.3	11.6	12.0	15.4	13.3	13.7	9.3
Median	4.5	13	4.0	0	13	4.5	0.0	0	7.0	5	0	10
Maximum	49	61	56	43	47	54	70	51	53	51	100	26
Minimum	0	0	0	0.	0.0	0.0	0.	0	0	0	0	0
Std. Dev.	16.9	21.9	19.3	15.2	17.6	19.8	19.7	17.3	18.9	16.2	27.8	10.1

4.2. Aggregate ‘web search’ and ‘news search’ for the term “financial inclusion”

The result of the aggregate web search data analysis in table 5 shows that the total web search count for the term “financial inclusion” was 6,335. Of the 6,335 count, the highest count (5,729) was recorded in the period after the global financial crisis period. The high count of 5,729 indicates that the term “financial inclusion” was a topic of general interest among internet users on Google in the period after the global financial crisis. Also, a high count of 5,412 was observed

in the pre-COVID period and a high count of 4,806 in the period between the post-global financial crisis months and the pre-COVID period. Furthermore, lower counts were recorded during the global financial crisis and in the period before the global financial crisis beginning from 2004. The lower count suggests that the term “financial inclusion” was not a topic of general interest among internet users on Google during the global financial crisis or before the global financial crisis.

Table 5. Number of web search count on “financial inclusion” - Worldwide Google Trends

	<i>Period (post-2004)</i>	<i>Start date</i>	<i>End date</i>	<i>Financial inclusion (“web search” count)</i>
A	Full period	January 2004	September 2021	6,335
B	Pre-COVID period	January 2004	December 2019	5,412
C	During COVID	January 2020	September 2021	923
D	Before the global financial crisis	January 2004	July 2007	270
E	After the global financial crisis	July 2009	September 2021	5,729
F	After the global financial crisis but before COVID	July 2009	December 2019	4,806
G	During the global financial crisis	August 2007	June 2009	342
H	Non-Crisis months (combined) (H=D+F)			5,076
I	Crisis months (combined) (I=C+G)			1,247

The result of the aggregate news search data analysis in table 6 shows that the total ‘news search’ count for the term “financial inclusion” was 2,272 count. Of the 2,272 count, the highest count (2,040) was recorded in the non-crisis period. The highest count of 2,040 indicates that the term “financial inclusion” was a topic of general interest among internet users on Google in the non-crisis years. A high count of 1,875 was also observed in the pre-COVID period. This indicates that the term “financial inclusion” was a topic of general interest among internet users on Google in the pre-COVID period. Furthermore, the lowest count was recorded during the global financial crisis at 32 count and during the COVID-19 pandemic at 200 count. The lower counts suggest that the term “financial inclusion” was not a topic of general interest among internet users on Google during the COVID pandemic.

Table 6. Number of 'News Search' count on "financial inclusion" - Worldwide Google Trends

	<i>Period (post-2008)</i>	<i>Start date</i>	<i>End date</i>	<i>Financial inclusion ("News Search" count)</i>
A	Full period	January 2008	September 2021	2,272
B	Pre-COVID period	January 2008	December 2019	1,875
C	During COVID	January 2020	September 2021	200
D	Non-crisis period (pre-COVID period excluding GFC)	July 2009	December 2019	2,040
E	Crisis period			232
F	Global financial crisis period	January 2008	June 2009	32

4.3. Trend combination analysis: crisis versus non-crisis period

It is important to determine whether there is strong interest in the term "financial inclusion" in a crisis period than in a non-crisis period. This is important because, during a crisis, people on the internet may be more inclined to search for information on how to cope with the crisis they are in. As a result, they may be less interested in financial inclusion information during a financial crisis and are less likely to give the term "financial inclusion" a priority on their Google search activity. Following this reasoning, I examine whether the term "financial inclusion" has a higher trend on Google during crisis months compared to non-crisis months. To do this, I combined the crisis months together and also combined the non-crisis months together. Thereafter, I compared the two groups.

In the web search data category, the result in table 5 shows that the non-crisis months had a higher count (5,076 count) compared to the lower count in the crisis months (1,247 count). The implication of this result is that internet users seem to have greater interest in financial inclusion information only in non-crisis months than in crisis months. Put differently, it means that more people searched for "financial inclusion" information on Google in non-crisis months than in crisis months.

Similarly, in the news search data category, the result in table 6 shows that the non-crisis months had a higher count (2,040 count) compared to the lower count in crisis months (232 count). The implication of the finding is that internet users seem to have greater interest in financial inclusion information only in non-crisis months than in crisis months. Put differently, it means that more

people searched for information about “financial inclusion” on the news in non-crisis months than in crisis months.

4.4. Interest over time by country

In this section, I investigate the location in which the term “financial inclusion” was most popular during the specified time frame from January 2004 to September 2021. The values are calculated on a scale from 0 to 100, where 100 is the location with the most popularity as a fraction of the total web search in that location while a value of 50 indicates a location which is half as popular. A value of 0 indicates a location where there was not enough data for this term. Note that a higher value means a higher proportion of all web search, not a higher absolute web search count.

Table 7 shows that Zimbabwe, Rwanda, Fiji, Uganda and Zambia had the most popular web search for the term “financial inclusion”. This indicates that these countries were the top 5 locations where there was great interest in financial inclusion information. Also, table 6 shows that Fiji, India, Malaysia, Kenya, Singapore and Nigeria had the most popular news search for the term “financial inclusion”. This indicates that these countries were the top 6 locations where there was great interest in financial inclusion information.

Table 7. Country rankings of interest over time in the term “financial inclusion” based on web and news search

Web search ranking for the term ‘financial inclusion’		News search ranking for the term ‘financial inclusion’	
Country	Rank (1/1/04 - 10/5/21)	Country	Rank (1/1/08 - 10/5/21)
Zimbabwe	100	Fiji	100
Rwanda	91	India	11
Fiji	78	Malaysia	9
Uganda	55	Kenya	7
Zambia	43	Singapore	5
Ghana	39	Nigeria	5
Nigeria	37	South Africa	3
Kenya	33	United kingdom	3
India	32	Switzerland	2
Tanzania	28	Philippines	2
Nepal	18	Thailand	1
Bangladesh	18	Egypt	1

Mauritius	16	Netherland	1
South Africa	9	Australia	1
Pakistan	8	United states	<1
Singapore	6	Spain	<1
Philippines	6	Canada	<1
Lebanon	5	Germany	<1
Malaysia	5		
Sri Lanka	5		
Bolivia	5		
Egypt	4		
United Kingdom	4		
United Arab Emirates	3		
Hong Kong	3		
Indonesia	2		
Switzerland	1		
Australia	1		
Netherlands	1		
United States	1		
South Korea	1		
Thailand	1		
Saudi Arabia	1		
Canada	1		
Mexico	1		
Vietnam	1		
Germany	<1		
France	<1		
Spain	<1		
Japan	<1		
Russia	<1		

4.5. Interest over time in financial inclusion and country development

In this section, GDP per capita was used as a proxy to measure the level of development of a country. Other studies have also used GDP per capita as a proxy to measure the level of development in countries such as Bregar et al (2008) and McGillivray and White (1993). GDP per capita data was obtained from World Bank database. The financial inclusion popularity ranking of each country in table 8 was paired with each country's GDP per capita, to determine whether countries that rank higher on the financial inclusion popularity ranking have high or low levels of

development. As can be observed in table 8, the result shows that countries where the term ‘financial inclusion’ is more popular have low GDP per capita while countries where the term ‘financial inclusion’ is least popular have high GDP per capita. The implication is that there is more interest in financial inclusion information on the web and in the news in less developed, or poorer, countries compared to developed countries. Also, a Pearson correlation test in table 9 and 10 further confirms that there is a negative correlation between financial inclusion popularity rank and the level of country development. The p-value is reported in double parenthesis while t-statistic is reported in single parenthesis.

Table 8. Interest in financial inclusion and level of country development

Country	Web Search Rank (1/1/04 - 10/5/21)	Level of development (17-year average) GDP per capita (USD)	Country	News Search Rank (1/1/08 - 10/5/21)	Level of development (13-year average) GDP per capita (USD)
Zimbabwe	100	1,003	Fiji	100	5,008
Rwanda	91	627	India	11	1,592
Fiji	78	4,694	Malaysia	9	10,118
Uganda	55	675	Kenya	7	1,313
Zambia	43	1,327	Singapore	5	55,071
Ghana	39	1,545	Nigeria	5	2,374
Nigeria	37	2,158	South Africa	3	6,333
Kenya	33	1,150	United kingdom	3	42,531
India	32	1,404	Switzerland	2	83,761
Tanzania	28	817	Philippines	2	2,794
Nepal	18	737	Thailand	1	5,990
Bangladesh	18	1,043	Egypt	1	2,947
Mauritius	16	1,519	Netherland	1	51,362
South Africa	9	6,132	Australia	1	56,197
Pakistan	8	1,123	United states	<1	55,421
Singapore	6	49,805	Spain	<1	29,517
Philippines	6	2,463	Canada	<1	46,976
Lebanon	5	6,768	Germany	<1	44,677
Malaysia	5	9,148			
Sri Lanka	5	2,922			
Bolivia	5	2,392			
Egypt	4	2,566			
United Kingdom	4	42,939			

United Arab Emirates	3	40,035
Hong Kong	3	37,135
Indonesia	2	2,970
Switzerland	1	77,940
Australia	1	51,294
Netherlands	1	49,802
United States	1	52,975
South Korea	1	25,805
Thailand	1	5,339
Saudi Arabia	1	19,913
Canada	1	44,963
Mexico	1	9,381
Vietnam	1	1,676
Germany	<1	42,780
France	<1	39,833
Spain	<1	29,171
Japan	<1	39,787
Russia	<1	10,457

Table 9. Pearson Correlation: Financial inclusion popularity rank (web search) and country development

Indicators	GDP per capita	Rank
GDP per capita	1.000	

Rank	-0.274	1.000
	(-1.14)	-----
	((0.27))	-----

Table 10. Pearson Correlation: Financial inclusion popularity rank (web search) and country development

Indicators	GDP per capita	Rank
GDP per capita	1.000	

Rank	-0.446	1.000
	(-3.12)	-----
	((0.00))	-----

5. Conclusion

This paper examined the general level of interest in financial inclusion information. Data were obtained from Google Trends database. The findings showed that the term 'financial inclusion' was more popular on the web in year 2017 than in any other year. The highest level of interest in the term 'financial inclusion' by internet users, measured by the number of web search and news search counts, was recorded in non-crisis months particularly after the global financial crisis but before the COVID pandemic while the lowest interest in the term 'financial inclusion' by internet users was recorded in crisis months particularly during the global financial crisis and during the COVID-19 period.

Also, in the country analysis, the result showed that web search for information about financial inclusion was more popular in Zimbabwe, Rwanda, Fiji, Uganda and Zambia, while news search for information about financial inclusion was more popular in Fiji, India, Malaysia, Kenya, Singapore and Nigeria. There was less interest in the term 'financial inclusion' by internet users in developed countries. Furthermore, the findings revealed that countries with low levels of development ranked higher in the popularity of financial inclusion.

The implication of the findings is that financial inclusion is a more popular topic on the internet in developing countries than in developed countries. The findings are insightful to policy makers, academics and development economists. It can help them understand that people on the internet are less interested in information about financial inclusion during crisis years. They tend to be more interested in other information that could help them cope with the crisis they are in. This insight can help policy makers in finding the appropriate time to disseminate new information about financial inclusion.

One limitation of the study is that it used ranked data generated from the algorithm embedded in the Google Trends database. The study did not use the actual indicators of financial inclusion. Future research can use other metrics to gauge the level of interest in financial inclusion. Such studies should pay attention to country and regional differences that could affect the level of interest in financial inclusion information.

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