

The Bitcoin Market Potential Index

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Abstract: The Bitcoin Market Potential Index conceptualizes and ranks the potential utility of bitcoin across 178 countries to show which countries have the greatest potential to see bitcoin adoption. The index utilizes a data set with 40 variables related to bitcoin's current core functions: store of value, medium of exchange, and technology platform. The variables are grouped into the index's seven equally weighted sub-indices: technology penetration, international remittances, inflation, size of informal economy, financial repression, historical financial crises, and bitcoin penetration. Standardized and re-scaled country level data both indicate that Argentina and Sub-Saharan Africa are the country and region, respectively, where bitcoin has the greatest potential for adoption. It is argued that while bitcoin regulation can play an important, and perhaps even decisive, role in bitcoin adoption it should be excluded as an index variable for now due to insufficient data and uncertainty over its ultimate impact.

1 Introduction

With over \$400 million of venture capital invested in bitcoin startups to date it would be helpful for entrepreneurs and investors who are planning where to locate or expand operations to better understand which markets may prove most fertile for bitcoin.¹ At the same time policymakers are seeking to gain a better understanding of the likelihood that the use of bitcoin will gather momentum in their respective jurisdictions. The Bitcoin Market Potential Index (BMPI) is a new composite indicator that ranks bitcoin's potential utility (usefulness) across 178 countries, is the first attempt at providing a rigorous answer to the question of where bitcoin has both the most and least potential for *adoption*. The BMPI can be useful for anyone who seeks a better understanding of the factors that may drive further bitcoin adoption, as well as where bitcoin adoption is more likely to take place in the months and years to come.

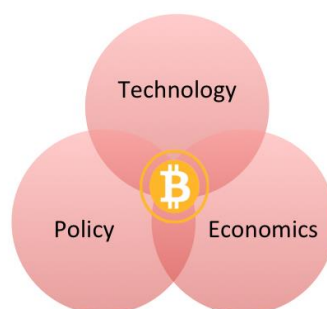
In this paper the term adoption is used synonymously with utilization of bitcoin and block chain technology for a variety of monetary and non-monetary functions. At present bitcoin adoption can be measured through a number of metrics, such as number of wallets, number of bitcoin accepting businesses, number of transactions, exchange volume, and other metrics. The term *market potential* in this paper refers to countries where bitcoin may have the greatest potential utility (usefulness).

¹ CoinDesk's database of bitcoin venture capital <http://www.coindesk.com/bitcoin-venture-capital/>

Measuring bitcoin's potential utility

Situated at the rapidly evolving intersection of technology, policy and economics, any study of bitcoin's potential usefulness and prospects for adoption must be interdisciplinary (Figure 1).

Figure 1: Interdisciplinary Framework for Understanding Bitcoin's Utility



In contemplating any measurement of bitcoin's potential for adoption one of the first questions that arises is precisely what kind of adoption should be measured? For example, should emphasis be placed on where bitcoin has the most potential to be used as an alternative *store of value*? Or should bitcoin's utility as a substitute *medium of exchange* take priority?² Which of these two is more likely to influence bitcoin's adoption prospects? Or does bitcoin face limited prospects as an alternative currency and emphasis should instead be placed on the block chain's other, non-currency functionality? Answers to such questions influences the choice of index variables, data sources, and weightings.

The BMPI aims to measure bitcoin's total potential utility and therefore includes variables that relate to bitcoin's function as both a store of value and medium of exchange, as well as the block chain's potential to serve as a technology platform for non-monetary uses (e.g., notary timestamp). However, because at present bitcoin is primarily utilized as an alternative means to store and transfer value the index features more variables that focus on bitcoin's currency and payment features.

² Currencies that become widely used as a medium of exchange will often for reasons of convenience become the *unit of account*, which is the third function of money. At present goods and services priced in bitcoin units (e.g., 0.486 mBTC) tend to see the number of mBTC fluctuate in lock-step with changes in bitcoin's exchange rate against national currencies like the U.S. dollar. Were bitcoin serving as an actual unit of account we would not expect to see such regular fluctuations in the number of mBTC required to complete a purchase. In other words, bitcoin is not at present serving as a widely used unit of account. Further, it is unlikely to become one until either its relative volatility decreases and or it becomes more widely used as a medium of exchange.

2 Index methodology and data

An effort was made to include as many significant variables related to bitcoin's potential utility so as to provide a nuanced view of the myriad of forces that influence why bitcoin might prove more useful in one location over another. A further effort was made to include in the BMPI data from a wide variety of reliable sources, including governments, multinational agencies, private companies and academic research. The most recent data available as of third quarter of 2014 were collected.³ In total nine principal sources of data were used to construct the BMPI (Table 1).

The relationships between most of the BMPI variables should be self-evident for those generally familiar with bitcoin. For example, bitcoin is fundamentally a technology, and the level of technology adoption in a country as reflected in measures such as internet use and mobile device penetration will have an important influence on bitcoin adoption. Further, bitcoin's prospects for adoption are enhanced by network effects associated with greater exposure to and awareness of bitcoin. Countries with more venture capital backed bitcoin startups, bitcoin client software downloads and nodes, and relative bitcoin Google searches rank higher in the BMPI.

International remittances are considered by some to be one of the most compelling near-term use cases for bitcoin because of the high fees and poor exchange rates offered through existing providers.⁴ Countries with relatively large remittance markets and higher average remittance fees rank higher in the BMPI. A use case for bitcoin that has already received considerable attention are informal markets (black markets). Due to the anonymity, efficiencies and other conveniences afforded by crypto currencies illegal transactions were one of the first economic activities where bitcoin gained use as an alternative currency.⁵ A country with a relatively large informal market presents more opportunity for bitcoin use and therefore ranks higher in the BMPI.

Bitcoin can also be used to circumvent capital controls, restrictions on ownership of gold and foreign banknotes, or other forms of financial repression. Notably, some countries like Iceland have deemed it illegal to use bitcoin as a means to bypass capital controls.⁶ However, it is unclear what effect if any these restrictions have had giv-

³ In some instances the sources from Table 1 were supplemented with other data where appropriate, such as to reflect recent events. For example, Reinhart and Rogoff's 2010 financial crisis data were updated to include the July 2014 sovereign default by Argentina, as ruled by the International Swaps and Dealers Association. Due to space constraints in this paper a full list of all source supplementations and adjustments is available as a separate Appendix on the author's website: <http://www.garrickhileman.com/p/research.html>

⁴ (CIRASINO 2013) Several bitcoin startups that have been launched to specifically focus on the international remittance market in just Kenya (i.e., BitPesa, Kapochi). For a more pessimistic view on bitcoin's usefulness as a remittance alternative see (Böhme et al. 2014, , p. 11)

⁵ (Christin 2012)

⁶ In a written response to *Morgunbladid*, an Icelandic media outlet, the Icelandic Central Bank stated the Foreign Exchange Act, which provides for general restrictions on foreign exchange and capital movements, that "It does not seem that the provisions of the Act that exempt goods and services from such restrictions shall not apply to transactions with Bitcoin"

en that the decentralized and semi-anonymous nature of bitcoin allows users to continue to hold, transact and transfer bitcoins into and out of countries such as Iceland. Bitcoin therefore remains a viable means to bypass financial restrictions than can more readily be enforced through traditional banking channels, and countries with a relatively higher degree of financial repression will also rank higher in the BMPI. Also, the memory of recent financial crises, particularly hyperinflation or a currency crisis, has historically had an influence on those seeking an alternative currencies and store of value.⁷ The higher the frequency and size of financial crises for a particular country, then the higher that country will rank in the BMPI.

The BMPI is comprised of 40 variables deemed important to bitcoin's potential for adoption, and these 40 variables are grouped into seven equally-weighted sub-indices to calculate BMPI's rankings (Table 1).

Index variable weighting

Some of the 40 BMPI variables will have a greater influence over bitcoin adoption than others and these variables therefore hold additional weight in the index. The different variable weights are detailed in Table 1 as follows: two numbers in parentheses follow each sub index (e.g., (2,4)). The first number inside the parentheses indicates the number of variables for each respective sub index whose score is not further comprised of any sub variables. This first-tier of stand-alone variables carry greater weight in the index than the sub variables. The second number in the parentheses indicates the number sub variables in each sub index that factor into the scores for their corresponding first-tier variables.

While the Inflation sub index (1,0) is based on a single first-tier variable (consumer price inflation) most of the sub-indices in Table 1 contain multiple variables. For example, the Financial Crises sub-index (3,3) has three stand-alone variable (Hyperinflation, Currency crisis, and Inflation crisis) and three sub variables deemed to be less relevant to bitcoin adoption (External default, Domestic default, and Banking crisis). The three sub variables (External default, Domestic default, and Banking crisis) comprise 33% each of the score for corresponding first-tier variable, 'Other crisis episodes'.

(translated from original Icelandic to English)

http://www.mbl.is/vidskipti/frettir/2013/12/19/hoftin_stodva_vidskipti_med_bitcoin/

⁷ (Hileman 2014)

Table 1: BMPI Index Variables and Data Sources

Sub-index	Variable	Sub Variable	Principal Sources
Inflation (1,0)	Inflation, consumer prices (annual %)		World Bank
Black market (1,0)	Informal economy as % of total economy		Elgin and Oztunali (2012)
Remittances (1,2)	Average remittance fee, receiving country		World Bank
	Personal remittances	Personal remittances, received (current US\$)*	World Bank
Technology Penetration (3,0)	Internet users per 100 people	Personal remittances, received (as % of GDP)	World Bank World Bank
	Mobile cellular subscriptions per 100 people		World Bank
	Fixed broadband Internet per 100 people		World Bank
Financial Crises (3,3)	Hyperinflation (No. of years since 1980)		Reinhart & Rogoff (2010)
	Currency crises (No. of years since 1980)		Reinhart & Rogoff (2010)
	Inflation crises (No. of years since 1980)		Reinhart & Rogoff (2010)
	Other crisis episodes	External default (No. of episodes since 1980)	Reinhart & Rogoff (2010)
		Domestic default (No. of episodes since 1980)	Reinhart & Rogoff (2010)
Financial repression (12,7)	Controls on the use of domestic currency	Banking crisis (No. of years since 1980)	Reinhart & Rogoff (2010)
	Control on the use of foreign exchange among residents		IMF
	Controls on trade in gold (coins No. and/or bullion)		IMF
	Resident Accounts in domestic currency convertible into foreign currency		IMF
	Controls on exports and imports of banknotes		IMF
	Exports and Export Proceeds - Surrender requirements		IMF

Sub-index	Variable	Sub Variable	Principal Sources	
	Capital Transactions - Controls on capital transactions		IMF	
	Capital Transactions - Repatriation requirements		IMF	
	Capital Transactions - Surrender requirements		IMF	
	Controls on real estate transactions - Purchase abroad by residents		IMF	
	Controls on personal capital No. transactions		IMF	
	Transfer of assets abroad by emigrants		IMF	
	Transfer of assets into the country by immigrants		IMF	
	Financial sector repression (provisions specific to the financial sector)	Borrowing abroad	IMF	
		Maintenance of accounts abroad	IMF	
		Lending locally in foreign exchange	IMF	
		Purchase of locally issued securities denominated in foreign exchange	IMF	
		Insurance companies - Limits (max.) on investment portfolio held abroad	IMF	
		Pension funds - Limits (max.) on investment portfolio held abroad	IMF	
		Investment firms and collective investment funds - Limits (max.) on investment portfolio held abroad	IMF	
Bitcoin penetration (2,4)		Global Bitcoin nodes	a) Total nodes	Bitnodes.io
			b) Nodes per capita	Bitnodes.io /World Bank
	Bitcoin software client downloads	a) Total client downloads	Sourceforge.net	
		b) Client downloads per capita	Sourceforge.net /World Bank	
	Google 'bitcoin' search ranking		Google Trends	
Bitcoin VC investment (\$s per country)		CoinDesk		

A variety of factors went into weighting determinations. For example, the Bitcoin Penetration sub-index contains four first-tier variables. One of these first-tier variables, ‘Global bitcoin nodes’, is comprised of two equally weighted sub variables: total bitcoin nodes per country and bitcoin nodes per capita. Adding a per capita sub variable in this case helps ensure that the index is less skewed by large countries. Additional more subjective weighting determinations were made. For example, the BMPI weighs individual (personal) measures of financial repression more strongly than institutional (bank and insurance) measures due to the greater hesitance of many financial institutions to explore the use of bitcoin. The inability of larger institutions to use bitcoin given its relatively small-market capitalization and limited liquidity also makes bitcoin more attractive for non-institutional use cases at present.

Index ranking methodology

A variety of methods exist for normalization of composite indicator data with different measurement units, and these different methods feature various pros and cons.⁸ The BMPI employs two of the more common methods used in the social sciences to composite indicator data normalization: standardization (or z-scores) and re-scaling (or normalization).

Data across the different BMPI variables were first standardized using the following equation:

$$z = \frac{x - \bar{x}}{s}$$

Where x = each data point, \bar{x} = the average of the sample data points, s = the sample standard deviation, and z = the standardized data point.

Data were also re-scaled to fit a scale of 0 to 1 using the following equation:

$$x_{0\ to\ 1} = \frac{x - x_{min}}{x_{max} - x_{min}}$$

Where x = each data point, x_{min} = the minimum value of the sample data points, x_{max} = the maximum value of the sample data points, $x_{0\ to\ 1}$ = the normalized data point, scaled from 0 to 1.

3 Results

The 10 countries with the highest relative potential for bitcoin adoption according to the Bitcoin Market Potential Index can be found in Table 4.

⁸ See for example: (Nardo et al. 2005; Saisana, Saltelli, and Tarantola 2005; Saltelli et al. 2005)

Table 2: BMPI Top 10 Countries - Standardized and Re-Scaled Data

Ranking	Country (Standardized)	Country (Re-scaled)
1	Argentina	Argentina
2	Venezuela, RB	Venezuela, RB
3	Zimbabwe	Zimbabwe
4	Malawi	Iceland
5	United States	Malawi
6	Belarus	Guinea-Bissau
7	Nigeria	Congo, Dem. Rep.
8	Congo, Dem. Rep.	Belarus
9	Iceland	Nigeria
10	Iran, Islamic Rep.	Angola

Index rankings with re-scaled data are broadly similar to standardized results. For example, the top three countries (Argentina, Venezuela, and Zimbabwe) were the same for either method. Most of the other countries that did change position saw a modest shift. For example, Malawi ranked 4th and 5th when data were standardized and re-scaled, respectively. The largest change observed between the two methods was for the United States, which fell from a ranking of 5th to 72th when data were re-scaled. This change was largely due to the United States' high Bitcoin Penetration ranking and the fact that, put simply, re-scaling can reduce the effect of outliers on index rankings more than standardization.⁹

Given the BMPI's criteria it is not surprising to see Argentina ranked number one. The country suffers from persistently high inflation, has a large informal economy, and regularly experiences financial crisis. In addition, Argentina has a relatively high degree of technology penetration and controls on the movement of capital. Argentina also just defaulted on its sovereign debt for the second time in 13 years. While external sovereign defaults have a relatively minor weighting in the BMPI this recent development is reflected in the BMPI rankings.

Like Argentina, number two ranked Venezuela also suffers from relatively high inflation and frequent financial crises, while number three ranked Zimbabwe has the largest informal economy (black market) of any country in the dataset at 63% of GDP. A country which often features in discussion of bitcoin adoption but which is outside of the top-10 is China, which is ranked number 27. China's ranking is brought down by its relatively small black market and small number of recent financial crises.¹⁰

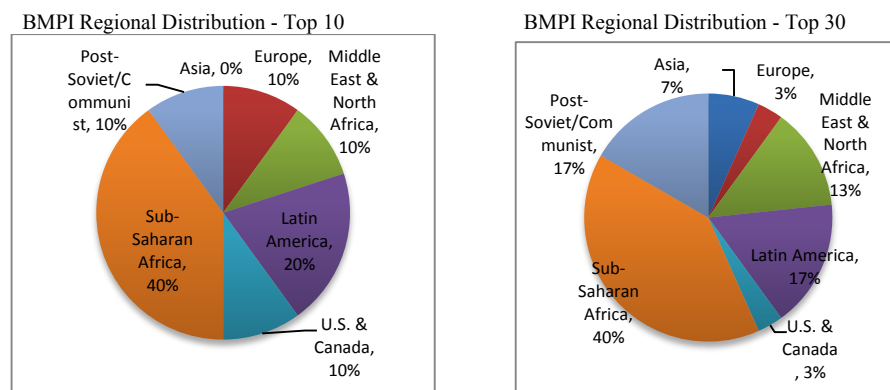
In contrast, near the middle of the overall BMPI rankings at number 169 is Ireland, which hosted a high-profile bitcoin conference in 2013. While Ireland scores well in

⁹ (Nardo et al. 2005, p. 18)

¹⁰ According to Elgin and Oztunali (2012) and other shadow economy researchers (Buehn and Schenider (2012), Schneider, Buehn and Montenegro (2010)) it is estimated that roughly 10% of the economic activity is conducted informally in China.

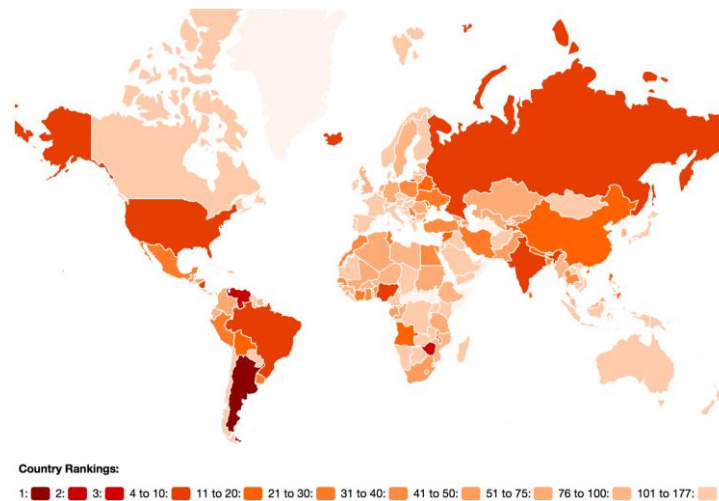
some categories, such as technology and bitcoin penetration, the country has wrestled with deflationary pressures in recent years and also has a relatively limited set of restrictions on the flow of capital. Dublin is a global tech hub, however, and the fact that the BMPI does not include a separate tech hub variable brings down Ireland's ranking. Sub-Saharan Africa is the most fertile region for bitcoin adoption, followed by Latin America and the Post-Soviet/Communist countries (Figure 2).

Figure 2: BMPI Regional Concentration - Standardized Data



An interactive online BMPI 'heat map' is depicted below (Figure 3). A full list of the BMPI rankings is in Appendix A.

Figure 3: BMPI Online Interactive Heat Map¹¹



¹¹ Interactive map is located at www.bitcoiniq.info

4 Conclusion and research agenda

While the BMPI provides a useful conceptual reference for better understanding the factors that may influence bitcoin adoption it is important to acknowledge some of the index's current limitations and how those limitations can be addressed in future research. Specifically, due to limited data availability a number of variables that will impact bitcoin adoption are not currently included in the index. In the interest of allowing for maximum global coverage a number of relevant variables that simply did not have sufficient country data were excluded.¹² With bitcoin it could also have been useful (and more precise) to examine which cities or regions rather than countries may see the fastest bitcoin adoption. However, much of the relevant data is only available at country level and, as a result, the BMPI analysis is a country-level index.

Just as the choice of variables included in the BMPI must be defended some justification should be provided for why some variables were omitted from the BMPI. For example, one area that was excluded from the BMPI but which could have a significant influence on bitcoin adoption is bitcoin regulation. There are three primary reasons why bitcoin regulation was excluded from the BMPI for now: first, bitcoin regulation is a recent development and still evolving; second, it is unclear what bitcoin regulation actually signals; third, the efficacy of bitcoin regulation is uncertain. For example, more aggressive bitcoin regulation in countries such as Ecuador and Bolivia may ultimately serve as a significant barrier to bitcoin's prospects in those countries. However, aggressive bitcoin regulation could also provide a signal from regulators about bitcoin's positive adoption prospects in that country. This latter phenomena is perhaps the case for China, where bitcoin exchange trading volumes have continued to remain strong in spite of stricter bitcoin regulations. In sum, it is too early to tell how to score bitcoin regulation and this category has therefore not been included in the overall BMPI rankings.

The data set is structured in such a way that it can also be used to construct alternative versions of the index around different assumptions or use cases. For example, one may believe that bitcoin does not have as much immediate potential in the international remittances market as compared to its use as a store of value, or that another crypto currency such as Darkcoin will supplant bitcoin as the preferred crypto curren-

¹² For example, smartphone penetration data is unfortunately only available for 48 countries (Our Mobile Planet <http://think.withgoogle.com/mobileplanet/en/>). If this variable were to be included in the index then the BMPI would then need exclude countries which do not have smartphone penetration data. This would result in a less global BMPI as the index would lose nearly 130 countries. In the specific case of smartphone penetration data, while not a perfect proxy other variables that are included in the index, such as broadband and mobile phone penetration, do also serve as an approximate proxy for smartphones. Another data point which could potentially be helpful for understanding bitcoin adoption is how quickly social norms spread across different countries. After all, using bitcoin requires at least some change in existing behavior. However, the relevant study on smoking adoption and cessation only covered 25 countries (Lang et al 2014).

cy in the black market.¹³ Such scenarios can be incorporated into alternative calculations of the BMPI by removing the corresponding variables and or adjusting weights.

Finally, measuring actual bitcoin adoption against the BMPI forecast presents a number of challenges, including the lack of individual country data for many adoption metrics. Obtaining country level adoption data would help test the BMPI's accuracy.

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¹³ For more on Darkcoin see <http://www.wired.com/2014/05/darkcoin-is-booming/>

Appendix A – BMPI Rankings (Standardized)

Country	TOTAL	Inflation	Black Market	Personal remittances	Technology penetration	Financial crises	Financial repression	Bitcoin penetration
Argentina	1	1	136	146	46	2	31	52
Venezuela	2	2	105	59	91	8	26	71
Zimbabwe	3	21	1	33	124	6	53	139
Malawi	4	6	56	2	172	31	37	170
United States	5	132	177	92	28	107	164	1
Belarus	6	7	52	177	40	16	68	38
Nigeria	7	20	6	41	123	28	48	70
Congo, Dem. Rep.	8	126	15	98	169	1	51	173
Iceland	9	79	163	142	11	37	36	3
Iran	10	3	149	65	113	46	61	88
Russia	11	36	38	93	39	14	102	21
Guinea-Bissau	12	156	19	9	152	15	6	177
Sudan	13	5	139	49	137	4	112	160
Angola	14	18	50	29	147	7	42	142
Syria	15	4	144	42	142	155	16	152
Uruguay	16	19	17	55	31	10	160	68
Brazil	17	43	62	156	66	3	81	56
Serbia	18	25	67	90	67	38	28	42
Mozambique	19	75	61	6	166	17	21	157
Ukraine	20	172	16	143	73	36	44	34
Benin	21	146	9	14	138	82	1	150
India	22	12	143	1	143	83	8	64
Moldova	23	70	20	31	79	94	62	44
Tanzania	24	24	8	99	163	30	56	129
Congo, Rep.	25	47	25	10	130	98	38	153
Tunisia	26	46	72	57	96	115	11	85
China	27	99	173	7	93	96	28	4
Guinea	28	9	63	19	162	50	50	172
Nicaragua	29	30	23	158	115	12	76	122
Gabon	30	162	10	66	69	122	38	135
Bolivia	31	53	2	167	110	26	129	116
Bulgaria	32	149	101	82	49	22	89	26
Ghana	33	10	64	157	122	13	102	45
Barbados	34	120	40	139	42	155	19	90
Turkey	35	29	116	161	94	5	73	79
Cote d'Ivoire	36	101	14	148	139	92	1	130
Sri Lanka	37	35	37	150	119	57	20	127
Chad	38	67	35	4	174	81	38	176
Swaziland	39	55	36	38	136	75	35	145
Suriname	40	118	85	168	90	29	16	104
Burkina Faso	41	159	53	18	156	103	1	166
Senegal	42	157	39	96	126	74	1	144
Jamaica	43	15	89	35	104	23	109	93
Poland	44	141	130	119	45	20	84	32

Country	TOTAL	Inflation	Black Market	Personal remittances	Technology penetration	Financial crises	Financial repression	Bitcoin penetration
South Africa	45	54	132	114	74	47	28	53
Lesotho	46	68	112	3	144	89	27	163
Algeria	47	86	103	84	116	54	5	98
Nepal	48	17	76	43	146	148	15	131
Niger	49	109	55	16	171	110	9	175
Peru	50	94	7	163	103	11	160	89
Morocco	51	119	95	71	80	97	16	86
Thailand	52	111	13	155	88	88	62	81
Tajikistan	53	66	27	26	131	69	69	146
Philippines	54	91	51	39	107	61	62	63
Namibia	55	56	119	23	117	93	21	119
Burundi	56	23	33	17	176	79	56	174
Dominica	57	174	40	106	58	155	59	37
Mali	58	176	49	83	118	122	6	165
Sao Tome and Principe	59	31	29	15	141	41	106	149
Comoros	60	108	34	8	165	129	42	169
Madagascar	61	50	65	45	173	40	34	154
Croatia	62	110	107	165	52	27	84	41
Aruba	63	178	40	147	30	155	51	77
St. Kitts and Nevis	64	154	40	94	18	155	75	101
Panama	65	77	5	171	62	77	147	57
Mexico	66	80	110	88	101	19	78	72
Haiti	67	48	4	27	149	55	164	147
Macedonia, FYR	68	96	75	101	64	116	62	48
Azerbaijan	69	62	12	175	63	56	88	118
Costa Rica	70	63	21	133	65	39	154	58
Seychelles	71	73	29	24	59	110	147	105
Bangladesh	72	28	88	91	154	148	12	75
Estonia	73	95	114	173	10	84	128	8
Belize	74	161	26	103	135	155	12	78
Uzbekistan	75	8	67	176	120	108	33	128
Lebanon	76	58	92	22	85	64	109	62
Romania	77	78	111	160	68	25	100	36
Zambia	78	34	32	36	145	18	168	158
Mauritania	79	33	109	11	132	129	54	117
Netherlands	80	103	169	124	6	135	168	2
Lithuania	81	144	113	107	24	78	120	18
Sweden	82	169	146	135	9	59	120	7
Israel	83	128	142	50	29	24	168	22
Colombia	84	114	90	169	87	21	73	80
Libya	85	81	102	60	95	129	44	138
Korea, Rep.	86	138	131	37	13	63	115	49
St. Vincent and the Grenadines	87	151	40	109	71	155	59	100
Hong Kong SAR, China	88	71	166	70	1	148	156	13
Solomon Islands	89	37	91	67	157	129	21	162
Togo	90	122	73	80	158	122	10	148

Country	TOTAL	Inflation	Black Market	Personal remittances	Technology penetration	Financial crises	Financial repression	Bitcoin penetration
Grenada	91	168	40	117	70	154	58	102
Botswana	92	76	98	5	99	120	86	120
Kazakhstan	93	49	71	178	37	65	81	65
Sierra Leone	94	13	74	154	170	62	48	167
Egypt, Arab Rep.	95	14	94	85	92	49	115	97
Myanmar	96	57	77	73	178	32	54	159
Bhutan	97	32	117	144	128	140	14	133
Cameroon	98	116	99	20	151	103	38	143
Ethiopia	99	22	83	151	175	86	21	161
Georgia	100	175	3	166	86	106	134	106
Guatemala	101	72	11	159	102	53	134	82
Germany	102	129	159	44	14	101	134	9
Honduras	103	65	18	108	127	52	109	126
Pakistan	104	26	86	125	148	145	47	76
Fiji	105	93	87	104	111	140	44	123
Samoa	106	158	77	12	177	110	31	136
Armenia	107	51	60	153	89	73	94	108
Dominican Republic	108	69	104	123	105	34	94	60
United Kingdom	109	102	170	122	8	87	147	6
Norway	110	112	148	136	7	101	142	11
Slovenia	111	123	133	121	38	71	142	14
Trinidad and Tobago	112	64	93	145	50	140	99	84
Iraq	113	41	125	53	133	35	77	140
Albania	114	117	96	89	78	66	94	50
Cyprus	115	173	127	137	61	148	71	27
Tonga	116	155	77	21	134	110	69	113
Ecuador	117	97	106	170	97	9	131	83
Kyrgyz Republic	118	38	58	86	109	79	120	111
St. Lucia	119	131	40	126	83	155	79	103
Malaysia	120	113	108	162	56	117	72	55
Finland	121	130	151	130	2	135	168	10
Curacao	122	107	40	141	82	155	83	177
Portugal	123	166	135	95	53	76	89	35
Antigua and Barbuda	124	145	40	131	72	155	89	91
Bahamas, The	125	164	129	138	98	155	21	96
Cambodia	126	92	28	54	114	109	106	125
Montenegro	127	90	67	78	51	155	142	94
Malta	128	137	121	140	20	148	142	30
Guyana	129	89	84	28	121	70	101	124
Italy	130	140	122	87	26	99	134	43
El Salvador	131	153	24	152	100	67	112	115
Laos	132	42	77	69	150	155	67	137
Denmark	133	152	152	127	4	117	147	20
Canada	134	147	162	129	27	135	147	5
Paraguay	135	98	57	102	108	33	160	110
Mauritius	136	82	140	25	77	91	102	87

Country	TOTAL	Inflation	Black Market	Personal remittances	Technology penetration	Financial crises	Financial repression	Bitcoin penetration
Hungary	137	125	134	164	35	44	120	40
Bosnia and Herzegovina	138	170	97	46	75	155	86	61
San Marino	139	127	122	115	36	129	93	73
Gambia, The	140	44	59	34	129	68	160	141
Australia	141	104	168	61	32	95	147	12
Latvia	142	167	128	174	23	84	120	23
Belgium	143	142	141	51	17	125	158	33
Vietnam	144	39	167	81	84	100	62	74
Singapore	145	105	172	72	15	135	147	17
Luxembourg	146	124	176	100	5	140	134	15
Greece	147	177	124	134	47	48	134	46
Switzerland	148	171	178	110	3	125	120	16
France	149	150	164	30	16	117	168	31
Uganda	150	61	54	79	160	60	115	151
Spain	151	135	137	68	43	114	141	39
Indonesia	152	40	147	118	112	45	79	66
Maldives	153	106	120	58	57	148	127	92
Chile	154	121	145	149	55	51	92	69
Qatar	155	88	165	48	33	155	98	59
Mongolia	156	16	161	113	106	43	94	121
Czech Republic	157	134	153	116	44	90	164	19
Kenya	158	52	115	97	125	42	155	67
New Zealand	159	148	171	74	25	72	168	25
Austria	160	115	175	112	12	135	131	28
United Arab Emirates	161	143	138	63	21	155	168	54
Papua New Guinea	162	44	66	75	167	120	114	164
Djibouti	163	84	29	13	168	155	168	134
Japan	164	165	174	52	22	147	102	47
Liberia	165	58	22	105	161	129	164	168
Brunei Darussalam	166	163	100	76	76	155	134	99
Afghanistan	167	27	125	128	153	127	106	51
Rwanda	168	74	70	77	159	140	115	156
Ireland	169	160	160	132	41	103	168	24
Bahrain	170	87	156	47	19	155	168	107
Timor-Leste	171	85	77	40	164	155	119	171
Kuwait	172	100	157	64	34	155	130	109
Saudi Arabia	173	83	158	56	48	155	131	95
Slovak Republic	174	136	154	111	54	155	156	29
Yemen, Rep.	175	11	118	172	140	58	142	155
Oman	176	139	155	62	60	155	126	112
Vanuatu	177	133	77	32	155	145	178	132
Jordan	178	60	150	120	81	127	158	114