A basic study of key factors behind the cryptocurrency regulations around the world

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1. INTRODUCTION

1.1 Definition of cryptocurrency

Establishing a definition of cryptocurrencies is no easy task. Much like blockchain, cryptocurrencies refer to a wide array of technological developments that utilize a technique better known as cryptography. In simple terms, cryptography is the technique of protecting information by transforming it (i.e. encrypting it) into an unreadable format that can only be deciphered (or decrypted) by someone who possesses a secret key. Cryptocurrencies such as Bitcoin, are secured via this technique using an ingenious system of public and private digital keys. (Houben, 2018)

1.2 Definition of culture

The most central feature of each culture are the value emphases. They express conceptions of what is considered ideal by a given society. The rich complex of meanings, beliefs, practices, symbols, norms, and values prevalent among people in a society are manifestations of the underlying culture and all are consequences of cultural ideas. (Schwartz, 2014).

The ways the social institutions in a society are organized express the underlying cultural value' emphases. Yet, it is worth noting that cultural value orientations do change gradually. Schwartz views culture as a latent, hypothetical variable that one can measure only through its manifestations. Studying value emphases directly is an especially efficient way to capture and characterize cultures.

1.3 Definition of regulation

Regulations are rules or norms adopted by a government and supported by some threat of consequences, usually negative ones in the form of penalties. Often directed at businesses, regulations can also take aim at nonprofit organizations, other governmental entities, and even individuals. (Coglianese, 2012)

Regulations can also derive from any number of institutional sources – parliaments or legislatures, ministries or agencies, or even voters themselves through various kinds of plebiscites. Given their variety, regulations can be described using many different labels: constitutions, statutes, legislation, standards, rules, and so forth. What label one uses to refer to them will not matter for purposes of evaluation. What does matter is that evaluators are precise about exactly what they seek to evaluate, however that governmental action may be labelled by others.

2. DATA AND ECONOMETRIC FRAMEWORK

2.0 Cultural Orientation Index

The Cultural Orientation Index (Cul_Orien) is based on the cultural regions concept (Schwartz, 2014). In his analysis, Shwartz has provided the empirical evidence for Seven Cultural Value

Orientations. Upon those orientations he constructed his Cultural Group concept, where he assigned different countries to different cultural regions.

A numerical value has been assigned to each cultural region:

1) West Europe – 1; 2) East Europe – 2; 3) Latin America – 3; 4) Africa and Middle East – 4; 5) East Central Europe – 5; 6) South Asia – 6; 7) English speaking – 7; 8) Confucian – 8.

2.1 Democracy Index 2019 (Economist Intelligence Unit)

Democracy Index is an annual report done by The Economist Intelligence Unit. The EIU Democracy Index provides an estimated score regarding the state of democracy worldwide (165 independent states and two territories).

The Democracy Index is based on five categories: electoral process and pluralism; the functioning of government; political participation; political culture; and civil liberties. Based on its scores on a range of indicators within these categories, each country is then itself classified as one of four types of regime: "full democracy", "flawed democracy", "hybrid regime" or "authoritarian regime".

2.2 Cryptocurrency Regulations Index 2019 (CCR_Index)

The index of cryptocurrency regulation is an index measuring an economy's degree of state openness to cryptocurrency. This index is based on the ordinal variables that codify the current legal and regulatory status of cryptocurrency worldwide, using the current legal and regulatory status of cryptocurrency compiled in 2019 from the Bitcoin Market Journal.

The CCR_Index takes a mean value from the two data sources: Cryptocurrency Regulation and ICO (Initial Coin Offerings) Regulation (both data are obtained from the Bitcoin Market Journal).

It classifies the countries based on their policy stance toward cryptocurrency as follows:

1) 0, when cryptocurrency is "banned";

2) 0.5, when cryptocurrency is "partly-regulated";

3) 1, when cryptocurrency is "regulated";

4) 2, when cryptocurrency is "not regulated."

The higher the figure, the less restriction toward cryptocurrency in the economy.

2.3 Cryptocurrency Safety Rank 2019 (CC_Safe)

Crypto coins are still very new in the grand scheme of things, and while some countries have welcomed them, others have not been quite enthusiastic. Therefore, each state has its own view on the cryptocurrencies regulation.

Cointobuy.io has created the cryptocurrency regulation analysis and it provides some information about what type of climate investors can expect for their investments based on region. In the other

words, it shows how favorably cryptocurrencies are looked in different countries.

2.4 GDP per capita Index 2019 (GDP_pc)

GDP per capita is simply gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. All data are in current U.S. dollars and were obtained from The International Monetary Fund.

2.5 The Worldwide Governance Indicators 2018 (Pol_Stab, Effec_Reg, Voi_Acc)

The Worldwide Governance Indicators (WGI) are a research dataset summarizing the views on the quality of governance provided by a large number of enterprises, citizen and expert survey respondents in industrial and developing countries. These data are gathered from a number of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms. They are based on over 30 underlying data sources reporting the perceptions of governance of a large number of survey respondents and expert assessments worldwide.

The following three WGI indicators were used: Political Stability (Pol_Stab), Effectiveness Regulatory (Effec_Reg) and: Voice and Accountability (Voi_Acc). All of these data were collected from The World Bank.

2.6 Economic Freedom of the World Index 2019 (Eco_Free)

Economic Freedom of the World is an annual survey published by the libertarian Canadian think tank Fraser Institute. The survey attempts to measure the degree of economic freedom in the world's nations. It has been used in peer-reviewed studies some of which have found a range of beneficial effects of more economic freedom.

2.7 Index of Social Capital 2019 (Soc_Cap)

The Index of Social Capital created by a Swiss-Korean joint-venture firm called SolAbility is the sum of social stability and the well-being of the entire population. Social Capital generates social cohesion and a certain level of consensus, which in turn delivers a stable environment for the economy, and prevents natural resources from being over-exploited. Social Capital is not a tangible value and therefore hard to measure and evaluate in numeric values.

In addition to local historical and cultural influences, the social consensus in a society is affected by several factors: health care systems and their universal affordability (measuring physical health); income and asset equality, which are correlated to crime levels; demographic structure (to assess the future generational balance within a society); and freedom of expression, freedom from fear and the absence of violent conflicts that are required for businesses to be able to generate value.

The other important assumption for including this index is that the higher social capital, the worse the enforcement. (Guiso, Sapienza, Zingales, 2004)

2.8 Index of Prosperity 2019 (Prosp_Ind)

The Index of Prosperity created by Legathum enables one to construct a thoroughly comprehensive picture of prosperity, across its institutional, economic, and social dimensions, with particular emphasis on the different policy-related issues to be addressed.

12 pillars have been used, comprising 65 different elements, measured by close to 300 discrete country-level indicators, using a wide array of publicly available data sources. This comprehensive set of indicators provides an incredibly rich and holistic policy-focused dataset representing over 99% of the world's population, thereby allowing the potential of each country to be identified and understood. This in turn enables targeted policy responses that can drive tangible improvements in prosperity.

All numbers presented in the index are additive inverses of the original one. It follows that the higher the number of the index, the higher the level of prosperity.

2.9 Index of Religion (Rel_Type)

The basic assumption is that religion is a part of culture, and there is some correlation with law enforcement. The Index of Religion as a basis for its evaluation takes the following assumptions (Licht, Goldschmidt, Schwartz, 2005):

1) Christian countries typically have better law enforcement than non-Christian countries.

2) Christian countries typically have less corruption than non-Christian countries.

3) Protestant countries have much better enforcement than Catholic countries.

4) Protestant countries have less corruption than Catholic countries.

Hence, one of the following scores are assigned to each country:

1) 100, when the main religion is Protestant.

2) 75, when the main religion is Catholic.

3) 50, when the main religion is another type of Christian religion.
4) 25, when the main belief is non-Christian.

2.10 State Legitimacy Index 2019 (Stat_Leg)

State legitimacy index, 0 (high) - 10 (low), 2019 - Country rankings: The average for 2019 based on 176 countries was 5.9 index points. The highest value was in North Korea: 10 index points and the lowest value was in New Zealand: 0.6 index points. All data collected from the Fund of Peace.

For convenience, all numbers presented in the index are additive inverses of the original one.

Thus, the higher the number, the stronger the state's legitimacy.

2.11 Innovation Index 2019 (Inn_Ind)

The Global Innovation Index, created by Cornell University, INSEAD, and the WIPO, includes two sub-indices: The Innovation Input Sub-Index and the Innovation Output Sub-Index.

The first sub-index is based on five pillars: Institutions, Human capital and research, Infrastructure, Market sophistication, and Business sophistication. The second sub-index is based on two pillars: Knowledge and technology outputs and Creative outputs. Each pillar is divided into sub-pillars and each sub-pillar is composed of individual indicators.

2.12 Internet Users Measurement 2017 (Int_Use)

Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant, games machine, digital TV etc. The percentage of the population using the Internet is given by numerical value. The data was collected from The World Bank.

3 EMPIRICAL RESULTS AND DISCUSSION

3.1 Correlation Analysis

Table 1 presents the effects of cultural, legal and institutional development and financial development on the degree of cryptocurrency market regulation.

The following independent variables: CC_Safe, Voi_Acc, Rel_Type, Cul_Orien, Dem_Ind, and Stat_Leg have the biggest correlation with cryptocurrency regulation dependent variable (32%, 29%, 29%, 28%, 25%, and 21% respectively). It follows that the biggest impact on the cryptocurrency regulation is done by cultural factors (to which culture of a given country belongs to, including type of beliefs) and institutional factors (the quality of governance).

By considering the correlations between the independent variables, one may observe some interesting patterns. First of all, GDP per capita seems to be strongly influenced by such factors as: government effectiveness (87%), level of prosperity (80%), level of economic freedom (74%), level of governance (69%), level of democracy (68%) and level of social capital (70%). The cultural orientation does not seem to be directly significant (13%) to GDP per capita. However, if concern the correlation between the Cul_Orien variable with Soc_Cap (22%), Voi_Acc (27%), Dem_Ind (17%), one may conclude that the cultural orientation may determine the level of social capital, the level of governance and the level of democracy. Thus, it may indirectly influence the GDP per capita.

Yet, if we may consider another independent variable Rel_Type, and assume that religion is part of a culture (Licht, Goldschmidt, Schwartz, 2005), the cultural impact on GDP per capita seems to be more robust. The type of religion (Christian or Non-Christian (Protestant, Catholic or other)) has a strong correlation with GDP per capita (41%).

	ccr_in~x	cc_safe	cc_reg	ico_reg	cul_or~n	gdp_pc	gov_ef~c	voi_acc	eco_free	dem_ind	soc_cap	prosp_~d	pol_stab	inn_ind	int_use	stat_leg	ccr_index
ccr_index	1.0000																
(obs=70)																	
cc_safe	0.3242	1.0000															
cc_reg	0.9135	0.3008	1.0000														
ico_reg	0.9378	0.3001	0.7155	1.0000													
cul_orien	-0.2760	-0.1990	-0.1881	-0.3135	1.0000												
gdp_pc	0.1027	0.5255	0.0535	0.1308	-0.1314	1.0000											
gov_effec	0.1644	0.5904	0.1296	0.1716	-0.0498	0.8682	1.0000										
voi_acc	0.2863	0.5667	0.1590	0.3559	-0.2737	0.6836	0.7297	1.0000									
eco_free	0.1552	0.4861	0.1286	0.1568	0.0814	0.7353	0.8435	0.5948	1.0000								
dem_ind	0.2463	0.5257	0.1346	0.3081	-0.1659	0.6768	0.7295	0.9540	0.6323	1.0000							
soc_cap	0.0657	0.4596	0.0347	0.0832	-0.2160	0.6938	0.7421	0.6203	0.6014	0.5661	1.0000						
prosp_ind	0.1703	0.7229	0.1267	0.1844	-0.1280	0.7929	0.9089	0.7951	0.8085	0.7860	0.7678	1.0000					
pol_stab	0.1436	0.4913	0.0549	0.1998	-0.0082	0.7083	0.8087	0.7047	0.6736	0.6651	0.6853	0.8301	1.0000				
inn_ind	0.0847	0.6336	0.0795	0.0777	-0.0297	0.8698	0.9089	0.6551	0.7616	0.6593	0.7457	0.8782	0.6663	1.0000			
int_use	0.1662	0.7237	0.1336	0.1714	-0.1348	0.7494	0.8588	0.6813	0.7627	0.6483	0.6752	0.9172	0.7222	0.8318	1.0000		
stat_leg	0.2045	0.5458	0.1316	0.2389	-0.1533	0.7353	0.8015	0.8725	0.6430	0.8280	0.6405	0.7850	0.7877	0.6784	0.6949	1.0000	
lg_sc	0.0619	0.3412	0.0625	0.0529	-0.0243	0.6490	0.6463	0.4567	0.5356	0.4930	0.4559	0.5418	0.5052	0.5972	0.4821	0.5174	
rel_type	0.2944	0.3295	0.1423	0.3841	-0.2246	0.4106	0.3768	0.6212	0.2331	0.5807	0.2145	0.4230	0.4478	0.3385	0.3566	0.5390	lg_sc
	rel_type																
lg_sc	1.0000																
rel_type	0.2391	1.0000															

Table 1: Correlation Analysis Results

The analysis shows that GDP per capita itself has no as strong impact on Cryptocurrency regulation (10%) as cultural and institutional factors (20-29%). This finding is supported by the argument that the effective governance institutions are associated with a greater likelihood of a less restrictive regulatory stance on cryptocurrency (Shirakawa, Korwatanasakul, 2019), as well as argument that the institutions are combined of organizations and cultural beliefs, and cultural beliefs are uncoordinated expectations, organizations reinforce the cultural beliefs that led to their adoption, and past organizations and cultural beliefs influence historically subsequent games, organizations, and equilibria (Grief, 1994).

3.2 Multilinear Regression Analysis (dependent variable: CC_Safe)

Variable is set as a CC_Safe (Cryptocurrency Safety Rank). The Table 2 is showing the results of multilinear regression analysis where the dependent The final analysis presents that in this case the R-squared value is equal to 0.7055, this mean that the independent variables explain 70.5% of the variability of the dependent variable, CC_Safe.

The output of Prob(F) shows that there is a 0% chance that regression parameters may be equal to 0. Thus, the null-hypothesis can be rejected. Yet, it is worth noting that the only two variables have a significant meaning, in the other words, where p-value is less than 0.05 (Soc_Cap and Prosp_Ind).

Source	SS	df	MS	Number of obs = 70
				F(22, 47) = 5.12
Model	177.891369	22	8.0859713	Prob > F = 0.0000
Residual	74.2750614	47	1.58032046	R-squared = 0.7055
				Adj R-squared = 0.5676
Total	252.16643	69	3.65458594	Root MSE = 1.2571

cc_safe	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
gdp_pc	.0000159	.0000208	0.76	0.449	-.0000259	.0000577
gov_effec	-1.336015	.7903462	-1.69	0.098	-2.925986	.2539567
voi_acc	.6129769	.8812601	0.70	0.490	-1.15989	2.385844
eco_free	-.026267	.038141	-0.69	0.494	-.1029967	.0504628
dem_ind	-.5513254	.3626747	-1.52	0.135	-1.280933	.1782819
soc_cap	-.1168766	.0482451	-2.42	0.019	-.2139332	-.0198201
prosp_ind	.0593575	.0227668	2.61	0.012	.0135567	.1051583
pol_stab	-.891602	.5017081	-1.78	0.082	-1.900909	.1177045

inn_ind	.0277926	.0527363	0.53	0.601	-.0782992	.1338844
int_use	.0326268	.0223089	1.46	0.150	-.0122529	.0775065
stat_leg	.2559792	.144928	1.77	0.084	-.0355782	.5475367
lg_sc	.004238	.0051363	0.83	0.413	-.006095	.0145709
cul_orien						
2	-.2994238	1.027341	-0.29	0.772	-2.366167	1.767319
3	-.7674628	.9501964	-0.81	0.423	-2.679011	1.144086
4	-.1379565	1.132291	-0.12	0.904	-2.415832	2.139919
5	.4891561	.7723657	0.63	0.530	-1.064643	2.042955
6	1.040931	1.142031	0.91	0.367	-1.25654	3.338402
7	-1.254462	.835752	-1.50	0.140	-2.935778	.426854
8	.0606354	1.132211	0.05	0.958	-2.21708	2.338351
rel_type						
50	.3791556	.7769224	0.49	0.628	-1.183811	1.942122
75	.6016402	.6700869	0.90	0.374	-.7464007	1.949681
100	.2785327	.6967956	0.40	0.691	-1.123239	1.680305
_cons	17.41123	5.71184	3.05	0.004	5.920492	28.90197

Table 2 Multilinear regression analysis results (dependent variable: CC_Safe)

3.3 Multilinear Regression Analysis (dependent variable: CCR_Index) of the variability of the dependent variable, CCR_Index. The table 3 is showing the results of multilinear regression analysis.

The R-squared value is equal to 0.4418, it means that the independent variables explain 44.2%
The F-ratio tests whether the overall regression model is a good fit for the data. The output in the analysis shows that there is a more than 9% chance that regression parameters may be equal to 0. Thus, the null-hypothesis can not be rejected.

It is worth noting that the independent variable CC_Safe is the only one that satisfies the significance limit ($p < 0.05$).

Source	SS	df	MS	Number of obs = 70		
				F(23, 46) = 1.58		
Model	12.423443	23	.540149696	Prob > F = 0.0918		
Residual	15.6979856	46	.341260556	R-squared = 0.4418		
				Adj R-squared = 0.1627		
Total	28.1214286	69	.407556936	Root MSE = .58418		
ccr_index	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
cc_safe	.1924847	.0677831	2.84	0.007	.0560443	.328925
gdp_pc	-.0000127	9.72e-06	-1.31	0.196	-.0000323	6.82e-06
gov_effec	.2869753	.378272	0.76	0.452	-.4744467	1.048397
voi_acc	-.0301782	.4116219	-0.07	0.942	-.8587301	.7983736
eco_free	.0141574	.0178132	0.79	0.431	-.0216987	.0500136
dem_ind	.1560031	.1726276	0.90	0.371	-.1914782	.5034844
soc_cap	.0240673	.0237779	1.01	0.317	-.0237953	.0719298
prosp_ind	-.0026437	.0113189	-0.23	0.816	-.0254275	.0201401
pol_stab	.1108139	.2408483	0.46	0.648	-.3739886	.5956164
inn_ind	-.0041436	.0245787	-0.17	0.867	-.0536181	.0453309
int_use	-.0089343	.0106002	-0.84	0.404	-.0302713	.0124027
stat_leg	-.0879676	.0695469	-1.26	0.212	-.2279582	.0520231
lg_sc	-.0004312	.0024041	-0.18	0.858	-.0052704	.0044079
cul_orien						
2	-.112252	.4778341	-0.23	0.815	-1.074082	.849578
3	.158057	.4446079	0.36	0.724	-.7368923	1.053006
4	.8528801	.526256	1.62	0.112	-.2064184	1.912178
5	-.1338966	.3604447	-0.37	0.712	-.8594342	.5916411
6	-.2358962	.5353691	-0.44	0.662	-1.313538	.841746
7	-.1146183	.3975716	-0.29	0.774	-.9148884	.6856517
8	-.3797353	.526152	-0.72	0.474	-1.438824	.6793538
rel_type						
50	.2218001	.3619476	0.61	0.543	-.5067626	.9503628
75	.3312138	.3140469	1.05	0.297	-.3009298	.9633574
100	.3253001	.3243492	1.00	0.321	-.3275811	.9781812
_cons	-2.574422	2.90483	-0.89	0.380	-8.421542	3.272698

(dependent variable: CCR_Index)

CCR_Index)
Table 3: Multilinear regression analysis results

3.4 Multilinear Regression Analysis after reduction of insignificant variables

The most interesting set obtained during the analysis is shown in the Table 4. These results were obtained after reduction of insignificant variables. The final analysis presents that in this case the R squared value is equal to 0.2087, it means that the independent variables explain 21% of the variability of the dependent variable, CCR_Index. It is not really robust result, yet it might be a good starting point for future analysis.

The output of Prob(F) = 0.0023 shows that there is a 0.2‰ chance that regression parameters may be equal to 0. Furthermore, each of independent variables satisfies the condition: $p < 0.05$, thus, the null-hypothesis can be rejected.

According to the results of multilinear regression analysis, the model for estimation of cryptocurrency regulation is supposed to be the following one:

$$CCR\_Index^* = -0.000111^* G + 0.0281612 * E – 0.0831921 * C + 0.0062373 * R + e$$

Where:

CCR_Index* = estimated value of cryptocurrency regulation for country X

G = GDP per capita of country X

E = Value of Economic Freedom Index for country X

C = Cultural Group of given country X (from 1 to 8)

R = Index of Religion of given country X (100 for Protestant, 75 for Catholic, 50 for Orthodox and 25 for Non-Christian)

e = standard error.

Yet, as it was expected by the low value of R-squared, the testing phase has shown that the estimation quality is still very low and the obtained model should not be treated as the final one. It is worth considering how to improve the robustness of the estimation by adding more significant variables (factors).

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Source SS df MS Number of obs = 75F(4, 70) = 4.62
Model 6.39287634 4 1.59821909 Prob > F = 0.0023 Residual 24.2321237 70 .346173195
R-squared = 0.2087 Adj R-squared = 0.1635
Total 30.625 74 .413851351 Root MSE = .58836
ccr_index Coef. Std. Err. t P>|t| [95% Conf. Interval] gdp_pc -.0000111 4.87e-06 -2.27 0.026 -.0000208 -1.35e-06 eco_free .0281612 .0091923 3.06 0.003 .0098278 .0464947 cul_orien -.0831921 .033117 -2.51 0.014 -.1492419 -.0171423 rel_type .0062373 .0028439 2.19 0.032 .0005652 .0119093 _cons -.1172454 .5702804 -0.21 0.838 -1.254634 1.020143
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Table 4 Multilinear regression analysis results (after reduction, dependent variable: CCR_Index)

4. THE FINAL CONCLUSIONS

This work attempts to check empirically what factors are significant for cryptocurrency regulation in different countries (the analysis has covered 70 different countries, each of them belonging to 1 of 8 different cultural groups, according to Schwartz's classification) and to explain why these

factors are significant.

The correlation analysis and regression analysis both show that there is indeed some correlation between cultural, legal, economic factors and the regulation of cryptocurrency around the world.

The one possible explanation of these correlations is that the cultural beliefs lead to societal differences and societal differences lead to differences in merchant-agent game rules and wealth distribution (Grief, 1994).

The organization of a society and its economic, legal, political, social, and moral enforcement institutions, together with its social constructs and information transmission and coordination mechanisms profoundly affects its economic performance and growth. In collectivist societies the social structure is "segregated" in the sense that each individual socially and economically interacts mainly with members of a specific religious, ethnic, or familial group in which contract enforcement is achieved through "informal" economic and social institutions, and members of collectivist societies feel involved in the lives of other members of their group. At the same time, non-cooperation characterizes the relations between members of different groups. In individualist societies the social structure is "integrated" in the sense that economic transactions are conducted among people from different groups and individuals shift frequently from one group to another. Contract enforcement is achieved mainly through specialized organizations such as the court, and self-reliance is highly valued.

The NIE (New Institutional Economics), a part of economic science that seeks to learn and explain economic processes through institutions, shows the relationship of non-economic factors (historical, legal, social, political) with the situation of markets, while conducting an economic analysis of the above phenomena. The NIE is predominantly concerned with levels of the institutional environment and the institutions of governance and it also supports the argument of relation between no-economic factors with the economical performance (Williamson, 2000).

Further work is required in order to verify what kind of factors are significant either. According to Shirakawa and Korwatanasakul (2019), it would be interesting to check and compare the size of the cryptocurrency economy within the size of the economy for different countries. Gina C. Pieters in her work “How Global is the Cryptocurrency Market” (2018) has proposed one way of measurement (exposure of cryptocurrency), where the daily value of crypto transactions is divided by the daily value in the stock market of the indicated currency’s country. That might be useful for construction of new independent variables.

Another aspect worth further consideration is the policy change towards cryptocurrency. Some governments decided to create and test state-owned cryptocurrency in order to provide a framework for controlling the crypto-market (case of China). Some other states seem to have not enough institutional capability (and technology) for control of the cryptocurrency market, thus simply banning it (case of Nepal). It would be useful to check the policy change over the years, categorize the main reasons, encode and make an attempt to verify the correlation.

Appendix: All Data collected for the project

	2019	2019	2019	2019		2019	2018	2018	2019	2019	2019	2019	2018	2019	2017	2019	2019		C or	Type of C
Country	CCR_Index	CC_SAFE	CC_Reg	ICO_Reg	Cul_Orien	GDP_pc	Gov_Effec	Vol_Acc	Eco_Free	Dom_Ind	Soc_Cap	Prosp_In	Pol_Stab	Ins_Ind	Int_Use	Stat_Leg	LG_SC	Rel_Type		
Belgium	2	7	2	2	1	45175.6	1.17	1.40	67.30	7.64	56.20	-22.00	0.41	50.20	87.68	-1.40	-45.00	75.00	C	K
Cyprus	2	7.5	2	2	1	27719.7	0.92	1.04	68.10	7.59	50.90	-34.00	0.54	48.30	80.74	-4.20	-81.00	50.00	C	O
Denmark	2	6.7	2	2	1	59795.3	1.87	1.61	76.70	9.22	55.90	-1.00	0.96	58.40	97.10	-0.90	-2	100.00	C	P
Greece	2	6.5	2	2	1	19974.4	0.34	0.86	57.70	7.45	43.60	-42.00	0.09	38.90	70.55	-6.10	-114.00	50.00	C	O
Netherlands	2	7.3	2	2	1	52367.8	1.85	1.60	76.80	9.01	56.80	-6.00	0.87	61.40	93.20	-1.00	-6.00	75.00	C	K
Portugal	2	6.1	2	2	1	21030.8	1.21	1.20	65.30	8.03	52.60	-26.00	1.14	66.60	73.79	-1.00	-53.00	75.00	C	K
Austria	1.5	7.2	2	1	1	50022.6	1.45	1.38	72.00	8.29	57.00	-13.00	0.92	50.90	87.94	-1.10	-11.00	75.00	C	K
Finland	2	6.5	2	2	1	48868.7	1.58	1.61	74.90	9.25	58.80	-5.00	0.92	59.80	87.47	-0.90	-4.00	100.00	C	P
France	2	7.8	2	2	1	41760.6	1.48	1.18	65.80	8.12	51.90	-23.00	0.11	54.20	80.50	-1.50	-41.00	75.00	C	K
Germany	1	6.5	1	1	1	46564	1.62	1.42	73.50	8.68	56.40	-8.00	0.60	58.20	84.40	-0.70	-13.00	100.00	C	P
Italy	1	6.8	1	1	1	32946.5	0.41	1.05	62.20	7.52	52.20	-30.00	0.31	46.30	63.08	-3.40	-56.00	75.00	C	K
Norway	2	5.3	2	2	1	77975.4	1.89	1.73	73.00	9.87	58.60	-2.00	1.15	51.90	96.36	-0.60	-1.00	100.00	C	P
Spain	2	6.5	2	2	1	29961.1	1.00	1.06	65.70	8.29	50.60	-25.00	0.25	47.90	84.60	-6.90	-30.00	75.00	C	K
Sweden	2	8	2	2	1	51241.9	1.83	1.61	75.20	9.39	58.30	-4.00	0.91	63.70	95.51	-0.80	-9.00	100.00	C	P
Switzerland	1	6.3	1	1	1	83716.8	2.04	1.62	81.90	9.03	57.80	-3.00	1.34	67.20	89.69	-0.70	-8.00	75.00	C	K
Bosnia and Herzegovina	1.5	4.6	2	1	2	5741.76	-0.62	-0.24	61.90	4.86	49.60	-70.00	-0.39	31.40	66.89	-6.30	-89.00	25.00	NC	
Georgia	2	4	2	2	2	4289.32	0.61	0.25	75.90	5.42	47.00	-53.00	-0.43	37.00	59.71	-8.10	-122.00	50.00	C	O
Russian Federation	0.5	6.6	1	0	2	11162.7	-0.06	-1.06	58.90	3.11	36.70	-74.00	-0.50	37.60	76.01	-8.20	-101.00	50.00	C	O
Serbia	2	1.3	2	2	2	7397.69	0.11	0.00	63.90	6.41	50.50	-52.00	0.08	35.70	70.33	-5.50	-96.00	50.00	C	O
Ukraine	2	5.8	2	2	2	3592.17	-0.42	-0.01	52.30	5.90	41.30	-96.00	-1.83	37.40	58.89	-7.60	-148.00	50.00	C	O
Bulgaria	2	7.4	2	2	2	9518.44	0.27	0.32	69.00	7.03	46.00	-49.00	0.42	40.30	63.41	-3.90	-69.00	50.00	C	O
North Macedonia	0	4.7	0	0	2	6096.49	0.09	-0.01	71.10	5.97	49.30	-54.00	-0.20	35.30	74.52	-5.70	-84.00	50.00	C	O
Brazil	2	6.6	2	2	3	8756.91	-0.45	0.39	51.90	6.86	35.00	-89.00	-0.38	33.80	67.47	-7.00	-133.00	75.00	C	K
Chile	2	6.8	2	2	3	15399.2	1.08	1.05	75.40	8.08	36.00	-37.00	0.43	36.60	82.33	-2.70	-65.00	75.00	C	K
Colombia	2	5	2	2	3	6508.13	-0.09	0.19	67.30	7.13	34.00	-72.00	-0.81	33.00	62.26	-5.70	-97.00	75.00	C	K
Mexico	1	6.7	1	1	3	10118.2	-0.15	-0.01	64.70	6.09	41.40	-67.00	-0.57	36.10	63.85	-5.90	-118.00	75.00	C	K
Peru	2	2.7	2	2	3	7046.79	-0.25	0.23	67.80	6.60	41.00	-56.00	-0.26	32.90	48.73	-6.60	-144.00	75.00	C	K
Argentina	2	7	2	2	3	9887.79	0.03	0.57	52.20	7.02	47.10	-59.00	0.02	31.90	74.29	-4.20	-113.00	75.00	C	K
Costa Rica	2	6.9	2	2	3	12014.8	0.38	1.14	65.30	8.13	39.50	-38.00	0.49	36.10	71.39	-1.80	-51.00	75.00	C	K
Bolivia	0	1.1	0	0	3	3670.96	-0.32	-0.04	42.30	4.84	40.00	-105.00	-0.24	26.80	43.83	-6.70	-119.00	75.00	C	K
Venezuela	0.25	4.2	0.5	0	3	2547.76	-1.58	-1.41	25.90	2.88	33.10	-143.00	-1.34	N/A	72.00	-9.30	-137.00	75.00	C	K
Cameroon	2	2.1	2	2	4	1514.6	-0.80	-1.10	52.40	2.85	39.80	-152.00	-1.38	23.90	23.20	-9.20	-135.00	75.00	C	K
Ethiopia	2	0.8	2	2	4	953.179	-0.61	-1.16	53.60	1.44	39.80	-150.00	-1.34	24.20	18.62	-8.00	-117.00	75.00	C	K
Ghana	2	2.5	2	2	4	2223.42	-0.21	0.58	57.50	6.63	36.40	-102.00	0.03	25.30	39.00	-3.60	-59.00	50.00	C	CM
Namibia	2	4.5	2	2	4	5842.06	0.11	0.49	58.70	6.43	35.50	-89.00	0.65	25.90	51.00	-3.00	-60.00	100.00	C	P
Nigeria	2	5.7	2	2	4	2222.01	-1.02	-0.41	57.30	4.12	35.90	-148.00	-2.19	23.90	42.00	-8.00	-69.00	25.00	NC	
Senegal	2	1.7	2	2	4	1427.87	-0.27	0.24	56.30	5.81	42.00	-111.00	-0.09	26.80	46.00	-4.10	-54.00	25.00	NC	
South Africa	2	5.7	2	2	4	6100.35	0.34	0.66	58.30	7.24	31.60	-83.00	-0.28	34.00	56.17	-6.50	-47.00	100.00	C	P
Turkey	2	6	2	2	4	8957.89	0.01	-0.03	64.60	4.09	38.70	-91.00	-1.13	36.90	64.68	-7.50	-147.00	25.00	NC	
Uganda	2	0.4	2	2	4	770.062	-0.61	-0.67	59.70	5.02	32.90	-135.00	-0.69	25.60	23.71	-8.6	-139.00	50.00	C	KP
Yemen, Rep.	2	0.1	2	2	4	945.343	-2.24	-1.75	N/A	1.95	30.90	-166.00	-3.00	14.50	26.72	-9.80	-158.00	25.00	NC	
Israel	1.5	5.7	2	1	4	42823.3	1.21	0.65	72.80	7.86	47.10	-31.00	-0.93	57.40	81.58	-6.20	-57.00	25.00	NC	
Jordan	1	2.8	2	0	4	4386.61	0.11	-0.70	66.50	3.93	41.70	-86.00	-0.38	29.60	66.79	-6.00	-107.00	25.00	NC	
Zimbabwe	2	3.8	2	2	4	859.953	-1.20	-1.13	40.40	1.16	33.70	-139.00	-0.71	22.30	27.06	-9.80	-110.00	100.00	C	P
Egypt	0	2.3	0	0	4	3046.59	-0.58	-1.28	52.50	3.06	32.70	-126.00	-1.16	27.50	44.95	-8.60	-127.00	25.00	NC	
United Arab Emirates	2	6.8	2	2	4	57749.9	1.43	-1.11	77.10	2.76	47.20	-40.00	0.74	42.20	94.82	-6.60	-20.00	25.00	NC	
Iran	1.25	2.5	2	0.5	4	5506.23	-0.43	-1.32	51.10	2.38	38.40	-119.00	-1.31	34.40	64.04	-9.00	-129.00	25.00	NC	
Czech Republic	2	7.5	2	2	5	23214	0.92	0.93	73.70	7.69	52.00	-28.00	1.04	49.40	78.72	-4.70	-112.00	75.00	C	K
Estonia	1	6.5	1	1	5	23523.6	1.19	1.21	76.60	7.90	51.90	-21.00	0.60	50.00	88.10	-2.10	-38.00	50.00	C	PO
Hungary	2	6.4	2	2	5	17463.3	0.49	0.32	65.00	6.63	45.00	-46.00	0.76	44.50	76.75	-6.40	-90.00	75.00	C	K
Poland	2	6.9	2	2	5	14901.5	0.66	0.72	67.80	6.62	50.20	-36.00	0.55	41.30	75.99	-4.10	-111.00	75.00	C	K
Slovak Republic	2	5.8	2	2	5	19547.7	0.71	0.88	65.00	7.17	50.60	-32.00	0.75	42.00	81.63	-4.40	-76.00	75.00	C	K
Croatia	2	6.8	2	2	5	14949.8	0.46	0.50	61.40	6.57	47.20	-45.00	0.77	37.80	67.10	-2.30	-136.00	75.00	C	K
Latvia	1	3.2	1	1	5	18171.7	1.04	0.81	70.40	7.49	47.20	-35.00	0.42	43.20	80.11	-2.80	-130.00	75.00	C	PK
Romania	2	6.7	2	2	5	12483	-0.25	0.46	68.60	6.49	47.50	-47.00	0.06	36.80	63.75	-5.60	-116.00	50.00	C	O
Slovenia	2	7.8	2	2	5	26170.3	1.13	0.99	65.50	7.50	53.40	-27.00	0.91	45.30	78.89	-2.10	-40.00	75.00	C	K
Lithuania	1.25	6.9	2	0.5	5	19266.8	1.07	0.92	74.20	7.50	48.10	-33.00	0.75	41.50	77.62	-2.10	-141.00	75.00	C	K
Fiji	2	2.6	2	2	6	6379.71	0.26	0.22	62.20	5.85	33.00	-47.00	0.74	N/A	49.97	-6.30	N/A	100.00	C	P
India	1.25	4.5	2	0.5	6	2171.64	0.28	0.38	55.20	6.90	40.50	-101.00	-0.96	36.60	34.45	-4.10	-77.00	25.00	NC	
Malaysia	2	5.4	2	2	6	11136.8	1.08	-0.08	74.00	7.16	47.60	-41.00	0.24	42.70	80.14	-6.90	-29.00	25.00	NC	
Singapore	2	5.8	2	2	6	63987.1	2.23	-0.06	89.40	8.02	53.70	-16.00	1.51	58.40	84.45	-3.90	-18.00	25.00	NC	
Philippines	1.5	5.5	2	1	6	3294.47	0.05	0.04	63.80	6.64	38.50	-84.00	-1.12	36.20	60.05	-7.20	-25.00	75.00	C	K
Indonesia	2		2	2	6	4163.76	0.18	0.18	65.80	6.48	44.00	-63.00	-0.53	29.70	32.29	-4.50	-5.00	25.00	NC	
Nepal	0	0.8	0	0	6	1047.74	-0.90	-0.13	53.80	5.28	46.50	-115.00	-0.63	24.90	34.00	-11.10	-91.00	25.00	NC	
Bangladesh	0	2.7	0	0	6	1905.72	-0.75	-0.75	55.60	5.88	42.10	-127.00	-1.03	25.30	15.00	-7.60	-78.00	25.00	NC	
Iceland	1.5	6.9	2	1	7	77771.2	1.42	1.32	80.50	9.24	49.70	-12.00	1.41	56.10	84.11	-0.70	-12.00	75.00	C	K
New Zealand	2	5	2	2	7	40634.1	1.67	1.62	84.40	9.26	51.10	-7.00	1.54	49.60	90.81	-0.60	-7.00	100.00	C	P
Australia	1	6.7	1	1	7	53825.2	1.60	1.43	80.90	9.09	49.70	-17.00	0.98	50.30	86.55	-1.00	-15.00	100.00	C	P
Canada	1	4.4	1	1	7	46212.8	1.72	1.52	77.70	9.22	48.70	-14.00	0.99	53.90	91.00	-0.70	-10.00	75.00	C	K
United Kingdom	2	6.2	2	2	7	41030.2	1.34	1.38	78.90	8.52	48.90	-11.00	0.05	61.30	94.62	-2.30	-14.00	100.00	C	P
United States	1	7.5	1	1	7	65111.6	1.58	1.04	76.80	7.96	35.70	-18.00	0.48	61.70	87.27	-2.60	-16.00	100.00	C	P
Japan	1	6.3	1	1	8	40846.8	1.68	1.02	72.10	7.99	55.00	-19.00	1.06	54.70	84.59	-0.90	-132.00	25.00	NC	
Republic of Korea	1	5.1	1	1	8	31430.6	1.18	0.80	72.30	8.00	51.20	-29.00	0.54	56.60	95.67	-3.60	-142.00	100.00	C	P
Thailand	1.25	3.8	2	0.5	8	7791.95	0.35	-1.01	68.30	6.32	38.50	-66.00	-0.73	38.60	52.89	-7.80	-27.00	25.00	NC	
China	1	6	2	0	8	10098.9	0.48	-1.45	58.40	2.26	49.80	-57.00	-0.28	54.80	94.30	-8.70	-34.00	25.00	NC	
Vietnam	0	3.2	0	0	8	2739.82	0.00	-1.45	55.30	1.08	42.60	-85.00	0.20	38.80	58.14	-8.40	-31.00	25.00	NC	