

# PEACEFULNESS OF NATIONS AND THE USE OF INTERNATIONAL FINANCIAL REPORTING STANDARDS

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## ABSTRACT

*The purpose of this paper is to identify any correlations between the use of a standardized accounting framework such as IFRS, and the level of peacefulness of the nations in the world. Not all of the world's 163 nations use a standardized framework to capture financial information or to report with a consistent manner of transparency. However, countries that use a particular systematized reporting framework seem to enhance the economic environment and provide an adequate standard of living among their own inhabitants. To explore this hypothesis, we examined two databases: the 2018 Global Peace Index of 163 ranked countries on their peacefulness (including democracy, transparency, education and material well-being in addition to the economic value of peace and violence) and the IFRS database of countries that require domestic companies to file using IFRS. An analysis of variance (ANOVA) test was applied to the peacefulness index of countries that require IFRS, compared to those that do not. We found that countries that have adopted IFRS are significantly more peaceful compared to those that have not, and that the correlation is not by chance. Future research could study the causation of such a correlation. This research could make a case for consistent use of IFRS around the world and possibly increase the peacefulness of the world.*

## INTRODUCTION

The purpose of this paper is to identify any correlation between the use of a standardized accounting framework such as IFRS, and the peacefulness of our worlds' nations. Not all of our world's 163 nations require use of a standardized framework to capture financial information or to report with a consistent manner of transparency for reporting entities. Yet countries that require this systematized reporting framework seem to maintain an appropriate economic environment and provide an adequate standard of living among their own inhabitants.

This research is important because "modern economies rely on cross-border transactions and the free flow of international capital. More than a third of all financial transactions occur across borders, and that number is expected to grow. IFRS standards address this challenge by providing a high quality, internationally recognized set of accounting standards that bring transparency, accountability and efficiency to financial markets around the world." (IFRS)

IFRS is a conceptual framework for financial reporting that helps corporations, governments and other investing entities create a conscious movement towards more informed

research decisions about economic transactions. Unlike U.S. GAAP, IFRS helps link world economies.

The Global Peace Index (2018) considers issues around safety and security, global conflicts and the state of militarization. Taking these two frameworks into consideration, the quality of consistent accounting reporting standards might be better able to move global neighbors to a more peaceful state of existence.

To explore our hypothesis of a relationship between good accounting and peacefulness, we examined two databases: the 2018 Global Peace Index of 163 ranked countries on their peacefulness (including democracy, transparency, education and material well-being in addition to the economic value of peace and violence) and the IFRS database of countries that require domestic companies to file financial information using IFRS. A Chi-square goodness of fit test was used to examine the strength of association between the two categorical variables: a 3 X 2 matrix represented by three peacefulness levels and a categorical (yes or no) variable of use of IFRS for domestic filings. An ANOVA test was performed to determine whether there was a difference between the peacefulness of states that mandated IFRS compared to those that had not. One hundred and thirty-nine countries have adopted IFRS, and 24 have not.

Our results indicate that there is a significant correlational relationship between peacefulness of countries and the use of IFRS for financial reporting that is not due to chance.

## LITERATURE REVIEW

Beattie (2018) explains that bartering and keeping track of economic transactions started four thousand years ago. The purpose of this pre-accounting phenomena was to keep people from entering into disputes. Bookkeeping emerged from the bartering system to handle a cash and commerce economic society. It appears that accounting actually started to reduce conflicts between exchanging economic players.

Phillips & Axelrod (2004) documents the history of war and states that of 1,763 wars, 1,640 (or 90%) were caused, not by religion, but by economic factors such as access to scarce resources, imperialism and population growth. And 98% of casualties of war were also due to economic underpinnings and not religion.

Zaidi & Huerta (2014) concludes that the adoption and enforcement of rules and laws of a comprehensive accounting framework always precedes a country's economic growth. IFRS adoption leads to improved disclosure, increased transparency (reducing agency cost, estimation of risk, information asymmetry and uncertainly while increasing comparability and credibility.) This transparency leads to more investors, better market liquidity and lower costs of capital leading to more efficient capital markets, and economic growth that ensues in the adapting country.

Fino (2007) indicates the need for accounting in the role of economic growth in developing countries. Accounting is necessary to promote a successful economic planning process. But as IFRS is introduced into developing countries, the success depends on the government's ability to impose and enforce the standards, given the country's particular environment or circumstances.

Kubiskova (2016) finds that the adoption of IFRS in the Czech Republic (#7 on the 2018 Global Peace Index) has "contributed to greater cultivation of the economic environment and facilitated international operations" (where foreign parents of Czech Republic companies are required to use IFRS.)

Lastly, the Global Peace Index of 2018 ("GPI") has studied the relationship between business, peace and prosperity. It has found that in the last 70 years, per capita economic growth

has been 3X higher in highly peaceful countries when compared to countries with low levels of peace. (The global impact of violence is approximately \$2,000 per person or 12.4% of annual GDP globally.) In the last 10 years GDP has been 7X higher in countries that increased peacefulness. The GPI has found that interest rates and rates of inflation are more stable in peaceful countries and foreign investment is 2X higher in peaceful countries. And if corruption has any effect on economic growth, from 2005 to 2016, 101 countries out of 163 (or 60%) had worsening levels of corruption.

## RESEARCH METHODS

We hypothesized a correlation between good global accounting reporting frameworks and the peacefulness of a nation. Our research methods included exploring two databases: the IFRS database of countries that require domestic companies to file using IFRS and the 2018 Global Peace Index that ranks the peacefulness of 163 countries. We wanted to examine the consistent use of a global set of generally accepted accounting principles and their association with the peacefulness of nations. A Chi-Square goodness of fit test was used to examine the strength of association between two categorical variables: a 3 X 2 matrix represented by 3 peacefulness levels (high, medium, low) and a categorical (yes or no) variable of use of IFRS for domestic filings. Table 1, Table 2 and Table 3 provide data on the contents of this 3 X 2 matrix.

Table 1 illustrates the 2018 Global Peace Index classification into a) high peacefulness [countries 1 to 54]; b) medium peacefulness [countries 55 to 108]; and c) low peacefulness [countries 109 to 163]. Peacefulness Rankings begin with #1 being the most peaceful nation and #163 the least peaceful nation.

<b>TABLE 1</b>					
<b>2018 Global Peace Index Rankings N = 163</b>					
<b>2018 Global Peace Index Ranking [High]</b>	<b>Name of Nation</b>	<b>2018 Global Peace Index Ranking [Medium]</b>	<b>Name of Nation</b>	<b>2018 Global Peace Index Ranking [Low]</b>	<b>Name of Nation</b>
1.	Iceland	55.	Indonesia	109.	Algeria
2.	New Zealand	56.	Qatar	110.	Cote d'Ivoire
3.	Austria	57.	United Kingdom	111.	Guatemala
4.	Portugal	58.	Montenegro	112.	China
5.	Denmark	59.	Timor-Leste	113.	Thailand
6.	Canada	60.	Vietnam	114.	Tajikistan
7.	Czech Republic	61.	France	115.	Djibouti
8.	Singapore	62.	Cyprus	116.	El Salvador
9.	Japan	63.	Liberia	117.	Guinea-Bissau
10.	Ireland	64.	Moldova	118.	Honduras
11.	Slovenia	65.	Equatorial Guinea	119.	Turkmenistan
12.	Switzerland	66.	Argentina	120.	Armenia
13.	Australia	67.	Sri Lanka	121.	United States of America
14.	Sweden	68.	Nicaragua	122.	Myanmar
15.	Finland	69.	Benin	123.	Kenya
16.	Norway	70.	Kazakhstan	124.	Zimbabwe
17.	Germany	71.	Morocco	125.	South Africa
18.	Hungary	72.	Swaziland	126.	Rep of the Congo
19.	Bhutan	73.	Oman	127.	Mauritania
20.	Mauritius	74.	Peru	128.	Niger
21.	Belgium	75.	Ecuador	129.	Saudi Arabia
22.	Slovakia	76.	The Gambia	130.	Bahrain
23.	Netherlands	77.	Paraguay	131.	Iran
24.	Romania	78.	Tunisia	132.	Azerbaijan
25.	Malaysia	79.	Greece	133.	Cameroon
26.	Bulgaria	80.	Burkina Faso	134.	Burundi
27.	Croatia	81.	Cuba	135.	Chad
28.	Chile	82.	Guyana	136.	India
29.	Botswana	83.	Angola	137.	Philippines
30.	Spain	84.	Nepal	138.	Eritrea
31.	Latvia	85.	Trinidad & Tobago	139.	Ethiopia
32.	Poland	86.	Mozambique	140.	Mexico
33.	Estonia	87.	Macedonia (FYR)	141.	Palestine
34.	Taiwan	88.	Haiti	142.	Egypt
35.	Sierra Leone	89.	Bosnia & Herzegovina	143.	Venezuela
36.	Lithuania	90.	Jamaica	144.	Mali
37.	Uruguay	91.	Dominican Republic	145.	Colombia
38.	Italy	92.	Kosovo	146.	Israel
39.	Madagascar	93.	Bangladesh	147.	Lebanon
40.	Costa Rica	94.	Bolivia	148.	Nigeria
41.	Ghana	95.	Gabon	149.	Turkey
42.	Kuwait	96.	Cambodia	150.	North Korea
43.	Namibia	97.	Guinea	151.	Pakistan
44.	Malawi	98.	Jordan	152.	Ukraine
45.	UAE	99.	Togo	153.	Sudan
46.	Laos	100.	Papua New Guinea	154.	Russia
47.	Mongolia	101.	Belarus	155.	Central African Rep
48.	Zambia	102.	Georgia	156.	Dem. Rep. Congo
49.	South Korea	103.	Rwanda	157.	Libya
50.	Panama	104.	Lesotho	158.	Yemen
51.	Tanzania	105.	Uzbekistan	159.	Somalia
52.	Albania	106.	Brazil	160.	Iraq
53.	Senegal	107.	Uganda	161.	South Sudan
54.	Serbia	108.	Kyrgyz Republic	162.	Afghanistan
				163.	Syria
	n = 54		n = 54		n = 55
<b>Total N = 163</b>					

Table 2 illustrates the mandatory (or not) use of IFRS by these 163 countries. The IFRS database consists of 139 countries that are mandated to use IFRS for national reporting by domestic companies and 24 countries that do not mandate such use.

<b>Table 2</b>				
<b>International Financial Reporting Standards – Use by Country</b>				
<b>Mandatory Use in Domestic Filings vs. Non-Mandatory Use in Domestic Filings</b>				
<b>IFRS Mandated by Domestic Filings n = 139</b>				<b>IFRS NOT Mandated for Domestic Filings n = 24</b>
Argentina	Mauritius	Angola	Lesotho	Albania
Australia	Moldova	Armenia	Liberia	Indonesia
Austria	Mongolia	Azerbaijan	Macedonia	Japan
Belgium	Montenegro	Bahrain	Mali	Madagascar
Bhutan	Morocco	Bangladesh	Mauritania	Nicaragua
Botswana	Mozambique	Belarus	Mexico	Panama
Bulgaria	Namibia	Benin	Myanmar	Paraguay
Canada	Netherlands	Bosnia and Herzegovina	Nepal	Switzerland
Chile	New Zealand	Brazil	Niger	Vietnam
Costa Rica	Norway	Burkina Faso	Palestine	Bolivia
Croatia	Oman	Burundi	Papua New Guinea	China
Cyprus	Peru	Cambodia	Philippines	Egypt
Czech Republic	Poland	Cameroon	Republic of the Congo	Guatemala
Denmark	Portugal	Chad	Rwanda	Honduras
Ecuador	Qatar	Colombia	Saudi Arabia	India
Equatorial Guinea	Romania	Cuba	South Africa	Thailand
Estonia	Senegal	Djibouti	Sri Lanka	United States
Finland	Serbia	Dominican Republic	Tajikistan	Uzbekistan
France	Sierra Leone	El Salvador	Trinidad and Tobago	Lebanon
Germany	Singapore	Eritrea	Turkmenistan	Afghanistan
Ghana	Slovakia	Ethiopia	Uganda	DPR Korea
Greece	Spain	Gabon	Venezuela	Libya
Hungary	Swaziland	Gambia	Zimbabwe	South Sudan
Iceland	Sweden	Georgia	Central African Republic	Sudan
Ireland	Taiwan	Guinea	Democratic Republic of the Congo	
Italy	Tanzania	Guinea-Bissau	Republic of the Congo	
Kazakhstan	Timor-Leste	Guyana	Iraq	
Korea Republic	Togo	Haiti	Nigeria	
Kosovo	Tunisia	Iran	Pakistan	
Kuwait	United Arab Emirates	Israel	Russia	
Laos	United Kingdom	Ivory Coast	Somalia	
Latvia	Uruguay	Jamaica	Syria	
Lithuania	Zambia	Jordan	Ukraine	
Malawi	Algeria	Kenya	Yemen	
Malaysia		Kyrgyzstan	Turkey	
<b>Total of 139 Countries</b>				<b>Total of 24 Countries</b>
<b>Total = 163 Countries</b>				

Table 3 illustrates the three domains used by the 2018 Global Peace Index to measure peacefulness: a) safety and security; b) on-going conflict and c) militarization. It also illustrates the 23 categories underlying each of these three domains.

<b>TABLE 3: Components of the Global Peace Index Calculation</b>	
	<b>a) Safety and Security</b>
1	Perceptions of Criminality
2	Police Rate
3	Homicide Rate
4	Incarceration Rate
5	Access to Small Arms
6	Violent Demonstrations
7	Violent Crime
8	Political Instability
9	Political Terror Scale
10	Terrorism Impact
11	Refugees & IDPs
	<b>b) Ongoing Conflict</b>
1	Intensity of Internal Conflicts
2	Internal Conflicts Fought
3	Deaths from Internal Conflict
4	Neighboring Countries Relations
5	External Conflicts Fought
6	Deaths from External Conflicts
	<b>c) Militarization</b>
1	Weapons Imports
2	Military Expenditures (% GDP)
3	Armed Services Personnel Rate
4	UN Peacekeeping Funding
5	Nuclear and Heavy Weapons
6	Weapons Exports

Table 4 describes the breakdown of peacefulness compared to IFRS mandated use in all 163 countries. The countries are grouped based on their peacefulness (High Peace, Medium Peace, and Low Peace), and this is compared to IFRS mandated use.

<b>Table 4: Countries Listed by Peacefulness Cross-tabbed With IFRS Mandate</b>						
<b>Global Peace Index</b>	<b>Countries Mandating Use of IFRS</b>			<b>Countries Allowing Optional or No Use of IFRS</b>	<b>Total Countries</b>	
<b>High Peace</b>	49 Iceland New Zealand Austria Portugal Denmark Canada Czech Republic Singapore Ireland Slovenia Australia Sweden Finland Norway Germany Hungary	Bhutan Mauritius Belgium Slovakia Netherlands Romania Malaysia Bulgaria Croatia Chile Botswana Spain Latvia Poland Estonia Taiwan Sierra Leone	Lithuania Uruguay Italy Costa Rica Chana Kuwait Namibia Malawi UAE Laos Mongolia Zambia South Korea Tanzania Senegal Serbia	5 Japan Switzerland Madagascar Panama Albania	54	<b>Total Countries</b>
<b>Medium Peace</b>	48 Qatar United Kingdom Montenegro Timor-Leste France Cyprus Liberia Moldova Equatorial Guinea Argentina Sri Lanka Benin Kazakhstan Morocco Swaziland Oman Peru	Ecuador The Gambia Tunisia Greece Burkina Faso Cuba Guyana Angola Nepal Trinidad & Tobago Mozambique Macedonia (FYR) Haiti Bosnia & Herzegovina Jamaica	Dominican Republic Kosovo Bangladesh Gabon Cambodia Guinea Jordan Togo Papua New Guinea Belarus Georgia Rwanda Lesotho Brazil Uganda Kyrgyz Republic	6 Indonesia Vietnam Nicaragua Paraguay Bolivia Uzbekistan	54	<b>Total Countries</b>
<b>Low Peace</b>	42 Algeria Cote d'Ivoire Tajikistan Djibouti El Salvador Guinea-Bissau Turkmenistan Armenia Myanmar Kenya Zimbabwe South Africa Rep of the Congo Mauritania	Niger Saudi Arabia Bahrain Iran Azerbaijan Cameroon Burundi Chad Philippines Eritrea Ethiopia Mexico Palestine Venezuela	Mali Colombia Israel Nigeria Turkey Pakistan Ukraine Russia Central African Rep Dem. Rep. Congo Yemen Somalia Iraq Syria	13 Guatemala China Thailand Honduras United States of America India Egypt Lebanon North Korea Sudan Libya South Sudan Afghanistan	55	<b>Total Countries</b>
	139			24	163	<b>Total Countries</b>

## RESULTS

### ANOVA

The Global Peace Index generates a calculated value that measures the degree of peacefulness within a country. This calculated value is used to determine each country's global ranking (#1 to #163). For 2018, the country with the lowest value (most peaceful) is Iceland, with a score of 1.096. The country with the highest value (least peaceful) is South Sudan, with a value of 3.599.

We wanted to conduct an analysis that determined whether there was a difference between the peacefulness of nations that mandated IFRS compared to those that had not. One hundred thirty-nine countries have adopted IFRS, and 24 have not. The mean peacefulness value for countries that have mandated IFRS is 2.06309, while the mean for those who allow IFRS to be optional is 2.32554 (see Table 5).

<b>IFRS Adoption</b>	<b>Mean</b>	<b>Number of Countries</b>	<b>Std. Deviation</b>
<b>Y</b>	2.06309	139	0.487516
<b>N</b>	2.32554	24	0.602181
Average Mean for all Countries	2.10174	163	0.51249

An analysis of variance (ANOVA) test was applied to these two groups. The analysis resulted in an F value of 5.517 with a significance level of .02. There is a significant difference between the results for these two groups. Countries that have adopted IFRS are significantly more peaceful compared to those that have not.

### Chi Square

Table 6 presents a 3 X 2 Chi-Square that looks like this:

<b>Global Peace Index Rankings of 2018</b>	<b>Countries Mandating Use of IFRS</b>	<b>Countries Allowing Optional Use of IFRS</b>	<b>Total Countries</b>	
High	49	5	54	Total Countries
Medium	48	6	54	Total Countries
Low	42	13	55	Total Countries
Total Countries	139	24	163	

The results of this 3 X 2 matrix, with 2 degrees of freedom, has a Chi Square Statistic of 5.3251, and a p value of .069771, significant at the  $p < .10$  level. The results of this Chi-Square goodness of fit test, along with the ANOVA test, prove our hypothesis. The use of IFRS and the peacefulness of a nation are not independent of each other and do have a significant correlational relationship. It confirms that countries that have adopted IFRS are significantly more peaceful.



## DISCUSSION

The Chi Square and ANOVA results give us confidence about the association between the use of IFRS and the peacefulness of nations. It measures how well the observed distribution of data fits with the distribution that is expected, assuming the variables are independent. We certainly found that to be true.

However, the use of IFRS might not be the CAUSE of more peace and prosperity. Peacefulness in a country may be influenced by the safety of its citizens, the relationship between nation neighbors (such as India and Pakistan), or the build-up of militarization (all of which have economic impacts that need to be measured.) The use of IFRS may just be “noise” and obscuring the relationship between peacefulness and the use of IFRS. However, “there is no correlation without causation” (Kelleher 2016). According to Kelleher, if a) the use of IFRS does not increase peace and b) peace is not caused by the use of IFRS, BUT the two are correlated, then there must be some common cause of the two. “It may not be a direct cause of each of them, but it’s there somewhere “upstream” in the picture.”

Our research did not control or include hidden common causes of the two phenomena but our results lead to interesting speculation. What if good use of IFRS could and does promote a more peaceful world? The significance of this research is a challenge to continue studying the relationship between accounting and peace.

## CONCLUSION

Our objective in this paper was to study the relationship between the use of a single high quality global accounting standard versus other accounting standards across the countries of the world to examine the result on peacefulness of those countries. A major finding is that there is a strong and significant correlation between countries that use IFRS and the existence of higher peacefulness in those countries. Implications of this study could include: a) policy implications; b) a move for non-peaceful nations to better accounting standards; c) the creation of more awareness of the role of accounting in creating a better world and; d) moving the United States toward an IFRS framework.

## FUTURE RESEARCH

To build on our research findings, we will continue to research any basis for causation of IFRS use and peacefulness or alternatively, peacefulness causing the use of IFRS. Based on research by Zaid & Huerta (2014), a country with mandated IFRS use, but with little or no enforcement of auditing and disciplinary procedures for non-compliance, and other rules and laws -- makes reliable financial reporting doubtful. We can study countries that use IFRS but are not peaceful. What unique forces occur in these countries for them to use IFRS? We could also examine the 28 European Union countries, all of whom are mandated to use IFRS, comparing their peacefulness differences. For example, France is the most un-peaceful European Union country ranked by the 2018 Global Peace Index at #61 while Austria is ranked #3. A trend study from 2007, when the first Global Peace Index was developed, to present time, could be investigated. Another study might include the country of Russia (very un-peaceful at #154 on the Global Peace scale) and the subset of countries over which Russia has influence. An examination of the 12 countries that rank as the most un-peaceful would also be possible. We also could study countries

with poor economic development and good economic development and their relationship with national vs IFRS reporting standards.

Lastly, the Global Peace Index of 2018 also produces a “Positive Peace” index that reports that the most peaceful countries in the world have better sustainable development goals such as: a) acceptance of the rights of others; b) equitable distribution of resources; c) free flow of information; d) good relations with neighbors; e) high levels of human capital; f) a low level of corruption; g) sound business environments and h) well-functioning governments. The Positive Peace Index reports robust economic development and higher GDP growth, strong domestic currencies and appreciation in exchange rates. These characteristics could be studied against the effectiveness of global accounting standards.

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