CALCULATION OF POVERTY RATE

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Abstract:

This study highlights how the Transparency International Index can be used to estimate the prevalence of bribery in countries where data are not available and how the Corruption Perceptions Index can be used to estimate poverty rates. The text emphasizes that these estimations are not accurate and should be considered rough estimates and that other factors may also impact poverty rates. Overall, the text underscores the negative impact of bribery on economic growth and development as well as the need for transparency and accountability to combat corruption.

Keywords: *Global Transparency, CPI, GCB, Poverty*

Ethical Compliance statement: All procedures involving human participants in this study were conducted in accordance with the ethical standards of the institutional and/or national research committee, as well as the 1964 Helsinki Declaration and its later amendments, or comparable ethical standards.

INTRODUCTION:
Knowing the poverty rate in a particular area or country can provide several benefits. Identifying those who are most in need: Knowing the poverty rate can help policymakers and aid organizations identify those who are most in need of assistance. This can help ensure that resources are directed toward those who need them the most. Measuring progress: Poverty rates can be used to measure progress in poverty reduction over time. By tracking poverty rates, policymakers can evaluate the effectiveness of poverty reduction programs and policies. Policy decisions: Poverty rates can inform policy decisions related to poverty reduction. For example, policymakers may use poverty rates to determine the level of funding for social welfare programs or to identify areas where economic development is most needed. Attracting investment: Investors may use poverty rates to identify areas with untapped economic growth potential. Investing in these areas can help create jobs and stimulate economic activity. Advocating for change: Poverty rates can be used to raise public awareness of poverty and advocate policy changes that address the root causes of poverty. By shedding light on poverty, advocates can help build support for poverty-reduction initiatives.

According to government sources, there is a paradox in which the poverty rate in Denmark is 12.3%, while that in Ukraine is 1.6%, knowing that the transparency rate of Denmark is much better than that of Ukraine. This is a natural result becausethe state controls the evidence of poverty for political and economic considerations. However, we find that the WorldBank uses a rate of $2.15 to determine the poverty rate. What does this occur in Tokyo? I suggest that the World Bankuses "the value of a Big Mac meal in each country as an indicator of the poverty rate similar to the Big Mac Index."

Methods:
Transparency International publishes data on the Transparency and Bribery Rates of countries worldwide. Knowing these rates can lead to a poor Poverty Rate.

Negative Impact of Bribery on Economic Growth and Development. Bribery has far-reaching negative consequences, which can hinder economic growth and development. This can lead to misallocation of resources and inefficient use of capital, which can, in turn, have a negative impact on economic growth. Bribery can create a culture of corruption where individuals and organizations come to expect and rely on bribes as a way of doing business, further perpetuating corrupt practices. This culture can erode the legitimacy of the legal system, as well as public trust in the government and institutions.

To accurately assess the prevalence and impact of bribery, it is crucial to establish a relationship between transparency and the incidence of bribery. By promoting transparency and accountability, it becomes more difficult for individuals and organizations to engage in corrupt practices, and it also becomes easier to detect and punish such behavior. In this way, transparency measures can help combat bribery and foster a fair and equitable business environment, ultimately promoting economic growth and development.
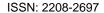
Estimating the prevalence of bribery in countries with no available data. In cases where data on the prevalence of bribery are not available for a country, we can estimate the potential range of the percentage of bribery based on the country's rank on the Transparency International list. This estimation can help provide some insight into the potential extent of bribery in a particular country, despite the lack of available data. The table below shows the estimated range of bribery percentages based on the country's rank in the Transparency International list.

According to the statistics for the year 2022	
CPI	**GCB**
100-90	1
89-80	1-2
79-70	1-10
69-60	2-17
59-50	3-14
49-40	4-39
39-30	8-54
29-1	20-80

Notably, these estimations are based on available data and may not accurately reflect the true extent of bribery in a particular country. However, they can provide guidance for understanding the potential level of bribery in countries where data are not readily available. Notably, these estimations are based on available data and may not accurately reflect the true extent of bribery in a particular country. However, they can provide guidance for understanding the potential level of bribery in countries where data are not readily available. Notably, these estimations are based on available data and may not accurately reflect the true extent of bribery in a particular country. However, they can provide guidance for understanding the potential level of bribery in countries where data are not readily available.

The Transparency Index (CPI) was used to Estimate Poverty Rates. It is possible to use the Corruption Perceptions Index (CPI), which is a component of the Transparency International Index, as an indicator of poverty rates. However, it is

important to note that the CPI only measures corruption perceptions, not actual corruption or poverty rates. To estimate poverty rates using the CPI, we use the following equation:

NonCPI = 100 - Transparency Rate

The transparency rate is the percentage score given to a country by the CPI, which indicates the perception of corruption in that country. By subtracting the transparency rate from 100, we can estimate the non-transparency rate, which can then be used as an indicator of the poverty rates in that country. It is important to note that this is only an estimation, and may not accurately reflect the true poverty rates in a particular country. Other factors, such as income inequality, access to education and healthcare, and political stability, can also impact poverty rates. Nonetheless, using the CPI to estimate poverty rates can provide insight into the potential relationship between corruption and poverty. Then, to calculate the poverty rate, we use the following equation to take the average of the non-transparency rate (NonCPI) and bribery rate (GCB):

$$Poverty = \frac{NonCPI + GCB}{2}$$

After applying the poverty rate calculation method and comparing the results with the data from the World Bank, the findings are presented in the table.

Data for 2022					World Bank data /Year
Country	CPI	GCB	NONCPI (100-CPI)	Our calculation	
Argentina	38	13	62	37.5	42.0/2020
Australia	75	3	25	14	--
Austria	71	9	29	19	14.7/2020
Bangladesh	25	24	75	49.5	24.3/2016
Barbados	65	9	35	22	--
Belgium	73	10	27	18.5	12.7/2020
Botswana	60	7	40	23.5	19.3/2009
Brazil	38	11	62	36.5	--
Bulgaria	43	19	57	38	22.1/2020
Burkina Faso	42	16	58	37	41.4/2018
Cambodia	24	37	76	56.5	17.7/2012
Cameroon	26	48	74	61	37.5/2014
Cape Verde	60	8	40	24	35.0/2015
Chile	67	13	33	23	10.8/2020
China	45	28	55	41.5	0.0/2020
Colombia	39	20	61	40.5	39.3/2021
Costa Rica	54	7	46	26.5	30.0/2020
Côte d'Ivoire	37	34	63	48.5	39.5/2018
Croatia	50	14	50	32	19.2/2020
Cyprus	52	4	48	26	13.8/2020
Czech Republic	56	11	44	27.5	--
D.R. Congo	20	80	80	80	--
Denmark	90	1	10	5.5	12.3/2020
Dominican Republic	32	23	68	45.5	21.0/2019
El Salvador	33	14	67	40.5	26.2/2020
Estonia	74	2	26	14	20.6/2020
Fiji	53	5	47	26	24.1/2019
Finland	87	1	13	7	10.8/2020
France	72	5	28	16.5	14.4/2020
Gabon	29	35	71	53	33.4/2017
Gambia	34	21	66	43.5	48.6/2015
Georgia	56	4	44	24	21.3/2020
Germany	79	3	21	12	16.0/2020
Ghana	43	33	57	45	23.4/2016
Greece	52	9	48	28.5	19.6/2020
Guatemala	24	25	76	50.5	59.3/2014
Guinea	25	42	75	58.5	43.7/2018
Honduras	23	28	77	52.5	48.0/2019
Hong Kong	76	1	24	12.5	--
Hungary	42	17	58	37.5	12.7/2020
India	40	39	60	49.5	21.9/2011
Indonesia	34	30	66	48	9.8/2020

Country					
Ireland	77	5	23	14	12.9/2020
Italy	56	3	44	23.5	20.1/2020
Jamaica	44	17	56	36.5	19.9/2012
Japan	73	2	27	14.5	--
Jordan	47	4	53	28.5	15.7/2018
Kazakhstan	36	17	64	40.5	5.2/2021
Kenya	32	45	68	56.5	36.1/2015
Kyrgyzstan	27	24	73	48.5	25.3/2020
Latvia	59	9	41	25	23.4/2020
Lebanon	24	41	76	58.5	27.4/2011
Lesotho	37	14	63	38.5	49.7/2017
Liberia	26	53	74	63.5	50.9/2016
Lithuania	62	17	38	27.5	20.0/2020
Luxembourg	77	2	23	12.5	18.1/2020
Madagascar	26	27	74	50.5	70.7/2012
Malawi	34	28	66	47	50.7/2019
Malaysia	47	13	53	33	8.4/2019
Maldives	40	2	60	31	5.4/2019
Mali	28	21	72	46.5	44.6/2021
Malta	51	4	49	26.5	16.9/2020
Mauritius	50	5	50	27.5	10.3/2017
Mexico	31	34	69	51.5	43.9/2020
Moldova	39	22	61	41.5	24.5/2021
Mongolia	33	22	67	44.5	27.8/2020
Montenegro	45	10	55	32.5	22.6/2019
Morocco	38	31	62	46.5	4.8/2013
Mozambique	26	35	74	54.5	46.1/2014
Myanmar	23	20	77	48.5	24.8/2017
Namibia	49	11	51	31	17.4/2015
Nepal	34	12	66	39	25.2/2010
Netherlands	80	2	20	11	14.5/2021
New Guinea	30	54	70	62	--
Niger	32	23	68	45.5	40.8/2018
Nigeria	24	44	76	60	40.1/2018
Pakistan	27	25	73	49	21.9/2018
Panama	36	18	64	41	21.5/2019
Peru	36	30	64	47	30.1/2020
Philippines	33	19	67	43	16.7/2018
Poland	55	10	45	27.5	12.0/2021
Portugal	62	3	38	20.5	18.4/2020
Romania	46	20	54	37	22.6/2020
Russia	28	27	72	49.5	12.1/2020
Sao Tome and Principe	45	16	55	35.5	66.7/2017
Senegal	43	15	57	36	46.7/2011
Serbia	36	15	64	39.5	21.7/2019
Sierra Leone	34	52	66	59	56.8/2018
Slovakia	53	11	47	29	11.4/2019
Slovenia	56	4	44	24	11.7/2020
Solomon Islands	42	21	58	39.5	12.7/2012
South Africa	43	18	57	37.5	55.5/2014
South Korea	63	10	37	23.5	--
Spain	60	2	40	21	21.7/2020
Sri Lanka	36	16	64	40	4.1/2016
Sudan	22	24	78	51	46.5/2009
Sweden	83	1	17	9	15.7/2020
Taiwan	68	17	32	24.5	--
Tajikistan	24	29	76	52.5	26.3/2019
Tanzania	38	18	62	40	26.4/2017
Thailand	36	24	64	44	6.8/2020
Togo	30	32	70	51	45.5/2018
Trinidad and Tobago	42	17	58	37.5	--

Tunisia	40	18	60	39	15.2/2015
Turkiye	36	8	64	36	14.4/2020
Uganda	26	46	74	60	20.3/2019
Ukraine	33	23	67	45	1.6/2020
Uzbekistan	31	13	69	41	14.1/2013
Vanuatu	48	21	52	36.5	15.9/2019
Venezuela	14	50	86	68	33.1/2015
Vietnam	42	15	58	36.5	6.7/2018
Zambia	33	18	67	42.5	54.5/2015
Zimbabwe	23	25	77	51	38.3/2019

For example, Spain's poverty rate according to our calculations is 21%; see the table compared to the poverty rate from the World Bank for the year 2020, Spain's poverty rate is 21.7%. For example, in Italy, poverty is 23.5% according to the table, and 20.1% according to the World Bank for the year 2020. For example, in Mali, poverty is 46.5%, and it is 41.9% according to the World Bank for 2020. Finally, the Argentinian poverty rate according to our calculations is 37.5%, which is 42%, according to the World Bank for the year 2020.

Results:
We observe that the poverty rate calculation law:

$$\text{Poverty} = \frac{\text{NonCPI} + \text{GCB}}{2}$$

is more aligned with World Bank data when a country has a higher transparency rate. Conversely, when a country has a lower transparency rate, the poverty rate calculation law tends to deviate further from the World Bank data. These outcomes are expected because lower transparency rates are associated with greater uncertainty and potential biases in data collection and reporting.

Conclusion:
It's important to note that this method may not provide an accurate or comprehensive measure of the Global Transparency or poverty rates, as they are complex issues with many contributing factors beyond corruption and transparency also the World Bank, Poverty, and Inequality Platform data are compiled from official government sources or are computed by World Bank staff using national (i.e., country–specific) poverty lines.

References:
[1]. Transparency International
[2]. World Bank