“The ability of trust to influence GDP per capita”

AUTHORS	Dmytro Zakharov https://orcid.org/0000-0003-3423-0093 https://www.webofscience.com/wos/author/record/Q-2636-2018 Svitlana Bezruchuk https://orcid.org/0000-0001-7374-7875 Viktoriia Poplavska https://orcid.org/0000-0002-0531-9796 Svitlana Laichuk https://orcid.org/0000-0001-7939-1195 http://www.researcherid.com/rid/X-3241-2019 Hanna Khomenko https://orcid.org/0000-0002-6337-3635 http://www.researcherid.com/rid/C-5373-2019

ARTICLE INFO	Dmytro Zakharov, Svitlana Bezruchuk, Viktoriia Poplavska, Svitlana Laichuk and Hanna Khomenko (2020). The ability of trust to influence GDP per capita. *Problems and Perspectives in Management*, *18*(1), 302-314. doi:10.21511/ppm.18(1).2020.26
DOI	http://dx.doi.org/10.21511/ppm.18(1).2020.26
RELEASED ON	Monday, 30 March 2020
RECEIVED ON	Thursday, 19 September 2019
ACCEPTED ON	Wednesday, 11 March 2020

JOURNAL	"Problems and Perspectives in Management"
ISSN PRINT	1727-7051
ISSN ONLINE	1810-5467
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
29	3	3

BUSINESS PERSPECTIVES

LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10,
Sumy, 40022, Ukraine

www.businessperspectives.org

Dmytro Zakharov (Ukraine), **Svitlana Bezruchuk** (Ukraine),
Viktoriia Poplavska (Ukraine), **Svitlana Laichuk** (Ukraine), **Hanna Khomenko** (Ukraine)

THE ABILITY OF TRUST TO INFLUENCE GDP PER CAPITA

Abstract

The article explores social capital and its impact on economic development. This paper aims to analyze the role of trust in the process of growth and economic development. The interdependence of GDP per capita and trust level as an element of social capital has been analyzed. The correlation between trust and GDP per capita in 43 countries has been reflected. World Values Survey (WVS) was used to obtain empirical trust data. To determine the relationship between confidence level and GDP per capita, the correlation model was built. The regression coefficient b = 0.834 shows the average change in the effective indicator. Thus, with an increase of 1 unit of trust, GDP per capita rises by an average of 0.834. The coefficient of determination indicates that 60.68% of cases of changes in trust lead to a change in GDP per capita. The result suggests that trust serves as a tool in assisting the economic growth and company's value. The study examines the tools that help to build trust, as economic development as a whole depends on it.

Keywords social capital, trust, social networks, social norms, business social responsibility

JEL Classification A13, M14, M21, M48, O11

Received on: 19th of September, 2019
Accepted on: 11th of March, 2020
Published on: 30th of March, 2020

Dmytro Zakharov, Postgraduate Student, Faculty of Business and Services, Department of Accounting and Auditing, Zhytomyr Polytechnic State University, Ukraine. (Corresponding author)

Svitlana Bezruchuk, Candidate of Economics, Associate Professor, Faculty of Business and Services, Department of Accounting and Auditing, Zhytomyr Polytechnic State University, Ukraine.

Viktoriia Poplavska, Postgraduate Student, Faculty of Business and Services, Department of Accounting and Auditing, Zhytomyr Polytechnic State University, Ukraine.

Svitlana Laichuk, Candidate of Economics, Associate Professor, Faculty of Business and Services, Department of Accounting and Auditing, Zhytomyr Polytechnic State University, Ukraine.

Hanna Khomenko Candidate of Economics, Faculty of Business and Services, Department of Accounting and Auditing, Zhytomyr Polytechnic State University, Ukraine.

Conflict of interest statement:
Author(s) reported no conflict of interest

INTRODUCTION

The potential and processes of an economic network in a post-industrial economy directly depend on trust at both the macro and micro levels. Purposeful activity on the formation and development of trust allows using social capital to increase the efficiency and competitiveness of both individual enterprises and the entire economic system.

The social capital analysis requires assessing the factors of the formation and destruction of trust in the country. Such factors are the firm's stable relationships with counterparties, staff stability, reputation in the media, independent analytical rankings, investment rankings, etc.

For research, social capital is important to generate output data, which includes data on key stakeholders of the enterprise, their relationships, cost of social capital formation, factors of formation and destruction of trust in the company from internal and external stakeholders (business capital formation).

This paper investigates whether social capital has an economic payoff. The paper focuses primarily on the role of trust, as authors feel it is the most important indicator of social capital. The empirical measure that they use to proxy for trust is based on WVS question. The results of Knack and Keefer (1997) point to a statistically significant effect of trust on growth. They state: "The coefficient for trust indicates that a ten percentage point rise in that variable is associated with an increase

http://dx.doi.org/10.21511/ppm.18(1).2020.26

in growth of four-fifths of a percentage point". Trust – again measured by the "generally speaking" question – has a positive and significant impact on economic growth.

Macroeconomic reasoning regarding the transaction-cost-reducing effect of trust is based on the micro insights derived mainly from management and organization studies. Given that trust is a multi-level phenomenon, its measurement becomes even more important. Implicitly, many economists assume that the measurement of trust using this World Values Survey question captures the micro aspects.

The article does not intend to diminish the value of past research, but rather to broaden the correlations between social capital and economic development, not only at the state but also at the enterprise level, based on their past results.

1. THEORETICAL BASIS

The results of the existing research on social capital indicate that trust is an important factor contributing to economic growth as it has an impact on the macro and micro levels of the economy.

Arrow (1972) attributed the backwardness of an economy with a low level of trust, or none at all since any economic transaction has a trust factor. Thus, he argued that a significant number of developing countries could not accelerate economic development due to a lack of mutual trust.

Fukuyama (1995) noted that trust is a key factor of economic development. He considered social capital as a form of materialized trust. People without trust can only cooperate within a system of formal rules and regulated systems. Such systems lead to unjustified growth in transaction costs, which hinder business growth and, as a result, the state. That is, the mistrust that is widespread in society imposes additional taxes on all economic activity that a high-level society does not pay.

Putnam, Leonardi and Nanetti (1993) examined the correlation between economic development and trust. They showed that social capital contributes to economic growth in various ways, but there is a threat that economic development can destroy social capital.

The impact of the war on the economy and society is undeniable. The study of social capital raises the question of its impact in times of war. First, its manifestation is observed in the association of citizens aimed at pursuing any common interests. This trend is confirmed by Tocqueville (1864). He succeeded in proving that the desire of the Americans to unite to meet the common needs and common interests was a prerequisite for democracy. Social capital, which is the origin of the group, contributes to the growth of cooperation, improves management efficiency and the level of socialization. The result is a strengthening of collective norms and trust.

Hilary and Huang (2016) note that companies operating in regions where trust is more prevalent (using a general social trust survey) are less affected by agency problems, are more profitable, and have higher rates, while Hasan, Hoi, Wu, and Zhang (2016) found that firms operating in regions with higher levels of social capital have moderately better borrowing conditions and lower transaction costs. Social networks as an element of social capital are the subject of individual research. Networks that are more trusted than other types of networks tend to share more complete and confidential information. This is due to sustained interaction and a situation where counterparties trust each other.

According to Rudziewicz (2016), lack of trust in the enterprise or between enterprises destroys social responsibility. The effects of distrust lead to poor product and service quality, diminishing customer and employee satisfaction, as well as company profits, limiting its development prospects.

Boele and van Vlissingen (2018) note that a strong reputation, transparent reporting, and a 'do not harm' approach are certainly important ways to maintain trust. Collectively, all are necessary inputs to enhancing trust, but other shifts and new capabilities are required in response to the current trust crisis.

http://dx.doi.org/10.21511/ppm.18(1).2020.26

Whiteley (2000) analyzed GDP per capita growth in 34 countries and found a relationship between trust and economic growth. All trust indicators are positively correlated, and they have the same significant impact as social capital on economic growth.

Empirical studies of Neira, Vázquez, and Portela (2008), Helliwell and Putnam (1995), Peiró-Palomino and Tortosa-Ausina (2015) indicate that the level of social capital region or country is positively correlated with its economic indicators. Society and business must clearly understand that trust is a real investment that requires resources: financial, intellectual, labor, innovation, and more. Formation, existence, and accumulation of social capital is the prerequisites for the development of a modern business environment.

New research on social capital aims at quantifying it at the enterprise level and demonstrating its quantitative and qualitative impact on the firm's economic performance (Engbers, Rubin, & Aubuchon 2017; Oh, Lee, & Bush, 2014). The question of major risks in the creation of social capital and the destruction of trust, especially in times of economic crisis, remains relevant. That is, how companies can influence the preservation or restoration of social capital, formal and informal networks and associations, which may be threatened or destroyed in crises.

Formation of counterparty loyalty occurs at the expense of advertising costs, expansion of the customer base, maintenance of the high quality of products (an increase of the consumer value of the offer), high standards of service, reduction of prices.

Social capital in relation to suppliers is the trust of market contractors, which reduces the degree of uncertainty and riskiness in the enterprise, allows optimizing costs, and improving product quality.

Corporate social responsibility is a tool for increasing the level of trust and the formation of social capital. Research shows the significant benefits of CSR for business. Advantages include increasing the market value (Edmans, 2011; Flammer, 2015; Harjoto & Jo, 2015), reducing the risk and cost of capital raised (Dhaliwal, Radhakrishnan, Tsang, & Yang, 2012; El Ghoul, Guedhami, & Kim, 2017), increasing the level of ease of investment attraction (Cheng, Ioannou, & Serafeim, 2014). The same studies indicate that businesses with better CSR rates minimize information asymmetry both within the firm and between key stakeholders.

Corporate social responsibility generates trust within the enterprise, creates a special internal environment that stimulates innovative processes, propensity for learning and experimentation, which is extremely important for the development of human and intellectual capital. Corporate social responsibility of the enterprise takes into account the values of the main shareholders, customers, and employees, and promotes their trust in the enterprise. Corporate social responsibility is important for achieving a high level of employee satisfaction, improving the efficiency of doing business, innovative activity. Corporate culture has an impact on value growth in three ways: increasing the work motivation and involvement of employees in the work process, increasing the company's reputation as an employer, improving the ethics of communication with clients and partners.

The value of effective corporate social responsibility is reflected in the market value of the enterprise. Complex financial structure and non-transparent corporate governance have a significant impact on cost reduction. The significant role of corporate social responsibility in creating social capital and building trust in an enterprise is conditioned by the fact that it ensures a balance of interests between shareholders, staff, clients, and the public, and determines strategic decisions that promote responsible and ethical business conduct.

Thus, it is corporate social responsibility that the company set of dominant values and behaviors plays a decisive role in the formation of trust at the micro-level.

Lins, Servaes, and Tamayo (2015) found that during the 2008–2009 financial crisis, firms with high social capital, measured as corporate social responsibility (CSR) intensity, had stock returns that were four to seven percentage points higher than firms with low social capital. High-CSR firms also experienced higher profitability, growth, and sales per employee relative to low-CSR firms, and they

http://dx.doi.org/10.21511/ppm.18(1).2020.26

raised more debt. This evidence suggests that the trust between the firm and both its stakeholders and investors, built through investments in social capital, pays off when the overall level of trust in corporations and markets suffers a negative shock.

The data used in the study were obtained from World Values Survey (WVS). WVS is the largest research project to study the values and beliefs of people in the world. Data were used from the latest wave of surveys for 2010–2014. According to the World Values Survey, using a sampling method as a data collection method, a systematic and standardized approach to collecting information through surveys of representatives of different nationalities and residents of different countries, has created a chart that allowed showing the dependence of economic development of 43 countries on the level of trust in society. The main stages of a sample survey are questionnaire, sampling, data collection and analysis.

2. RESULTS

To ensure sustainable economic development, it is important to accumulate not only physical but also social capital. Trust in this case is one of the main representative factors of social capital from an economic point of view, as more and more research shows the dependence of economic growth on social capital.

Knack and Keefer (1997), Zak and Knack (2001), and Beugelsdijk, De Groot, and Van Schaik (2004), have been considered important studies on the dependence of economic development and trust. Beugelsdijk, De Groot, and Van Schaik (2004) found that in contrast to the findings of Knack and Keefer (1997), the results on trust and growth obtained by Zak and Knack (2001) were robust. Zak and Knack (2001) add 12 less developed countries to the sample of 29 countries used by Knack and Keefer, and it results in increased variance on the lower side, i.e., low trust countries, resulting in increased robustness.

Sample-specific effect is shown in Table 1, which is taken from Beugelsdijk, De Groot, and Van Schaik (2004). It shows the effect of adding countries to the sample of Knack and Keefer (1997). Countries are added according to their trust score, from high to low. Using extreme bounds analysis and controlling for a large number of additional variables, the third and fourth columns show the effect on the mean effect size of the estimated coefficient of trust and the fraction of significant estimates of trust, respectively.

Table 1. Effects of the composition of the sample on trust using EBA analysis

Step (N)	Sample (country added to previous sample)	Mean value of estimated coefficient of trust	Fraction of significant coefficients (%)
29	Knack and Keefer sample (29 countries)	0.030	4.5
30 (50)	Greece (GRC)	0.025	0.9
31 (42)	Oman (OAN)	0.036	11.2
32 (37)	New Zealand (NZL)	0.037	16.6
33 (32)	Luxembourg (LUX)	0.036	17.6
34 (26)	Dominican Republic (DOM)	0.038	22.7
35 (22)	Ghana (GHA)	0.040	28.1
36 (22)	Uruguay (URY)	0.042	49.2
37 (21)	Bangladesh (BGD)	0.042	42.7
38 (14)	Venezuela (VEN)	0.043	56.2
39 (10)	Colombia (COL)	0.044	67.2
40 (6)	Philippines (PHL)	0.051	91.6
41 (5)	Peru (PER)	0.061	99.9

The result indicates that countries with weak institutions and low confidence lack economic development. Beugelsdijk, De Groot, and Van Schaik (2004) also found that the effect of the trust variable on growth is dependent on the underlying sample (see column 3 of Table 1).

The work of Arrow (1972) is one of the most important studies concerning the dependence of GDP per capita on the level of trust in society. The study states, "Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a while."

Table 2 presents the results of the application of this method to the sample of Zak and Knack (2001). Next to the variables belonging to the standard

growth model, it shows the results of the two trust variables reflecting the below-mean trust countries and the above-mean trust countries.

Table 2. Sub-sample estimation of trust

Source: Data are taken from Zak and Knack (2001).

Variables	Results
Constant	–1.60 (0.77)*
Initial GDP per capita 1970	–0.274 (0.088)**
Price of investment	0.176 (0.035)**
Years of education	–0.084 (0133)
Trust 1: low trust countries	0.064 (0.028)*
Trust 2: high trust countries	0.009 (0.028)
R-squared	0.54
N	41
Dependent = growth 1970–1992 Method = OLS	

Note: The figure in parentheses reflects the standard error; **p < 0.01,8 p < 0.05.

The mean value of trust in this sample is 32.35 (technically, the two trust variables are created by applying the following spline function trust1 = min (trustinit, 32.35) and trust2 = max (trustinit, 32.36). Table 2 shows that trust is only significant in the low trust part of the sample, coinciding with the developing countries. Besides, it shows that the effect size differs considerably between the two sub-samples, 0.064 in the low trust part and 0.009 in the high trust part.

This implies that, whereas Knack and Keefer have argued that their negative interaction effect suggests that the effect of trust on growth is larger for less developed countries with lower levels of economic development, the results of Table 2 suggest that the trust variable is significant in the developing countries (with low scores on trust) and not significant in developed countries (with high scores on trust).

WVS data for 2014 indicate a stronger correlation between confidence and GDP per capita. The study compared trust levels in 43 countries with their GDP per capita in 2014. The chart below confirms the authors' assumptions.

The linear regression equation:

$$y = bx + a. \quad (1)$$

The estimated regression equation (constructed from sample data) will be of the form:

$$y = bx + a + \varepsilon, \quad (2)$$

where ε – random error (deviation, perturbation), a and b, respectively, of the estimated parameters α and β of the regression model.

Since the deviations ε_i for each particular observation i are random and their values in the sample are unknown, then:

1) from observations x_i and y_i, only estimates of the parameters α and β can be obtained;

2) the estimates of the parameters α and β of the regression model are, respectively, the values of

Source: World Value Survey (2014), IMF (2014).

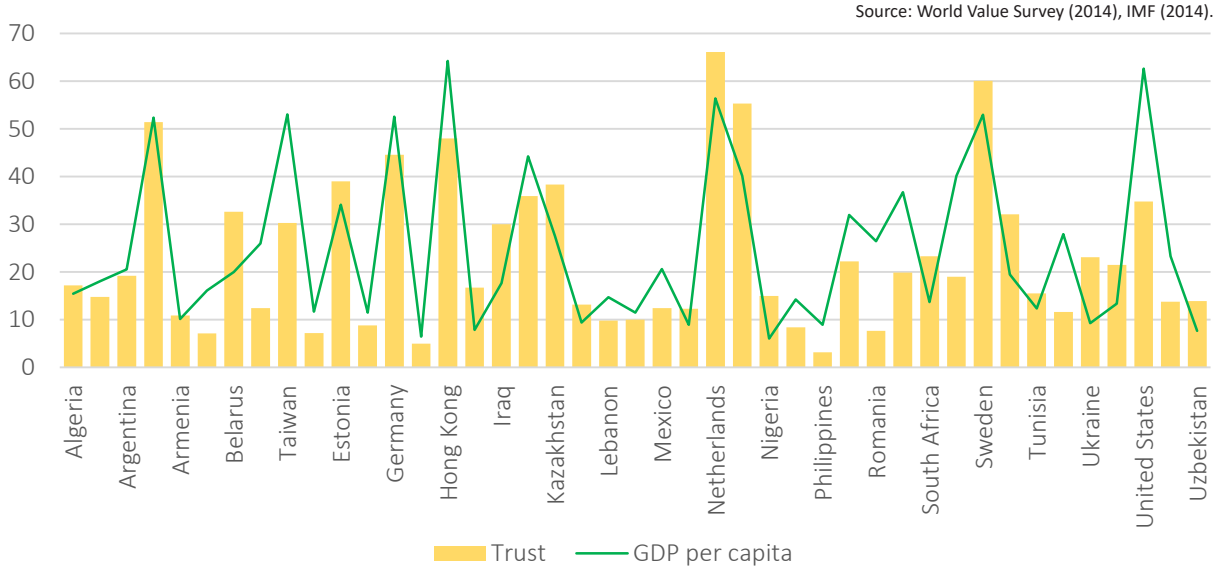

Figure 1. The correlations between trust and GDP per capita

http://dx.doi.org/10.21511/ppm.18(1).2020.26

a and *b*, which are random in nature, because match a random sample; to estimate the parameters α and β, the least-squares method was used.

The least-squares method gives the best (consistent, effective, and unbiased) estimates of the parameters of the regression equation. The criterion can be denoted as follows:

$$S = \sum \left(y_i - y_i^* \right)^2 \to min. \quad (3)$$

The system of normal equations:

$$a \cdot n + b \cdot \sum x = \sum y, \quad (4)$$

Table 3. Regression parameters

Country	*x* (trust)	*y* (GDP per capita)	x^2	y^2	xy
Algeria	17.2	15.44	295.84	238.3936	265.568
Azerbaijan	14.8	18.076	219.04	326.7418	267.5248
Argentina	19.2	20.537	368.64	421.7684	394.3104
Australia	51.4	52.373	2641.96	2742.9311	2691.9722
Armenia	10.9	10.176	118.81	103.551	110.9184
Brazil	7.1	16.154	50.41	260.9517	114.6934
Belarus	32.6	20.003	1062.76	400.12	652.0978
Chile	12.4	25.978	153.76	674.8565	322.1272
Taiwan	30.3	53.023	918.09	2811.4385	1606.5969
Ecuador	7.2	11.718	51.84	137.3115	84.3696
Estonia	39	34.096	1521	1162.5372	1329.744
Georgia	8.8	11.485	77.44	131.9052	101.068
Germany	44.6	52.559	1989.16	2762.4485	2344.1314
Ghana	5	6.452	25	41.6283	32.26
Hong Kong	48	64.216	2304	4123.6947	3082.368
India	16.7	7.874	278.89	61.9999	131.4958
Iraq	30	17.659	900	311.8403	529.77
Japan	35.9	44.227	1288.81	1956.0275	1587.7493
Kazakhstan	38.3	27.55	1466.89	759.0025	1055.165
Jordan	13.2	9.433	174.24	88.9815	124.5156
Lebanon	9.8	14.684	96.04	215.6199	143.9032
Libya	10	11.469	100	131.538	114.69
Mexico	12.4	20.602	153.76	424.4424	255.4648
Morocco	12.3	8.933	151.29	79.7985	109.8759
Netherlands	66.1	56.383	4369.21	3179.0427	3726.9163
New Zealand	55.3	40.135	3058.09	1610.8182	2219.4655
Nigeria	15	6.027	225	36.3247	90.405
Peru	8.4	14.224	70.56	202.3222	119.4816
Philippines	3.2	8.936	10.24	79.8521	28.5952
Poland	22.2	31.939	492.84	1020.0997	709.0458
Romania	7.7	26.447	59.29	699.4438	203.6419
Slovenia	19.9	36.746	396.01	1350.2685	731.2454
South Africa	23.3	13.675	542.89	187.0056	318.6275
Spain	19	40.139	361	1611.1393	762.641
Sweden	60.1	52.984	3612.01	2807.3043	3184.3384
Thailand	32.1	19.476	1030.41	379.3146	625.1796
Tunisia	15.5	12.372	240.25	153.0664	191.766
Turkey	11.6	27.956	134.56	781.5379	324.2896
Ukraine	23.1	9.283	533.61	86.1741	214.4373
Egypt	21.5	13.366	462.25	178.65	287.369
United States	34.8	62.606	1211.04	3919.5112	2178.6888
Uruguay	13.8	23.274	190.44	541.6791	321.1812
Uzbekistan	13.9	7.665	193.21	58.7522	106.5435
∑	993.6	1078.35	33600.58	39251.835	33796.2383

$$a \cdot \sum x + b \cdot \sum x^2 = \sum y \cdot x. \quad (5)$$

To calculate the regression parameters, we construct the calculated regression parameters (Table 3).

For the data, the system of equations is as follows:

$$43a + 993.6b = 1078.35, \quad (6)$$

$$993.6a + 33600.58b = 33796.238. \quad (7)$$

Let us multiply the equation (1) of the system by (-23.107), then, the system is obtained being solved by the algebraic addition method.

$$-993.6a - 22959.115b = -24917.433, \quad (8)$$

$$993.6a + 33600.58b = 33796.238. \quad (9)$$

getting $10641.465b = 8878.805,$

where $b = 0.8344$.

Now the coefficient "a" is found from equation (1):

$$\begin{aligned} 43a + 993.6b &= 1078.35, \\ 43a &= 249.33, \\ a &= 5.7984. \end{aligned} \quad (10)$$

The empirical regression coefficients are obtained: $b = 0.8344$, $a = 5.7984$.

Regression equation (empirical regression equation):

$$y = 0.8344x + 5.7984 \quad (11)$$

The empirical regression coefficients a and b are only estimates of the theoretical coefficients βi, and the equation itself reflects only the general tendency in the behavior of the variables in question.

2.1. Parameters of the regression equation

Sample averages:

$$\overline{x} = \frac{\sum x_i}{n} = \frac{993.6}{43} = 23.107, \quad (12)$$

$$\overline{y} = \frac{\sum y_i}{n} = \frac{1078.35}{43} = 25.078, \quad (13)$$

$$\overline{xy} = \frac{\sum x_i y_i}{n} = \frac{33796.24}{43} = 785.959. \quad (14)$$

Sample variances:

$$S^2(x) = \frac{\sum x_i^2}{n} - \overline{x}^2 = \\ = \frac{33600.58}{43} - 23.107^2 = 247.48, \quad (15)$$

$$S^2(y) = \frac{\sum y_i^2}{n} - \overline{y}^2 = \\ = \frac{39251.84}{43} - 25.078^2 = 283.93. \quad (16)$$

Standard deviation:

$$S(x) = \sqrt{S^2(x)} = \sqrt{247.48} = 15.731, \quad (17)$$

$$S(y) = \sqrt{S^2(y)} = \sqrt{283.93} = 16.85. \quad (18)$$

Correlation coefficient b

$$b = \frac{\overline{x \cdot y} - \overline{x} \cdot \overline{y}}{S^2(x)} = \\ = \frac{785.959 - 23.107 \cdot 25.078}{247.48} = 0.8344, \quad (19)$$

$$a = \overline{y} - b \cdot \overline{x} = 5.7984. \quad (20)$$

Covariance:

$$cov(x, y) = \overline{x \cdot y} - \overline{x} \cdot \overline{y} = \\ = 785.959 - 23.107 \cdot 25.078 = 206.48. \quad (21)$$

Communication tightness indicator:

$$r_{xy} = \frac{\overline{x \cdot y} - \overline{x} \cdot \overline{y}}{S(x) \cdot S(y)} = \\ = \frac{785.959 - 23.107 \cdot 25.078}{15.731 \cdot 16.85} = 0.779. \quad (22)$$

The linear correlation coefficient takes values from –1 to +1.

The relationship between the symptoms can be weak and strong (close). Their criteria are graded on the Cheddok scale:

http://dx.doi.org/10.21511/ppm.18(1).2020.26

$$0.1 < r_{xy} < 0.3 : weak;$$
$$0.3 < r_{xy} < 0.5 : moderate;$$
$$0.5 < r_{xy} < 0.7 : noticeable;$$
$$0.7 < r_{xy} < 0.9 : high;$$
$$0.9 < r_{xy} < 1 : very\ high.$$

In this case, the connection between the sign Y and factor X is high and direct.

Besides, the linear pair correlation coefficient can be determined through the regression coefficient b:

$$r_{x,y} = b\frac{S(x)}{S(y)} = 0.834\frac{15.731}{16.85} = 0.779. \quad (23)$$

2.2. Regression equation:

$$y_x = r_{xy} \cdot \frac{x - \overline{x}}{S(x)} \cdot S(y) + \overline{y} = \\ = 0.779\frac{x - 23.107}{15.731}16.85 + 25.078 = \\ = 0.834x + 5.798. \quad (24)$$

Linear regression equation:

$$y = 0.834x + 5.798.$$

The regression coefficient b = 0.834 shows the average change in the effective indicator (in units of measure y) with an increase or decrease in the value of factor x per unit of measurement. With an increase of 1 unit of trust, GDP per capita rises by an average of 0.834.

2.3. Coefficient of determination:

$$R^2 = 0.779^2 = 0.6068$$

The coefficient of determination indicates that 60.68% of cases of changes in x lead to a change in y. The accuracy of the selection of the regression equation is average. The remaining 39.32% of the change in Y is explained by factors not taken into account in the model (as well as specification errors).

The correlation between GDP (in US dollars) per capita and trust of countries, plotted in a chart diagram.

Source: World Value Survey (2014), IMF (2014).

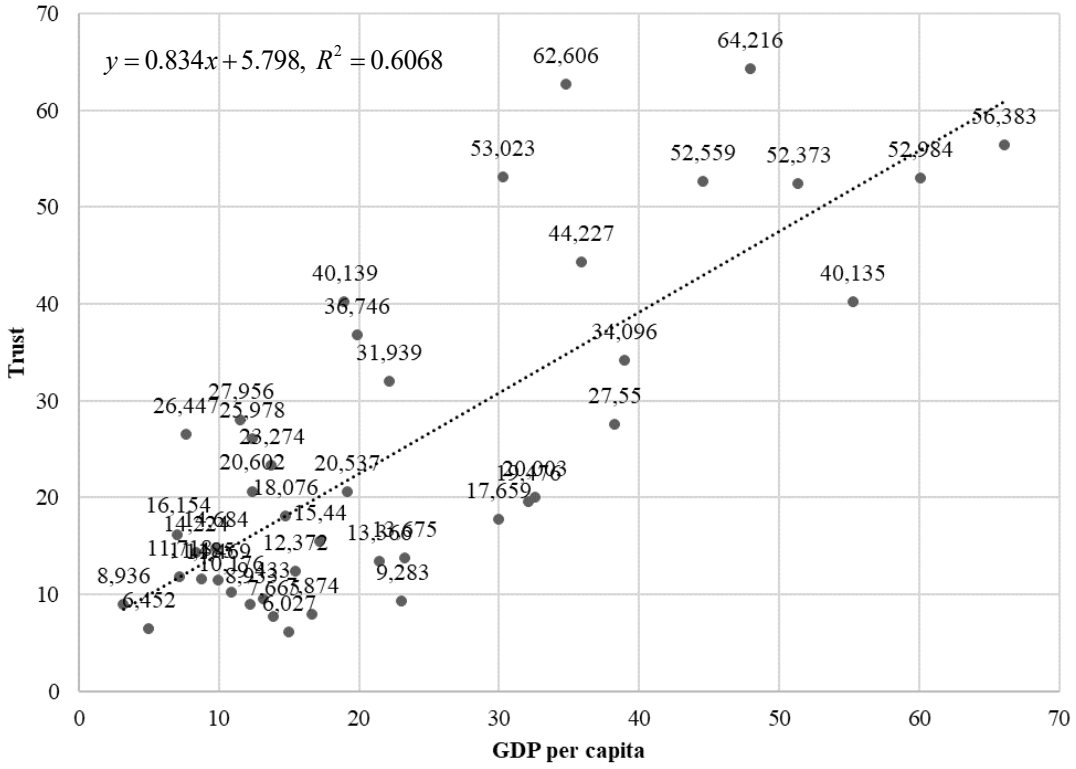

Figure 2. The correlations between trust and GDP per capita in the European countries

The dependence of GDP per capita on confidence has been studied. At the specification stage, paired linear regression was chosen. Its parameters are estimated by the least-squares method. The statistical significance of the equation is verified using the coefficient of determination. It is established that in the studied situation, 60.68% of the total variability of GDP per capita is explained by a change in the level of confidence.

3. DISCUSSION

The problem of the developing country, its regions, and enterprises through increasing competitiveness is extremely important. This problem is particularly acute for countries with fragile economies. A productive theory to justify approaches to finding ways to solve problems in the country is the concept of social capital and trust. Within the framework of this concept, it is possible to identify resources that will be basic for economic and social development and to evaluate non-economic factors of development. However, despite the considerable amount of research on social capital, this concept is not yet fully used; there is no full understanding of it and its prospects. This is due, first, to the lack of approaches to its evaluation and the complexity of measurement.

The development of war-affected states today is unlike the needs of disaster-stricken states or Western Europe after the end of World War II. The biggest difference is that rebuilding countries tend to be "weak" when they are required to have a broad institutional capacity.

When building institutional capacity, the basis for its effective functioning is a socio-economic system capable of quality growth and self-development. Given that Ukraine is a country with diverse conditions for development in the regions, it is important to emphasize the lack of a single model of transformation.

Today, businesses seeking growth and development are increasingly paying attention to the formation of social capital. This problem is of particular relevance to us in the context of hybrid warfare. Thus, a new requirement is put forward for the management system: increasing the level of trust as an element of social capital, internally and with contractors. Trust building is considered at two levels: trust that exists within businesses and trust between businesses.

Figure 3 presents the process of developing trust between counterparties.

Competency assessment can be important as an indicator of the counterparty's ability to work together over the long term. This is because competence is tangible and is generally considered an early stage of trust-building. Trustworthiness is formed when contracting. As cooperation begins, it is anticipated that business-to-business friendliness will affect information sharing, communication, and quality control. The clear fulfillment of the contract terms leads to increased cooperation. This enables, in times of hybrid war, to keep in touch with businesses.

Other factors influence the formation of trust within the enterprise. Social capital concerning

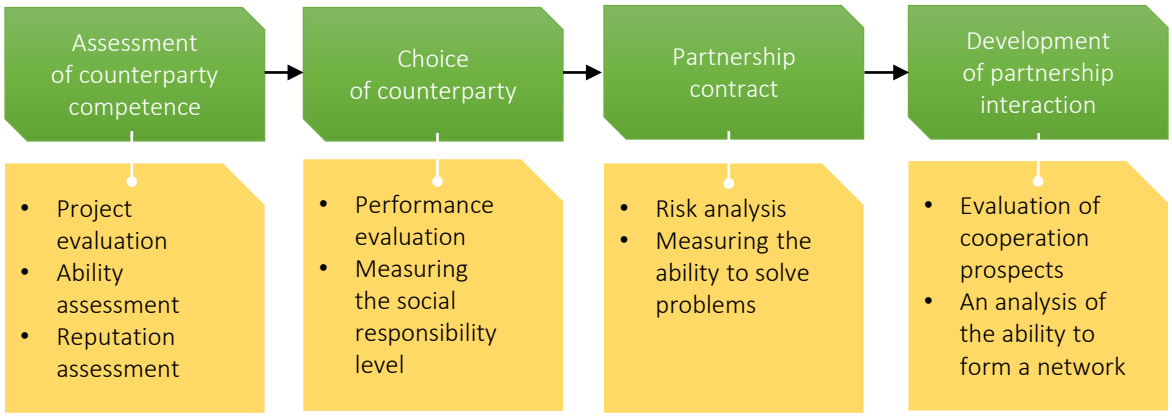

Figure 3. The process of developing trust between contractors

http://dx.doi.org/10.21511/ppm.18(1).2020.26

shareholders is the shareholders' trust in the company, its management, and its policies. It is necessary to note the "double" role of shareholders in the process of building trust as an element of social capital. On the one hand, under their influence, corporate culture is formed; on the other hand, they provide capital inflows. The role of controlling shareholders in the formation of social capital is key. They define corporate culture and shape common norms and values that are important in building trust with other stakeholders.

Ukrainian enterprises do not consider social capital as an object of investment, but develop some of its elements in the context of implementing the concept of sustainable development. Yet, non-financial and integrated reporting of the most transparent enterprises does not contain information on the formation of social capital. However, virtually every business is engaged in charity, volunteering, social work with the community.

Social capital can be external and internal because it is formed in interaction with both the external (buyers, suppliers, creditors, investors, society) and internal (shareholders, employees, management) environment. The internal capital has a significant impact on external one. Thus, the corporate culture depends on the shareholders and management, which builds the trust of external stakeholders in the enterprise, its products, and activities in general. Therefore, social capital analysis is a process of gradual assessment of the level of stakeholder trust.

Considering the formation of social capital at the micro level, and taking into account the structural elements of the Legatum Prosperity Index (2019), it can be concluded that charity, volunteering, community work, and concern for workers are factors for the development of social capital. In assessing social capital at the meta, macro and micro levels, indicators such as the level of trust and the number of social groups in society are key. Despite the relativity of this indicator, it is important for forming the socio-economic policies and assessing the degree of social development.

Speaking of increasing trust, several elements need to be addressed: 1) the essential characteristic of trust is the fact that it is embodied in the social relations of the subjects, and not in the subjects or objects as such; 2) being essentially a public good, trust grows in the process of its use; it builds strong relationships based on engagement, embodied in the creation of shared values; 3) manifesting itself in social relations, trust reflects the structure of relationships and can be useful in analyzing the social structure of society. Being involved in a particular network of relationships at a certain social level allows the entities to use the resources of that network to achieve their goals.

According to marketing agency Cone/Roper (Cone Communications, 1993), 78% of adult consumers are more likely to buy goods from a company whose product is associated with a "good cause". More than 86% of European consumers tend to buy products from companies that are involved in socially significant projects.

Besides, corporate social responsibility increases the level of trust between employees, promotes cohesion, mutual support, cooperation, social interaction, and provides a reduction of staff turnover, increase of professionalism, increase of productivity, collective growth of knowledge, improvement of product quality. These aspects affect social capital as they increase the motivation to increase the professionalism of employees, which increases the value of social capital. Corporate social responsibility has been identified as a key tool for generating social capital and increasing trust in the enterprise. CSR defines the parameters of corporate governance, which promotes the trust of contractors of all levels and improves the efficiency of the enterprise's activity. Trust creates the conditions for a willingness to act together, which can be seen as an indicator of trust measurement. The result suggests that trust serves as a tool in assisting economic growth and company's value.

An important aspect of internal social capital formation is the fair distribution of income received by the enterprise. The sources of internal social capital formation are the integrity, reliability, and responsibility of the enterprise concerning staff, that is, actions that maintain trust in the enterprise of its employees. Sustainable enterprise credibility helps reduce any risk associated with hybrid war.

In most cases, trust is the result of the firm's strong relationships with suppliers, customers, contractors, distributors. Despite differing definitions of trust, trust is generally considered an important process of network and partnership development, and partners are expected to rely on commitment. In practice, trust is associated with activities that help establish a reputation, form an alliance, share the information, and effectively develop a common cause. Trust can be viewed from different levels, such as interpersonal, organizational, inter-firm, and international levels in the field of cross-border cooperation.

Social capital is considered and represented as a limited real or potential social interaction resource. It can reproduce collective accumulation and convert to other forms of capital. The social capital of the group, enterprise, and society as a whole is formed based on the values of trust, which are the basis of the system of social interaction, the socio-cultural regulator of a higher systemic level than other components of social capital. The enterprise has a mechanism for reproducing social capital, which includes a system of values, norms, and rules of conduct, and in particular rules of mutual assistance. Trust acts as a basis for social and economic cooperation, internal and external organizational unification processes.

Society's trust in business is particularly diminished in times of crisis. Accordingly, depending on the strategy that a company develops during a crisis, its social capital can both increase and decrease, down to a negative value. Keeping up with the positive trend requires finding new ways of engaging business with its stakeholders and working with counterparties to build a sustainable business partner network.

Trust develops based on the synergy of competence and further development of relationships in the long term. The proposed process can be refined through quality trust studies. Research can better help consider the stages of trust development, as well as identify the main areas for decision-making and the mechanism for increasing trust within each stage.

Such social capital is realized if they find mutual understanding, which is transformed into a market mutually beneficial interaction. Strategic relationships can be built in different forms – marketing agreements, alliances, joint activities. The success of these relationships depends on many factors, including the ability to work together to achieve common goals, the fulfillment of promises, openness, and flexibility, taking into account the interests of partners, the ability to make long-term forecasts. The interaction of enterprises within professional associations, industry associations, and unions enables them to improve the business environment and increase the investment attractiveness of the industry. Such forms of cooperation avoid the effects of fierce competition in the form of price wars and unfair competition. However, such cooperation should not facilitate the implementation of anti-competitive strategies and evasion of antitrust regulation.

Business is a major entity that directly affects the economy. Thus, a low level of trust in the enterprise indicates a low level of trust in the state and vice versa. To ensure sustainable development, it is necessary to increase trust not only in government institutions, but companies need to formulate their corporate social responsibility policies as the main tool for increasing trust. Firms should incorporate CSR practices to enhance their strategic investment and sustain a strong relationship with its stakeholders for building a sustainable social network.

CONCLUSION

Today, the state, businesses, and investors are becoming more aware of the importance of social resources for development. This is especially important for businesses. Each enterprise has its specificity depending on the accumulated capital, material, human, and social. At the same time, it is important for management to define a strategy and build a management policy so that it is consistent with the goals and interests, first of all, of its employees and the population of the region where the enterprise is located. Changing priorities in this direction helps to create complex social tasks with minimal cost. The study aims to identify the factors that influence the formation of trust at the state and enterprise levels. For ex-

http://dx.doi.org/10.21511/ppm.18(1).2020.26

ample, if Ukraine raises the level of trust to the one in Taiwan (approximately a one-standard-deviation increase), the growth rate would increase by almost 1%. The significance of the relationship depends to some degree on the inclusion of other variables that simultaneously affect growth. Controlling for possible endogeneity of trust, the analysis provides strong evidence that trust actually causes growth. An increase in trust by 1-unit leads to an increase in per capita GDP by an average of 0.834 units.

However, trust is strongly related to variables of economic development that promote growth but also affect trust, which gives rise to a reverse effect from growth to trust, especially in the long run. The study of trust requires the study of multidisciplinary sources: economics, sociology, psychology, behavior, and management. Within a company, trust can be interpreted as an extension of interpersonal trust based on acquaintance between people in a previous interaction. In a business network, enterprise performance is largely dependent on trusting relationships between individuals and groups. At the macroeconomic level, trust continues to interact with institutions and organizations, especially in transnational cooperation.

REFERENCES

1. Arrow, K. J. (1972). Gift and Exchanges. *Philosophy & Public Affairs, 1*(4), 343-362. Retrieved from https://www.jstor.org/stable/2265097
2. Beugelsdijk, S., De Groot, H. L. F., & Van Schaik, A. B. T. M. (2004). Trust and economic growth: a robustness analysis. *Oxford Economic Papers, 56*(1), 118-134. https://doi.org/10.1093/oep/56.1.118
3. Boele, R., & van Vlissingen, R. F. (2018). *Social impact and rebuilding trust*. KPMG Australia. Retrieved from https://home.kpmg/au/en/home/insights/2018/02/social-impact-rebuilding-trust.html
4. Cheng, B., Ioannou, I., & Serafeim, G. (2014). Corporate social responsibility and access to finance. *Strategic Management Journal, 35*(1), 1-23. https://doi.org/10.1002/smj.2131
5. Cone Communications (1993). *Cone/Roper Study: A Benchmark Survey of Consumer Awareness and Attitudes toward Cause-Related Marketing.* Boston: Cone Communications.
6. Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *Accounting Review, 87*(3), 723-759. https://doi.org/10.2308/accr-10218
7. Edmans, A. (2011). Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices (January 20, 2010). *Journal of Financial Economics, 101*(3), 621-640. Retrieved from https://ssrn.com/abstract=985735
8. El Ghoul, S., Guedhami, O., & Kim, Y. (2017). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies, 48*(3), 360-385. https://doi.org/10.1057/jibs.2016.4
9. Engbers, T., Rubin, B. M., & Aubuchon, C. (2016). The Currency of Connections: An Analysis of the Urban Economic Impact of Social Capital. *Economic Development Quarterly, 31*(1), 37-49. https://doi.org/10.1177/0891242416666673
10. Engbers, T., Rubin, B., & Aubuchon, C. (2013). Social capital and metropolitan economic development. *SSRN Electronic Journal,* 1-37. https://dx.doi.org/10.2139/ssrn.2379037
11. Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach. *Management Science, 61*(11), 2549-2568. https://doi.org/10.1287/mnsc.2014.2038
12. Fukuyama, F. (1995). *Trust: The Social Virtues and the Creation of Prosperity*. The Free Press. Retrieved from https://books.google.com.ua/books/about/Trust.html?id=Di_NMC0cAccC&redir_esc=y
13. Harjoto, M. A., & Jo, H. (2015). Legal vs. normative CSR: Differential impact on analyst dispersion, stock return volatility, cost of capital, and firm value. *Journal of Business Ethics, 128*(1), 1-20. https://doi.org/10.1007/s10551-014-2082-2
14. Hasan, I., Hoi, C. K., Wu, Q., & Zhang, H. (2016). Social Capital and Debt Contracting: Evidence from Bank Loans and Public Bonds. *Journal of Financial and Quantitative Analysis, 52*(3), 1017-1047. https://doi.org/10.1017/S0022109017000205
15. Helliwell, J., & Putnam, R. (1995). Economic growth and social Capital in Italy. *Eastern Economic Journal, 21*(3), 295-307. Retrieved from https://econpapers.repec.org/article/eejeeconj/v_3a21_3ay_3a1995_3ai_3a3_3ap_3a295-307.htm
16. Hilary, G., & Huang, S. (2016). *Trust and Contracting* (INSEAD Working Paper No.2015/42/ACC). Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2604974
17. International Monetary Fund (IMF) (2014). *World Economic*

and Financial Surveys. World Economic Outlook Database. Retrieved from https://www.imf.org/external/pubs/ft/weo/2015/01/weodata/index.aspx

18. Knack, S., & Keefer, P. (1997). Does social capital have an economic pay-off? A cross-country investigation. *Quarterly Journal of Economics, 112*(4), 1251-1288. Retrieved from https://www.jstor.org/stable/2951271
19. Legatum Prosperity Index (2019). Official web-site. Retrieved from http://www.prosperity.com
20. Lins, K. V., Servaes, H., & Tamayo, A. (2015). *Social Capital, Trust, and Firm Performance: The Value of Corporate Social Responsibility during the Financial Crisis* (Finance Working Paper No. 446/2015). European Corporate Governance Institute (ECGI). http://dx.doi.org/10.2139/ssrn.2555863
21. Neira, I., Vázquez, E., & Portela, M. (2009). An empirical Analysis of Social Capital and Economic Growth in Europe (19980–2000). *Social Indicators Research, 92*(1), 111-129. http://dx.doi.org/10.1007/s11205-008-9292-x
22. Oh, Y., Lee, I. W., & Bush, C. B. (2014). The role of dynamic social capital on economic development partnerships within and across communities. *Economic Development Quarterly, 28*(3), 230-243. http://dx.doi.org/10.1177/0891242414535247
23. Peiró-Palomino, J., & Tortosa-Ausina, E. (2015). Social capital, investment and economic growth: some evidence for Spanish provinces. *Spatial Economic Analysis, 10*(1) 102-126. https://doi.org/10.1080/17421772.2014.899387
24. Putnam, R. D., Leonardi, R., & Nanetti, R. (1993). *Making Democracy Work: Civic Traditions in Modern Italy.* Princeton: Princeton University Press, NJ.
25. Rudziewicz, A. (2016). Zaufanie wewnętrzne i zewnętrzne w przedsiębiorstwie [Organizational trust and consumer trust in an enterprise]. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach, 255,* 261-269. (In Polish). Retrieved from https://www.infona.pl/resource/bwmeta1.element.cejsh-d66b3614-4e35-4f81-8d6a-ff05ec0c6173
26. Tocqueville, A. (1864). *Democracy in America*. Cambridge: Sever and Francis. Retrieved from https://archive.org/details/democracyinamer01tocqgoog/page/n4/mode/2up
27. Whiteley, P. F. (2000). Economic growth and social capital. *Political Studies, 48*(3), 443-466. https://doi.org/10.1111/1467-9248.00269
28. World Value Survey (WVS) (2014). *Longitudinal Multiple-Wave Documentation*. Retrieved from http://www.worldvaluessurvey.org/WVSDocumentationWVL.jsp
29. Zak, P. J., & Knack, S. (2001). Trust and growth. *Economic Journal, 111*(470), 295-321. https://doi.org/10.1111/1468-0297.00609.

http://dx.doi.org/10.21511/ppm.18(1).2020.26