



Munich Personal RePEc Archive

# **Does Trust Matter For Entrepreneurship : Evidence From A Cross-Section Of Countries**

Kodila-Tedika, Oasis and Agbor Agbor, Julius

University of Kinshasa, Brookings Institution, Stellenbosch  
University

29 October 2012

Online at <https://mpra.ub.uni-muenchen.de/42292/>  
MPRA Paper No. 42292, posted 05 Nov 2012 05:10 UTC

# DOES TRUST MATTER FOR ENTREPRENEURSHIP: EVIDENCE FROM A CROSS-SECTION OF COUNTRIES

**Oasis Kodila-Tedika**

Department of Economics  
University of Kinshasa, B.P. 832 KIN XI,  
Kinshasa, Democratic Republic of Congo.  
Email: oasiskodila@yahoo.fr

**Julius Agbor Agbor**

Africa Research Fellow, Global Economy & Development Program  
Brookings Institution, Washington DC  
Department of Economics, Stellenbosch University (South Africa)  
Email: jagbor@brookings.edu

## Abstract

To the extent that trust is necessary to conduct informal sector business activities, its absence could possibly constrain entrepreneurial spirit and overall economic growth. This paper tests the hypothesis that differences in trust levels between countries explain the observed differences in entrepreneurial spirit amongst them. Analyzing a cross-section of 60 countries in 2010, our findings suggest that about half of the variation in entrepreneurial spirit across countries in the world is driven by trust considerations. This result is robust to regional clustering and to alternative conditioning variables. The findings of the study suggest that while formal incentives to nurture entrepreneurship must be maintained, policy-makers should also pay attention to the role of trust cultivated through informal networks.

**JEL Classification:** D2, L26, P48, Z13

**Keywords:** Entrepreneurship, Trust, Institutions

## 1. Introduction

The subject of trust has recently received increasing attention in the literature on economic development. The attention of scholars has been particularly retained in two broad dimensions of trust namely, its causes (see notably, Zak & Knack, 2001; Knack & Zak, 2002; Alesina & La Ferrara, 2002; Bjørnskov, 2006; and Smith, 2008) and its impact on other variables. Regarding the impact of trust on economic variables, Knack & Keefer, 1997; Whiteley, 2000; Zak & Knack, 2001; Beugelsdijk et al., 2004; Berggren et al., 2008 examine trust as a factor in explaining cross-country differences in economic growth while Bjørnskov & Méon, 2010 measure the impact of trust in total factor productivity. Several other authors have been interested in the impact of trust on institutional development and quality (Helliwell & Putnam, 1995; La Porta et al., 1997; Rice & Sumberg, 1997; Knack, 2002; Bjørnskov et al., 2008; Bjørnskov, 2010, 2012), on welfare state design (Bergh & Bjørnskov, 2009), on schooling (Bjørnskov, 2009, 2012), on corruption (Uslaner, 2002; Bjørnskov, 2010), on trade (Greif 1989; Woolcock 1998; den Butter & Mosch 2003), on political and civic involvement (Knack

& Keefer 1997, La Porta et al. 1997), on crime prevention (Wilson, 1987), on health (Rose, 2000) and on subjective life satisfaction (Uslaner, 2002; Bjørnskov, 2003; Helliwell, 2003).

The present study follows the latter broad approach to the subject of trust by investigating its impact on entrepreneurship. Despite the existence of numerous theoretical foundations<sup>1</sup> linking trust to entrepreneurship spirit, to date no prior empirical study in the literature, to the best of our knowledge, has explicitly tested this relationship.

Business activities flourish in trust deficit environments when formal institutions that bridge the trust gap exist. However, the absence of such formal institutions in many countries highlights the crucial role of trust in nurturing entrepreneurship spirit. Fafchaps (2002) emphasizes this thesis for sub-Saharan African countries. While Berggren & Jordahl (2006) emphasize the link between social capital and economic freedom, Hafer & Jones (2012) instead emphasize the connection between economic freedom and entrepreneurship. The present paper goes beyond both preceding views by directly linking entrepreneurship to trust.

The research question this paper seeks to answer is whether trust is necessary for entrepreneurial activity to flourish? An empirical answer to this question would offer great insight into why some countries have superior entrepreneurial culture than others. Also, to the extent that the literature<sup>2</sup> attributes a great role of entrepreneurship in economic development, understanding what drives entrepreneurship is helpful not only in understanding why some countries have superior entrepreneurship culture but also, why some countries are more developed than others.

The paper employs cross section analysis of 60 countries investigated in 2010. The data for entrepreneurship was obtained from the recently published Global Entrepreneurship Monitor by Acs & Szerb (2010). Following the tradition in the literature, we use the trust variable provided by World Values Survey which measures the extent to which people trust each other. Our findings suggest that trust is a vital determinant of entrepreneurial spirit.

The rest of the paper is organized as follows: section two discusses the data, while section three focuses on the methodology. Section four presents and discusses the empirical results, while section five focuses on robustness checks. Section six concludes.

## **2 Data**

Following the tradition in the literature, we use the World Values Survey (WVS) trust indicator which surveys the proportion of a population that answers “yes” to the fundamental question: “*in general, do you think that most people can be trusted, or can't you be too careful?*” WVS data for a number of countries has been available since 1981 and is generally accepted as a reliable indicator of trust at the aggregate level. National social trust scores have proved it to be a fairly valid measure of honesty, trust, and trustworthiness.

---

<sup>1</sup> For instance, Harper (2003) hypothesized that in order to cultivate entrepreneurship trust is an important element, the connection being that business transactions are based on trust: where there is trust, businesses generally thrive.

<sup>2</sup> See notably, Holcombe, 1998 ; Caree & Thurik 2003; Audretsch, et al. 2006; Kirzner, 1997; and Lazear, 2004 & 2005.

Data for the aggregate national entrepreneurship activity is obtained from Global Entrepreneurship Monitor (GEM) which is an off-spring of the Global Entrepreneurship and Development Index (GEDI) of Acs et Szerb (2010). Both the GEM and GEDI are comprehensive and multi-dimensional datasets, which seek to uncover the different conditions, including the underlying environment underpinning entrepreneurial success at the micro level. GEDI is a composite index comprising three sub-indexes namely, entrepreneurial attitude, entrepreneurial activity and entrepreneurial ambition. The entrepreneurial attitude sub-index measures the attitude and dispositions of the population of a country towards entrepreneurship, while the entrepreneurial activity sub-index measures the proportion of the population engaged in entrepreneurial activity. Both sub-indexes are influenced by factors such as, market size, level of education of the population, and the business environment in the country. In an attempt to capture the likely influences of these exogenous factors on entrepreneurship spirit, Acs & Szerb (2010) suggested another much more complex sub-index - the entrepreneurial ambition sub-index – which basically captures individuals' ability to create new enterprises. Unlike the GEM database which covers only about twenty countries, the GEDI database covers seventy-one countries. However, due to missing data for some of the control variables, our study covers only sixty countries.

Following Bjornskov & Foss (2008) and Hafer & Jones (2012), we control for the influence of communism on entrepreneurial spirit by including a dummy for former communist states. Also, following Bjornskov & Foss (2008) and Hafer & Jones (2012), we include the Gini coefficient to control for income inequality. The idea being that, sufficiently low incomes might constrain would-be entrepreneurs from realizing their dreams while also potentially motivating some other individuals into entrepreneurial activity as a means of breaking out of poverty. We also control for the level of development of a country by including a dummy for high income countries, the idea being that advanced countries necessarily provide more conducive environments for entrepreneurial activity. The evidence suggests that entrepreneurial activity flourishes most in urban centers and advanced countries have more urban centers than under-developed countries. Human capital being an important driver of entrepreneurial activity<sup>3</sup>, we control for this by including the Intelligence Quotient (IQ)<sup>4</sup> and the average of years of schooling. Following Bjornskov & Foss, 2008; and Hafer & Jones, 2012, we include a measure of economic freedom to control for the influence of economic freedom on entrepreneurship. Finally, we include regional dummies to take account of the specificities of different regions of the world.

Table 1 describes the sources of different variables included in this study.

---

<sup>3</sup> Acs, 2006 has found higher levels of education to be associated with higher levels of entrepreneurial activity, while Hafer & Jones (2012) recently show that entrepreneurship spirit is a positive function of the level of IQ.

<sup>4</sup> See Lynn & Vanhanen (2012) for literature on this subject.

**Table 1 Data Sources**

<b>Variables</b>	<b>Sources</b>
Entrepreneurship	Acs and Szerb, (2010).
Gini	GINI coefficient, (UNDP, Human Development Report, 2004), downloaded from STM103 Global Indicators Shared Dataset, Updated Fall 2005.
Post-communist	Dummy variable. Author's own
Economic Freedom	Heritage Freedom (2010)
Social trust	World Values Survey
IQ	Lynn and Meisenberg, (2010).
Regulatory quality	World Bank Governance indicator. The measures come from the dataset compile by Kaufmann, Kraay and Mastruzzi at the World Bank.
MENA	Dummy variable. Author's own
High income	Dummy variable. Author's own
East Asia and Pacific	Dummy variable. Author's own
Sub-Saharan Africa	Dummy variable. Author's own
Education 1 (average years of schooling in population aged 25 and above)	Barro and Lee (2011)
Education 2 (average years of schooling in population aged 15 and above)	Barro and Lee (2011)
Log GDP per capita	Pen World Tables.
Africa	Dummy variable. Author's own
Americas	Dummy variable. Author's own
Asia	Dummy variable. Author's own
Europa	Dummy variable. Author's own
Oceania	Dummy variable. Author's own

### 3. Methodology

This section first presents an empirical analysis of the data before discussing the empirical model. The empirical analysis of the data follows two steps – the summary descriptive statistics and then the analysis of partial correlations.

#### 3.1. Summary Descriptive Statistics

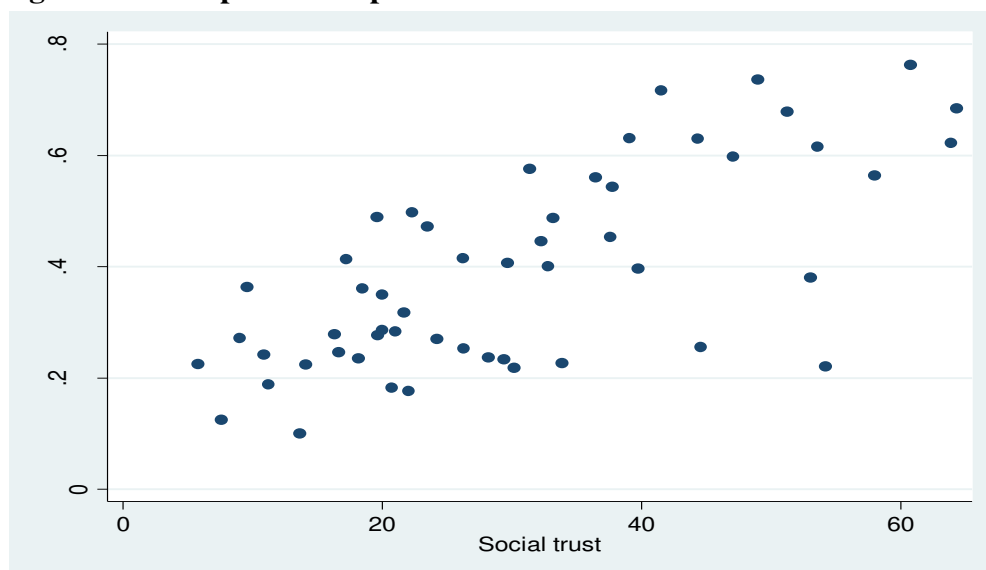
Table 2 presents the summary descriptive statistics of the variables used in this study. It follows from the analysis of individual country statistics for the two key variables of interest, namely, entrepreneurial spirit and trust, that Uganda received the lowest score for the entrepreneurship variable, while Denmark received the highest score. The mean score position was earned by Japan and the coefficient of variation of 46.15 suggests great heterogeneity in entrepreneurial spirit amongst the countries included in the study. Regarding the trust variable, Sweden received the highest score, Russia was at the mean score position while Brazil received the lowest score. Again the coefficient of variation of 51.18 suggests great heterogeneity in trust amongst countries.

**Table 2 Descriptive Statistics**

Variable	Obs	Mean	Std. Dev.	Min	Max
Entrepreneurship	60	.39	.18	.1	.76
Gini	54	36.65	9.39	24.00	59.00
Post-communist	60	.20	.40	0.00	1.00
Economic freedom	60	66.20	10.25	37.10	89.70
Trust	53	30.42	15.57	5.77	64.27
IQ	59	93.19	8.28	72.00	108.00
Regulatory quality	52	.58	.90	-1.35	1.94
MENA	60	.18	.39	0.00	1.00
High income	60	.53	.50	0.00	1.00
East Asia and Pacific	60	.03	.18	0.00	1.00
Sub-Saharan Africa	60	.02	.13	0.00	1.00
Education 1	51	8.97	2.43	3.86	13.09
Education 2	51	9.14	2.15	4.32	12.75
Log GDP per capita	52	9.51	1.44	4.86	12.44
Africa	60	.10	.30	0.00	1.00
Americas	60	.10	.30	0.00	1.00
Asia	60	.28	.45	0.00	1.00
Europa	60	.35	.48	0.00	1.00
Oceania	60	.18	.39	0.00	1.00

### 3.2. Matrice of Correlation Coefficients

Figure 1 presents the scatter plot between Entrepreneurship (y-axis) and Trust (x-axis) for the countries included in our sample. The evidence clearly suggests a positive relationship between these two variables. This positive relationship is further confirmed in Table 3 by a strong statistically significant (at 1%) correlation coefficient of 0.71. Considering that entrepreneurial spirit is a function of many different factors, these correlation figures must not be taken seriously unless further examination of the partial correlation of these other variables with entrepreneurial spirit on the one hand, and with trust on the other hand, is undertaken. This is the objective of Table 3. As expected, the evidence in Table 3 suggests that entrepreneurship is strongly correlated with many other variables, notably, economic freedoms, human capital and regulatory quality. Hence, the relationship presented in Figure 1 might change or weaken in strength once these other variables are taken into account.

**Figure 1: Entrepreneurship and Trust**

### 3.3 Empirical Model

The question we seek to answer in this study is whether differences in trust levels between countries can explain observed differences in entrepreneurial spirit amongst these countries? We specify thus a regression model of the form:

$$\text{Entrepreneurship}_i = \alpha + \beta \text{Trust}_i + \delta \text{Control}_i + \varepsilon_i \quad (1)$$

Where:

- Trust is our variable of interest and thus the parameter of interest is  $\beta$ .
- $\text{Control}_i = (x_1; \dots; x_n)$  is a vector of control variables, including the following: a dummy of high income countries, dummy for post communist countries, the index of economic freedoms, human capital variables (IQ, years of schooling), indice of inequality (Gini), and a dummy to capture different geographical factors (namely regional dummies for East Asia and the Pacific, Middle East and North Africa and Sub-Saharan Africa).
- $\varepsilon_i$  is the error term.

We perform our analysis on the empirical model specified in equation (1) above using essentially ordinary least square (OLS) estimates. To correct for likely heteroskedasticity, we present white-corrected standard errors. Although we do not expressly take into account the fact that trust might affect entrepreneurial spirit with a lag and growing entrepreneurial spirit might also enhance trust, the results of our cross-section analysis remain largely valid. We cluster for regional differences and use alternate conditioning variables as checks for the robustness of our results.

**Table 3 Matrix of Correlation Coefficients**

	Entrepreneurship	Gini	Post communist	Economic liberty	IQ	Trust	Regulatory quality	Log GDP per capita	Education 1	Education 2	High income
Entrepreneurship	1.00										
Gini	-0.41	1.00									
Post communist	-0.23	-0.27	1.00								
Economic freedom	0.79	-0.27	-0.21	1.00							
IQ	0.68	-0.62	0.18	0.54	1.00						
Trust	0.71	-0.47	-0.27	0.56	0.51	1.00					
Regulatory quality	0.79	-0.48	-0.02	0.79	0.70	0.49	1.00				
Log GDP per capita	0.76	-0.41	0.00	0.64	0.71	0.56	0.73	1.00			
Education 1	0.72	-0.45	0.20	0.66	0.77	0.43	0.73	0.83	1.00		
Education 2	0.70	-0.42	0.17	0.67	0.75	0.42	0.72	0.83	0.99	1.00	
High income	0.19	-0.20	0.05	0.13	0.37	0.08	0.30	0.12	0.34	0.31	1.00



## 4 Regression Results

Table 4 presents the main regression results. The results in Model 1, which shows a positive and highly statistically significant relationship between trust and entrepreneurship, basically confirms Figure 1's theoretical predictions. The relationship between trust and entrepreneurship weakens in magnitude and statistical significance (now significant at the 10% level) when all other controls (excluding controls for regional specificities) are included, as Model 2 suggest. This relationship remains intact when the model is extended to include regional dummies<sup>5</sup> (Model 3).

The results in Table 4 thus confirms the strong explanatory power of trust on entrepreneurship, in particular, that trust explains about 50 percent of the variation in entrepreneurial spirit in the sample of countries considered. Other determinants found to have an important impact on entrepreneurship include, former communist background, economic freedoms, and human capital. While a former communist background was found to negatively affect entrepreneurship, economic freedom and human capital (measured by the average years of schooling) instead has a strong positive impact. The statistical significance of the former communist background variable is however unstable and changes with the introduction of controls for regional specificities. The likely intuition for this could be that former communist countries that fail to undertake institutional reforms to favor entrepreneurship are likely going to continue witnessing the detrimental effects of communism whereas those countries that reform their institutions to make them conducive to entrepreneurship are less likely to suffer the negative effects.

Income inequality measured by the Gini coefficient, has a negative but statistically insignificant effect on entrepreneurship while the level of development of a country, as well as all the regional dummies are statistically insignificant. If anything, the lack of statistical significance in the sub-Saharan Africa dummy suggests that entrepreneurial weakness is not entirely a sub-Saharan African phenomenon. If one would pursue the argument further, the positive sign on the sub-Saharan African dummy as opposed to the negative signs on the Middle-East & North Africa (MENA) and East Asia & Pacific dummies; suggests that entrepreneurship can evolve favorably in sub-Saharan Africa if certain conditions, institutional reforms probably, are met.

We test the robustness of our main results in the next section.

## 5 Robustness Checks

We conduct two forms of robustness checks namely, continental clustering (Table 5) and using alternative conditioning variables (Table 6). It makes sense to perform a continental clustering considering the extent of heterogeneity observed in both variables – trust and entrepreneurship – across countries included in our sample. We would have wished to use an alternative variable for trust in our robustness checks but the non availability of suitable proxies constrained this option. We were thus left with the sole option of using alternative conditioning variables, which is the approach that has been used in some studies, see notably, Potrafke (2011). There are a number of differences between the conditioning variables in our

---

<sup>5</sup> Some regions were dropped due to multicollinearity.

main results (Table 4) and Table 6. First, instead of Economic freedom used in Table 4, we use regulatory quality in Table 6. Also, instead of Education 1 (average years of schooling in population aged 25 and above) used in Table 4, we use instead Education 2 (average years of schooling in population aged 15 and above) in Table 6. We also use a dummy variable for GDP per capita instead of high income countries. Finally, we use dummies for regional classification of countries instead of continents. Of course, the decision to use alternative proxies for Economic freedom and human capital is justified by the fact that both variables were significant in our main regression. As we have already explained, the ideal robustness check would involve using alternative proxies for the principal explanatory variable (trust) but data constrains limited this option. We were thus left with the option of using alternative proxies for the chief conditioning variables, hoping to minimize bias in my our results that would have been brought about by measurement errors in our conditioning variables.

As observed in Tables 5 and 6, both specifications do not fundamentally change our main finding: that trust matters for entrepreneurial spirit.

**Table 4 Main Regression Results**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Trust	.008*** (.001)	.003* (.001)	.003* (.001)
Gini		-.000 (.002)	-.001 (.002)
Post communist		-.091 (.048)	-.106* (.045)
IQ		.0043 (.003)	.004 (.003)
Economic freedom		.006* (.003)	.006* (.002)
High income		-.010 (.028)	-.019 (.027)
Education 1		.022* (.010)	.019* (.008)
Sub-Saharan Africa			.010 (.032)
MENA			-.076 (.045)
East Asia and Pacific			-.074 (.041)
R <sup>2</sup>	0.50	0.82	0.83
Obs	53	47	47

Notes: Absolute values of t-statistics appear in parentheses\* p<.05; \*\* p<.01; \*\*\* p<.001. All regressions are estimated using white (1980) heteroskedasticity correction. All regressions include a constant term.

**Table 5 Robustness Checks using Regional Clusters**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Trust	.008** (.002)	.003* (.000)	.029* (.001)
Gini		-.000 (.001)	-.001 (.001)
Post communist		-.091* (.026)	-.106* (.026)
IQ		.004 (.002)	.004 (.002)
Economic freedom		.006 (.003)	.006 (.003)
High income		-.010 (.020)	-.018 (.019)
Education 1		.022 (.011)	.019 (.011)
Sub-Saharan Africa			.010 (.030)
MENA			-.076 (.035)
East Asia and Pacific			-.074 (.044)
R <sup>2</sup>	0.50	0.82	0.83
Obs	53	47	47

Notes: Absolute values of t-statistics appear in parentheses\* p<.05; \*\* p<.01; \*\*\* p<.001. All regressions are estimated using White (1980) heteroskedasticity correction. All regressions include a constant term.

**Table 6 Robustness Checks using Alternative Conditioning Variables**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>
Trust	.004** (.001)	.003* (.001)
Gini	.001 (.002)	.001 (.003)
Post communist	-.084 (.042)	-.099* (.043)
IQ	.003 (.002)	.004 (.004)
Regulatory quality	.075** (.024)	.075** (.028)
Log GDP per capita	.012 (.016)	.007 (.021)
Education 2	.015 (.010)	.017 (.010)
Africa		.014 (.075)
Asia		-.027 (.084)
Europe		-.022 (.063)
Oceania		.008 (.057)
Americas		-.004 (.075)
R <sup>2</sup>	0.82	0.8258
Obs	47	47

Notes: Absolute values of t-statistics appear in parentheses\* p<.05; \*\* p<.01; \*\*\* p<.001. All regressions are estimated using White (1980) heteroskedasticity correction. All regressions include a constant term.

## 6. Conclusion

This paper sought to investigate whether differences in trust levels between countries can explain differences in entrepreneurial spirit amongst them. We started out, using simple ordinary least squares regression, by investigating whether trust does matter for entrepreneurship. We later controlled for other factors that matter for entrepreneurship. The findings suggest that trust does have a strong positive impact on entrepreneurship and the result is robust to alternative conditioning variables and to regional clustering. Quantitatively, our results suggest that about half of the variability in entrepreneurial spirit across the world is driven by trust. The implications of this finding are that, to spur entrepreneurial spirit, countries that lack formal trust-building institutions can benefit from creating conditions that favor the expansion of informal networks where trust is built.

## 7. References

Acs, A.J. and Szerb, L. 2010. The Global Entrepreneurship and Development Index (GEDI). Paper presented at "Opening Up Innovation: Strategy, Organization and Technology", Imperial College, London, June, 2010.

- Acs, Z.J. 2006. How is entrepreneurship good for economic growth? *Innovations* 1:1, 97-107.
- Alesina, A. and La Ferrara, E. 2002. Who Trusts Others?. *Journal of Public Economics*, 85 (2), 20-34.
- Audretsch, D.B., Keilbach, D.B. and Lehmann, E.E. (2006) *Entrepreneurship and Economic Growth*. Oxford: Oxford University Press.
- Berggren, N. and Jordahl, H. 2006. Free to trust? Economic freedom and social capital. *Kyklos*, 59, 141–169.
- Berggren, N., Elinder, M. and Jordahl, H. 2008. Trust and Growth: A Shaky Relationship. *Empirical Economics* 35, 251–274.
- Bergh, A. and Bjørnskov, C. 2009. Historical Trust Levels Predict Current Welfare State Design, IAREP/SABE 2009 conference in Halifax,
- Beugelsdijk, Sjoerd, Henri L. F. de Groot, and Anton B. T. M. van Schaik. 2004. Trust and economic growth: A robustness analysis. *Oxford Economic Papers* 56:118–34.
- Bjørnskov, C. 2003. The happy few: Cross-country evidence on social capital and life satisfaction. *Kyklos* 56:3–16.
- Bjornskov, C. 2006. Determinants of Generalized Trust: A Cross-Country Comparison. *Public Choice*, 130, 1-21.
- Bjørnskov, C. 2009. Social Trust and the Growth of Schooling. *Economics of Education Review* 28, 249-257.
- Bjørnskov, C. 2010. How does social trust lead to better governance? An attempt to separate electoral and bureaucratic Mechanisms. *Public Choice* 144: 323–346
- Bjørnskov, C. 2010. How does Social Trust lead to Better Governance? An Attempt to Separate Electoral and Bureaucratic Mechanisms. *Public Choice* 144, 323-346..
- Bjørnskov, C. 2012. How Does Social Trust Lead to Economic Growth? *Southern Economic Journal* 2012, 78(4), 1–24
- Bjornskov, C. and Foss, N.J. 2008. Economic freedom and entrepreneurial activity: Some cross-country evidence. *Public Choice*, 134, 307-328.
- Bjørnskov, C. and Méon, P-G. 2010. The productivity of trust, CEB Working Paper N° 10/042.
- Bjørnskov, C., Axel Dreher and Justina A.V. Fischer. 2008. Formal Institutions and Subjective Well-Being: Revisiting the Cross-Country Evidence, KOF Working Papers No. 192
- Caree, M.A. and Thurik, A.R. 2003. The impact of entrepreneurship on economic growth. In Acs and Audretsch, eds. *International Handbook of Entrepreneurial Research*.
- Dasgupta, P. and I. Sergaldin. Editors. 2000. *Social capital: A multifaceted perspective*. Washington, DC: World Bank.
- Delhey, J. and Newton, K. 2005. Predicting cross-national levels of social trust: global pattern or Nordic exceptionalism? *European Sociological Review*, 21, 311–327.
- den Butter, Frank A. G. and Robert H. J. Mosch. 2003. Trade, trust and transaction cost. Tinbergen Institute Discussion Paper No 03-082/3, Tinbergen Institute, The Netherlands.
- Fafchamps, M. 2002, Networks, communities and markets in SSA ; implications for firm growth and investment, *Journal of African Economies* 10, 109–142.
- Fukuyama, F. 1995. *Trust: The social virtues and creation of prosperity*. London: Hamish Hamilton.
- Glaeser, E. L., Laibson, D. I., Scheinkman, J. A. and C. L. Soutter. 2000. Measuring trust. *Quarterly Journal of Economics* 115:811–46.
- Greif, A. 1989. Reputation and coalitions in medieval trade: Evidence on the Maghribi traders. *Journal of Economic History* 49:857–82.
- Hafer, R.W. and Jones, G. 2012. IQ and Entrepreneurship: International Evidence , mimeo.

- Harper, D. 2003. *Foundations of entrepreneurship and economic development*. Routledge, London.
- Heckelman, J.C. and Stroup, M.D. 2000. Which economic freedoms contribute to growth? *Kyklos*, 53, 527-544.
- Helliwell, J.F. 2003. How's life? Combining individual and national variables to explain subjective well-being. *Economic Modelling*, 20, 331-360.
- Helliwell, J.F. and Putnam, R. 1995. Economic growth and social capital in Italy. *Eastern Economic Journal*, 221, 295-307.
- Henrekson, M. 2005. Entrepreneurship: a weak link in the welfare state? *Industrial and Corporate change*, 14, 437-467.
- Holcombe, R.G. 1998. Entrepreneurship and economic growth. *The Quarterly Journal of Austrian Economics* 1(2): 45-62.
- Kirzner, I. 1997. Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of Economic Literature* 35(1): 60-85.
- Knack, S. 2002. Social capital and the quality of government: evidence from the US states. *American Journal of Political Science*, 46, 772-785.
- Knack, S. and Zak, P.J. 2002. Building trust: public policy, interpersonal trust, and economic development. *Supreme Court Economic Review*, 10, 91-107.
- Knack, S., and Keefer, P. 1997. Does social capital have an economic pay-off? A cross-country investigation. *Quarterly Journal of Economics*, 112, 1251-1288.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. 1997. Trust in large organizations. *American Economic Review*, 87, 333-338.
- Lazear, E.P. 2004. Balanced skills and entrepreneurship. *American Economic Review*, 94, 208-211.
- Lazear, E.P. 2005. Entrepreneurship. *Journal of Labor Economics*, 23, 649-680.
- Lynn, R. and Meisenberg, G. 2010. National IQs calculated and validated for 108 nations. *Intelligence*, 38, 353-360.
- Lynn, R. and Vanhanen, T. 2012. National IQs: A review of their educational, cognitive, economic, political, demographic, sociological, epidemiological, geographic and climatic correlates. *Intelligence*. doi:10.1016/j.intell.2011.11.004.
- Nystrom, K. 2008. The institutions of economic freedom and entrepreneurship: evidence from panel data. *Public Choice*, 136, 262-282.
- Potrafke, N. 2011. Intelligence and Corruption. University of Konstanz, Department of Economics Working Paper No.37. Accessed on October 25, 2012 at: <http://www.wiwi.uni-konstanz.de/workingpaperseries>
- Putnam, R. 1993. *Making democracy work*. Princeton: Princeton University Press.
- Rice, T.W. and Sumberg, A. 1997. Civic culture and democracy in the American states. *Publius*, 23, 99-114.
- Rose, R. 2000. How much does social capital add to individual health? A survey study of Russians. *Social Science and Medicine* 51:1421-35.
- Smith, A. 2008. The Determinants of Trust: An Experimental Approach, CEA 42nd Annual Meetings Friday, June 6 - Sunday, June 8, University of British Columbia, Vancouver.
- Uslaner, E.M. 2002. *The moral foundations of trust*. Cambridge, UK: Cambridge University Press.
- White, H., 1980. A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica* 48, 817-838.
- Whiteley, P. 2000. Economic growth and social capital. *Political Studies*, 48, 443-466.
- Wilson, W. J. 1987. *The truly disadvantaged*. Chicago: University of Chicago Press.
- Woolcock, M. 1998. Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society* 27:151-208.

Zak, P. and Knack, S. 2001. Trust and Growth. *The Economic Journal*, 111 (470), 295-321.