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Entrepreneurs' acceptance of formal institutions: a cross-country analysis

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by

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Entrepreneurs' Acceptance of Formal Institutions: A Cross-country Analysis[#]

Andreas Freytag*[+] and Florian Noseleit*

Abstract

Institutional settings and the resulting incentive structures are crucial for economic development. The type of entrepreneurial activity and the entrepreneurial effort are especially dependent on underlying incentive structures. We argue that institutions with better incentive structures for entrepreneurs are perceived as being of higher quality by this group. We find empirical evidence that high institutional quality increases the willingness of the self-employed to accept these institutions. Furthermore, institutional quality affects the deviation in acceptance of self-employed to non-self-employed such that lower institutional quality is related to less acceptance by entrepreneurs compared to the rest of society.

JEL: L26, A13, H11, K11, O43, P48

Keywords: Entrepreneurship, self-employment, institutions, cross-country study

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1. *Introduction*

The importance of entrepreneurship (Schumpeter, 1911) and economic freedom (Baumol, 2002) for economic growth points to the close linkages of institutional setups and entrepreneurship. While numerous studies have dealt with institutional setups and their effects on entrepreneurship, none of these studies, to our knowledge, linked the shape of institutions that are important for entrepreneurial activity to the entrepreneurs' acceptance of these institutions.

Assuming that a "tendency towards disorganization" (Zucker, 1988, p. 26) is the more likely condition in a social system, acceptance is important to revive and maintain institutions based on rule-norms (meaning norms imposed by authorities, i.e., governments, being also binding for themselves).[1] Giddens (1984) argues that persistence of rules, norms and beliefs is dependent upon actors that consecutively participate in maintaining linkages with the social-cultural environment. Thus, the existence of formal institutions often goes hand-in-hand with their acceptance in society, and persistence in structures depends on actors that continuously reproduce them.

In addition, and more importantly for this paper, institutional acceptance tells something about institutions themselves. For entrepreneurs and their institutional needs, acceptance tells first and foremost whether or not institutions are in line with incentive structures that are important for the entrepreneurs' willingness to perform. These incentive structures of entrepreneurs can be seen to be very dependent on economic freedom in a society. Since institutions heavily shape a country's incentive structure, the effect on economic performance cannot be underestimated (North, 1991 and 1994; Acemoglu, Johnson, & Robinson, 2001; Rodrik, Subramanian, & Trebbi, 2004).

This study is a first attempt to analyze inter-country differences in the acceptance of institutions like the tax system or the legal system by the self-employed. We expect that inter-country differences in the entrepreneurs' acceptance of institutions are influenced by the country-specific arrangement of institutions in terms of economic

[1] Other, informal institutions are not that relevant in this context, as these are shaped by all members of society and emerge spontaneously.

freedom in the following way: entrepreneurs' institutional acceptance should increase, if the degree of economic freedom is high, as such institutions better meet the demands of entrepreneurs. Thus, if the incentive structures shaped by institutions are in line with the entrepreneurs' preferences for incentive structure, higher acceptance can be expected. It follows that a deviation of institutional acceptance between countries might be governed by institutional grievances in a country.

We proceed as follows: in section two we give an overview about the literature of entrepreneurial activities and corresponding institutional settings; in section three we discuss possible mechanisms to connect institutional quality and institutional acceptance. Section four empirically analyzes country differences in collective acceptance of institutions for the self-employed group as well as differences in the collective acceptance of institutions for both self-employed and non-self-employed groups. Section 5 concludes.

2. *Institutions and Entrepreneurship*

Institutions affect entrepreneurial activities in several ways. Baumol (1990) pointed out how incentive structures can channel entrepreneurship into productive and unproductive as well as destructive activities. An important lesson learned is that inefficiency of institutions may deflect entrepreneurial efforts into different fields of activity (Acemoglu, 1995; Baumol, 1990 and 1993).

Furthermore, institutions and resulting incentive structures are not only important for the specific character of an entrepreneurial activity and its societal consequence, but institutional settings also shape the supply of entrepreneurial effort (Henrekson, 2007). Van Stel, Storey, & Thurik (2007) found no direct and prevailing link between entrepreneurial activity and regulation, concluding that their results are more compatible with Baumol's (1990) view about institutional influence on the nature of entrepreneurship. Additionally, they found that labor market regulations affect a country's start-up activity (van Stel et al., 2007). Nyström (2008) analyzed the impact of institutions in terms of economic freedom for 23 OECD countries in a panel and found that a smaller government sector, better legal structure and security of property rights, as well as less regulation of credit, labor and businesses, increase self-employment rates. Similar results have been found by Freytag and Thurik (2007).

Generating acceptance of rule-norms is of crucial importance in a society. However, the acceptance of institutions by the group of self-employed individuals can be regarded as being particularly relevant for those institutions that especially affect this group. This is because entrepreneurs are probably most affected in their activities by those incentive structures that are linked to individual effort. Institutions that may limit individual efforts might imply long-term negative employment and growth effects. So far, numerous studies have dealt with the impact of institutions on entrepreneurial preferences and activities, while acceptance of these institutions has been widely overlooked.

However, even if entrepreneurial activities are not affected by institutions in the short term, it is important to analyze the extent to which formal institutions are accepted. This is because permanent failure of entrepreneurs to accept the institutional setting and thus the incentive structure in an economy might eventually induce them to give up their businesses or to move abroad. Figure 1 displays the triangle between institutions, entrepreneurship and economic development to which this analysis aims to contribute.

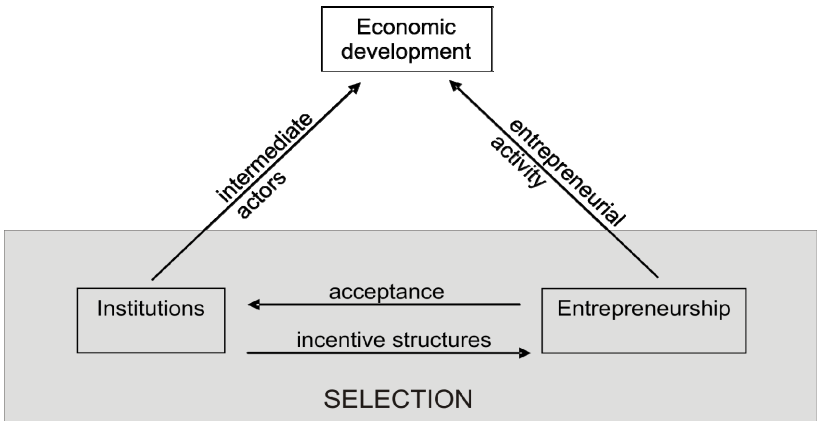

Figure 1. Institutions, entrepreneurship and economic development

The gray highlighted area of Figure 1 represents the part of the relationship on which this paper focuses. First of all, institutions provide the basic inventive structures for entrepreneurs. Based on the institutional design, entrepreneurs adjust both entrepreneurial activities as well as institutional acceptance. In the long run, institutional acceptance is a necessary precondition for maintaining institutions and

might have a feedback on the institutional design as well. However, acceptance of institutions is not only important for maintenance, but will also influence the functioning of institutions even in the short run. This is especially true for those institutions that depend on voluntary contribution, just as it is for entrepreneurial activities. Next, the described process is accompanied by selection of potential entrepreneurs into entrepreneurship. This can be a selection into some entrepreneurial activity versus some non-entrepreneurial activity, and it can be a selection of entrepreneurs into an institutional setting with the best available incentive structures. Finally, the interplay of institutions and the provision of incentive structures which impact selection into entrepreneurship, as well as the supply and type of entrepreneurial activity, influence economic development.

3. *Better Institutions – Higher Acceptance?*

In the concept of collective acceptance (Tuomela & Balzer, 1999), certain entities get their social status by virtue of a collective creation process. One distinguishes between collectively creating ideas, collectively holding and maintaining ideas, and collectively realizing ideas. The social reasons necessary for collective acceptance belong either to the intention-family or to the belief-family of attitudes. A state of acceptance is generated by mental action of acceptance and the reflection of what is accepted as well as the acceptance of other group members (Tuomela, 2003). In this context, institutional acting means acting as a member of a group “governed by a social norm accompanied by sanctions” (Tuomela, 2003, p. 137). The norms that are most important for this work are rule-norms that are imposed by authorities (i.e., governments).

Institutions are comprised of formal and informal rules that govern human behavior. Enforcement of certain behavior can occur through social pressure by the group, the power of a third party who can utilize force against violators, and internalization (Boettke & Coyne, 2006). Enforcement through internalization is of special importance when certain behavioral outcomes (i.e., entrepreneurial activities) cannot be easily enforced by power or social pressure. We introduce a simple mechanism for acceptance of institutions that is necessary in a process of internalization, in which institutional acceptance is a function of institutional quality. However,

institutional quality is perceived differently by individuals of a group. Differences in individual perceptions of institutional quality depend on opportunity costs, information, and compliance of individual values and beliefs with the respective institutional arrangement.

We derive the hypothesis that a higher degree of institutional quality in terms of economic freedom (for example, better enforcement of legal rights or lower degree of corruption) leads to an increase in acceptance of general rules (such as the tax regime) by both self-employed and non-self-employed groups. However, one would expect self-employed individuals to assess the institutional setting more sensitively, as their performance is directly affected by it. A bad institutional setting may render all entrepreneurial efforts ineffective and diminish income sharply. Thus, their acceptance of bad institutions should be lower than the acceptance of non-self-employed individuals. However, the difference should be larger when institutions are perceived as poor and lower quality (if not negative), as opposed to when institutions are perceived as good. Consequently, self-employed individuals should be better informed about the institutional setting (because of their higher stakes) than non-entrepreneurs. Additionally, current research about value and belief differences between the self-employed and non-self-employed groups has shown that self-employed people rate items like self-direction, stimulation, and achievement as more important than do non-self-employed people (Noseleit, 2009). Since these values have a strong relation to freedom, institutions associated with higher degrees of economic freedom can be expected to correspond more to the values of self-employed persons than non-self-employed persons. Jointly, these characteristics lead to the second hypothesis, which implies that entrepreneurial acceptance of institutions is more accentuated than the reaction of non-entrepreneurs: bad institutions are less accepted, while good institutions are more accepted.

4. *Entrepreneurs' Acceptance of Institutions*

In order to get a deeper understanding of institutional acceptance and its link to institutional quality, we employ different institutional measures, all linked to economic freedom, that are of special importance for entrepreneurial activity in a multi-country comparison. Proxies for institutional quality measures are derived from the Fraser

Economic Freedom of the World database that is used to calculate the Economic Freedom of the World Index (EFW-Index). A classic overview of what the EFW-Index measures includes "personal choice, voluntary exchange coordinated by markets, freedom to enter and compete in markets, protection of persons and their property from aggression by others" (Gwartney, Lawson, & Norton 2008).

As a proxy for how much self-employed people accept national institutions, data from the European Social Survey, Round II (ESS), is employed. The ESS is one of the most rigorous cross-country surveys with respect to methodological issues. The ESS and EFW-Index data are for the year 2005. This paper uses data about self-employed individuals in order to measure entrepreneurs' institutional acceptance as well as country-specific information on the socio-economic composition of the self-employed group. Table 1 gives the definition of the proxies for institutional acceptance and institutional quality. Table A2 in the appendix reports the number of the self-employed and its percentage of the total workforce in the sample used to calculate institutional acceptance for each country as well as the specific acceptance scores.

Table 1. Definitions of institutional acceptance and institutional quality

Institutional acceptance:	*Definition:*
Entrepreneurs' acceptance of proper tax payments*	Citizens should not cheat on taxes. Disagree strongly; agree strongly (Likert scale 1 to 5)
Entrepreneurs' acceptance of legal system*	Personally trust the legal system? No trust at all; complete trust (Likert scale 0 to 10)
Institutional quality:	
Area 1: Size of government: expenditures, taxes, and enterprises+	Indicates the allocation of goods and services to government vs. individuals, households, and enterprises.
Area 2: Legal structure and security of property rights+	Indicates the degree of protection of individual property.

* Both indicators for institutional acceptance have been normalized to values between 0 and unity. Low values indicate little agreement/trust and larger values indicate higher agreement/trust.
+ The components of the EFW-Index take on values between 0 and 10. Higher values indicated more economic freedom.
Source: Jowell et al. (2005) and Gwartney, Lawson, & Norton (2008), Appendix 2.

The acceptance of proper tax payments is probably the litmus test for the attitude of entrepreneurs in most countries, since the picture of the self-employed that is drawn by public opinion is often related to fiscal fraud. Figure 2 plots the entrepreneurs' self-reported acceptance of proper tax payments against institutional quality measured by the Area 1[2] measure (size of government: expenditures, taxes, and enterprises) of the EFW database. Larger values of the acceptance of proper tax payments indicate that self-employed individuals agreed more strongly with the statement that citizens should not cheat on taxes (standardized between 0 and 1). Larger values in the Area 1 measure of the EFW database indicate a higher scoring in this respective field of the EFW-Index and can be interpreted as a higher compliance with economic freedom. We observe that self-employed individuals report greater agreement with proper tax payments in countries with higher Area 1 values.

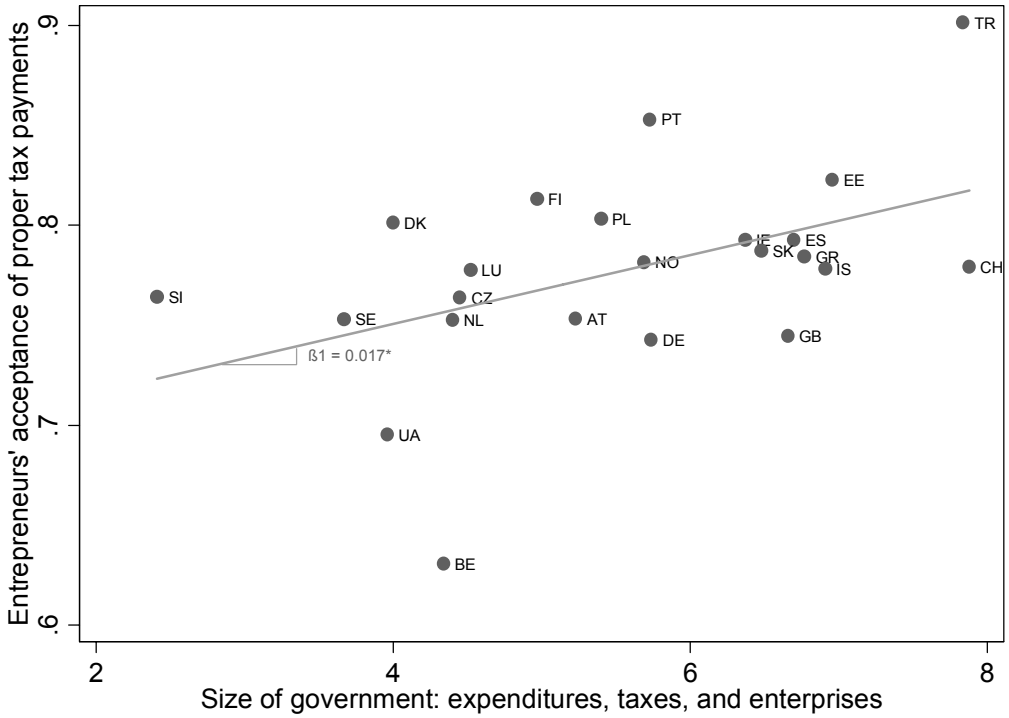

Figure 2. Institutional acceptance (tax payments) and institutional quality (EFW-Index, Area A1)

[2] The Area A1 measure is one out of five areas that are used in the Economic Freedom of the World project to derive the EFW index. This index is aimed at measuring the "consistency of a nation's institutions and policies with economic freedom" (Gwartney et al., 2008, p. 3).

Next we link the Area 2 index (legal structure and security of property rights) to the acceptance of the legal system. On the y-axis in Figure 3, larger values indicate higher trust in the legal system (standardized between 0 and 1). The countries' respective scores in the Area 2 index are plotted on the ordinate. The results indicate that a higher quality of the legal structure and security of property rights is positively related to the trust of the self-employed group in the legal system.

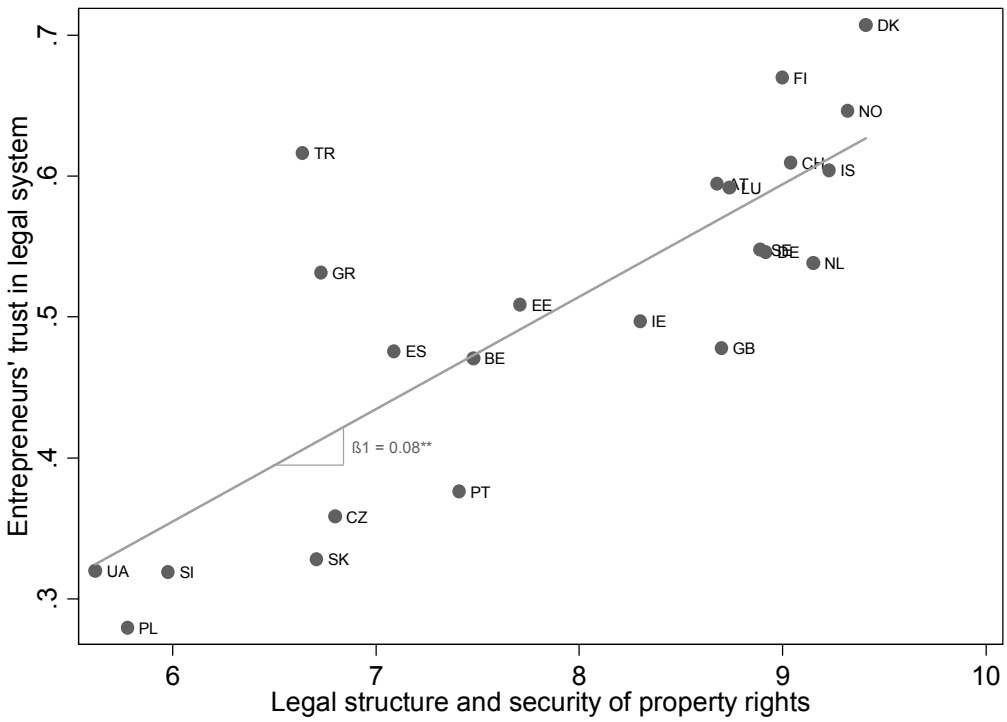

Figure 3. Institutional acceptance (trust in legal system) and institutional quality (EFW-Index, Area 2)

Although the recurring relationship between measures of institutions with respect to economic freedom and institutional acceptance of self-employed individuals indicates that willingness to accept institutions increases with their quality, the results might be driven by country differences in the composition of the self-employed groups. Thus one can assume that not only the nature of entrepreneurship changes as proposed by Baumol (1990), but also the people who choose to be self-employed systematically differ among countries due to differences in institutional setups. Using the same indicators of economic freedom, Nyström (2008) analyzed the relationship between institutional settings and entrepreneurship and found that government size as well as the legal structure and security of property rights have a positive effect on

self-employment rates. It follows that the link between institutional quality and institutional acceptance might be simply driven by country-specific differences in the socio-economic characteristics of the self-employed groups.

In order to test the robustness of our statement, we performed regressions controlling for country differences in the individual characteristics of the self-employed that have been used to derive country measures of institutional acceptance. The country composition of self-employed people in the sample is very heterogeneous (see Appendix A1 for summary statistics). The mean age of the self-employed persons in the survey is 50 years, reaching from a minimum mean age of 39.6 years in Slovakia to 56.4 years in Greece. The mean share of male entrepreneurs between countries is 65.5%, where Ukraine has the smallest share of male entrepreneurs (50%) in the sample and Turkey has the largest (91%). The average share of necessity entrepreneurship, roughly indicated by the share of self-employed individuals with prior unemployment over all self-employed individuals in the sample, is 10.2 % over all countries included in the sample. Finland has the smallest share of necessity entrepreneurship (3%), while the Ukraine has the largest one, reaching 31%. Differences in the share of necessity entrepreneurship also point to differences in the nature and structure of entrepreneurship (Acs & Varga, 2005). Information about the annual household income (measured in 12 groups from less than 1800 € to 120.000 € or more) is used to calculate income levels of the self-employed. Annual household income of self-employed individuals is smallest in Ukraine, Turkey and Poland and highest in Luxemburg, Switzerland and Denmark.

The seemingly unrelated regression technique (SUR) was applied to deal with possible correlations of the errors across the equations. The SUR model is suitable for analyzing multiple equations when errors may be correlated across equations. In general, SUR is an extension of linear regression. In our case, variables of the equations could be correlated not only because some of the independent variables were the same in each equation, but also because the data was based on the same dataset. Due to the small sample size, test statistics were shifted from chi-squared and Z statistics to F and t statistics. Table 2 presents the regression results of the SUR model, which were also supported by simple OLS. However, the small sample size allows only cautious interpretation.

Table 2. Entrepreneurs' acceptance of institutions

	Model I		Model II	
	Acceptance of proper tax payments	Acceptance of legal system	Acceptance of proper tax payments	Acceptance of legal system
Area 1 index: size of government exp, taxes, and enterprises	0.014** (0.005)	–	0.012* (0.005)	0.012 (0.008)
Area 2 index: legal structure and security of property rights	–	0.086** (0.019)	0.019 (0.019)	0.075** (0.019)
Share of male self-employed	0.355** (0.108)	0.683** (0.165)	0.335** (0.103)	0.671** (0.158)
Mean age of self-employed	0.006+ (0.003)	0.015** (0.005)	0.005* (0.003)	0.017** (0.005)
Share of necessity entrepreneurs	0.039 (0.219)	0.524 (0.333)	-0.034 (0.214)	0.649+ (0.326)
Mean household income of self-employed	-0.016** (0.005)	-0.021+ (0.012)	-0.026** (0.008)	-0.014 (0.012)
Constant	0.247 (0.225)	-1.312** (0.337)	0.236 (0.216)	-1.407** (0.329)
Number of observations	23	23	23	23
R-squared	0.55	0.82	0.60	0.83

Seemingly unrelated regression using small-sample statistics. ** significant at 1%, * significant at 5%, + significant at 10%.

The results suggest that differences in the socio-economic composition of self-employed groups in the used data account for differences in institutional acceptance. However, the quality of institutions (the degree of economic freedom) stays significant. Furthermore, the coefficients of institutional quality changed only slightly, as compared to a model where institutional quality is the only predictor of institutional acceptance.

Moreover, entrepreneurs' acceptance of institutions might be mainly governed by the institutional acceptance of other group members (i.e., all other non-self-employed people). At the country level, acceptance of the legal system by both self-employed and non-self-employed groups is almost perfectly correlated, indicating the very high explanatory power of the model. With respect to the acceptance of proper tax payments, we still observed a correlation of 0.85 at the level of countries (Appendix A3). When including the respective institutional acceptance of non-self-employed people as an explanatory variable for entrepreneurs' acceptance of institutions, we

still found a significant impact of the quality of institutions. Table 3 reports the respective results. However, when specifying a full model including country differences in the composition of the self-employed group (such as the share of males, mean age, share of necessity entrepreneurs, and mean income), all independent variables except for the acceptance of non-self-employed individuals turned out to be non-significant. Such a model suffers from severe multicollinearity in addition to leaving only a few degrees of freedom.

Table 3. Entrepreneurs' acceptance of institutions and institutional quality

	Model III		Model IV	
	Acceptance of proper tax payments	Acceptance of legal system	Acceptance of proper tax payments	Acceptance of legal system
Area 1 index: size of government exp, taxes, and enterprises	0.008* (0.004)	–	0.007^{+} (0.004)	–
Area 2 index: legal structure and security of property rights	–	0.01* (0.005)	–	0.01^{+} (0.005)
Acceptance of proper tax payments by non-self-employed	1.307** (0.164)	–	1.292** (0.164)	-0.05 (0.125)
Acceptance of legal system by non-self-employed	–	0.973** (0.05)	0.026 (0.044)	0.983** (0.054)
Constant	-0.314* (0.127)	-0.082** (0.023)	-0.313* (0.127)	-0.041 (0.107)
Number of observations	23	23	23	23
R-squared	0.79	0.98	0.79	0.98

Seemingly unrelated regression using small-sample statistics. ** significant at 1%, * significant at 5%, $^{+}$ significant at 10%.

Table 3 revealed a high degree of correlation between entrepreneurs' and non-entrepreneurs' acceptance of formal institutions. However, this acceptance is not perfectly the same. Thus, two main questions emerge:

- Do entrepreneurs differ in their acceptance of institutions in comparison to the rest of society?
- If so, is the deviation larger in countries with institutions perceived to be bad?

We were especially interested in how rule-norms imposed by authorities are perceived by these two groups. In order to analyze possible differences, simple group comparison tests were carried out. We analyzed the acceptance of proper tax payments and the acceptance of the legal system. First, we used a Wilcoxon matched-pairs-test to identify differences between self-employed and non-self-employed groups in 23 countries at the country level. For each country, acceptance of self-employed individuals was matched to acceptance of non-self-employed individuals. We observed that the distributions for the groups were not the same. The corresponding results are reported in Table 4.

Table 4. Differences in acceptance of self-employed and non-self-employed

		Self-employed		Non-self-employed		
	No. of obs.	Mean	Median	Mean	Median	Wilcoxon matched-pairs signed-ranks test*
Acceptance of proper tax payments	23	0.777	0.779	0.803	0.798	z = -3.437 P > |z| = 0.003
Acceptance of legal system	23	0.505	0.531	0.52	0.543	z = -3.437 P > |z| = 0.001

* The Wilcoxon matched-pairs signed-ranks test can be regarded as similar to a matched pairs t-test and is used when the data does not meet the assumptions necessary for a parametric test.

The deviation of entrepreneurs' acceptance can be expected to be larger in countries with relatively worse institutions in terms of economic freedom. Institutional quality should be of more importance for entrepreneurs, since this group is especially affected in their freedom of action in many respects. Figures 4 and 5 show the deviation in institutional acceptance of entrepreneurs and its link to institutional quality in terms of economic freedom. Positive values of deviation mean that the non-self-employed had higher acceptance than the self-employed, zero difference means that entrepreneurs' acceptance of institutions is the same as the acceptance of the rest of society, and negative values mean that entrepreneurs have a higher acceptance in comparison to their fellow citizens. Both the deviation in the acceptance of proper tax payments and the deviation in trust in the legal system are negatively related to the respective measure of institutional quality with respect to economic freedom. This might imply that better institutions in terms of economic freedom increase entrepreneurs' institutional acceptance relatively to the rest of society.

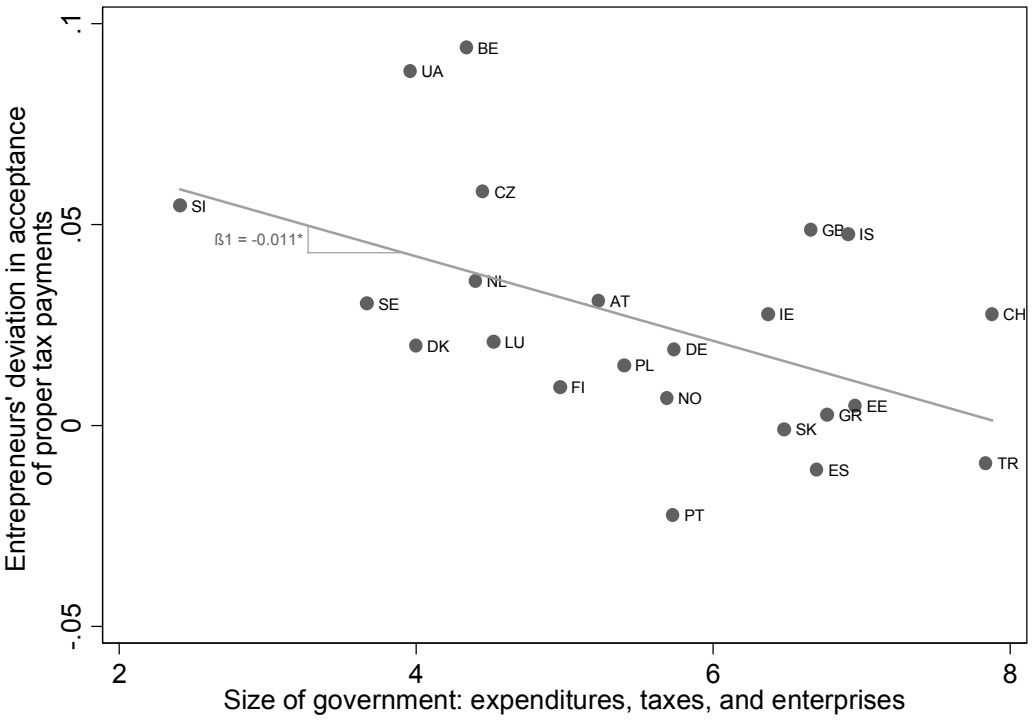

Figure 4. Deviation in institutional acceptance (tax payments) between non-self-employed and self-employed and institutional quality (EFW-Index, Area A1)

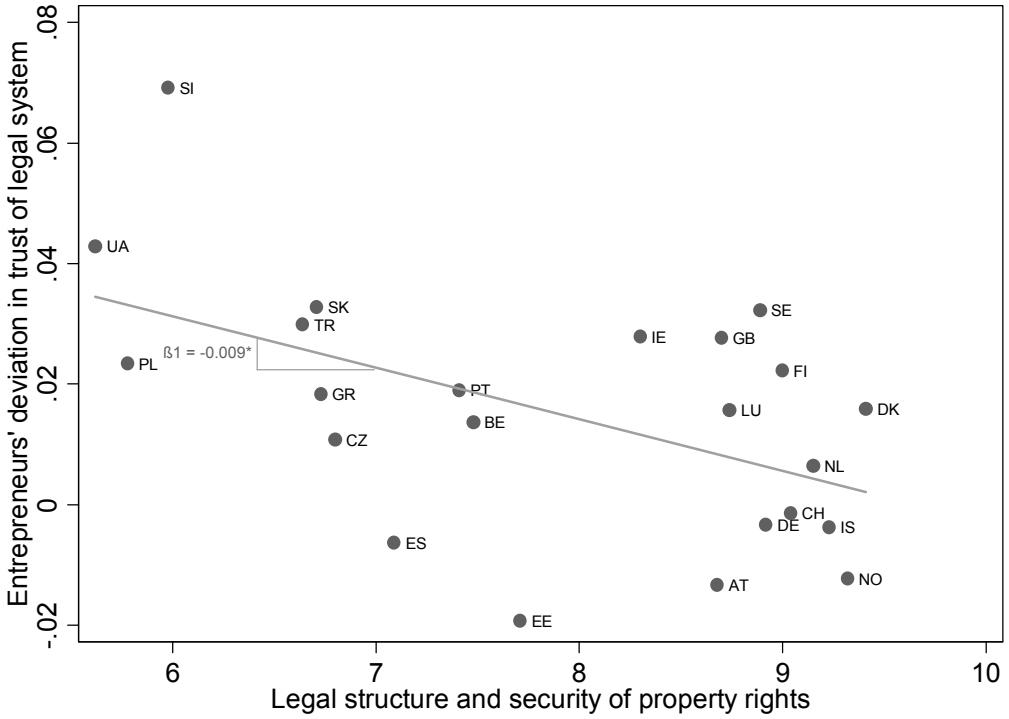

Figure 5. Deviation in institutional acceptance (legal system) between non-self-employed and self-employed and institutional quality (EFW-Index, Area A2)

In order to test the robustness of the observed relationship between institutional quality and the acceptance ratio, we extended the underlying data with additional data for six countries using data from ESS Rounds I and III and also applied an alternative measure for institutional quality. From Round I, data for Israel, Italy and Hungary was added, and for Round III, data for Cyprus, France and Russia. Corresponding data for institutional quality from the respective years has been added as well. However, data about acceptance of proper tax payments was not surveyed in the other ESS round; therefore, we focused on the robustness of the results for trust in the legal system. The basic question we asked is: how stable is the observed relationship in which entrepreneurs deviate in acceptance of the legal system from the rest of society in dependence of the quality of the underlying institutional set-up? As an alternative measure for institutional quality of property rights we also used data from the Global Competitiveness Index.

The basic relationship that was tested is

$$\left(accept_{se} / accept_{nse}\right) = F\alpha_j + \beta_j Quality + \gamma_j S_j + \varepsilon_j$$

where the ratio of acceptance of self-employed and non-self-employed is explained with a set of independent variables (denoted by the matrix *F*), the institutional quality (derived from the EFW-Index and alternatively the Global Competitiveness Index), and a set of switch variables S_j that is hypothesized to have a relation with the acceptance ratio. For independent control variables, we applied ratios of socio-economic characteristics between self-employed and non-self-employed, namely, the gender ratio, ratio of mean age, and ratio of household income.

We conducted robustness analysis for the acceptance ratio of the legal system following the approach of Beugelsdijk, de Groot, and van Schaik (2004). Two criteria have been used to select switch variables. First, the correlation between institutional quality and acceptance should be less than 0.50 in absolute values, and second, the correlation within switch variables should be less than 0.50 in absolute values. A list of the variables used is documented in Table A5 in the appendix. The switch variables are introduced in the primary regression (presented in Table A4) in all possible combinations of one to three variables at a time.

Table 5 reports the results for the institutional quality variable for two different models, the first using the EFW data to measure institutional quality, and the second based on Global Competitiveness Index data. Other control variables are not reported since the stability analysis did not contain any interesting results with respect to those variables that considerer country-specific socio-economic characteristics.[3]

Table 5. Stability of the relation between acceptance ratio of legal system and institutional quality

	No of regress.	Mean value	Std. dev.	Fraction of (+) values	Fraction of significant (+) values	Test 1	2	3	4	5	6
EFW-Index: Property rights	337	0.21	0.028	1.0	1.0	Yes	Yes	Yes	Yes	Yes	Yes
Global Competitiveness Index: Property rights	337	0.218	0.032	1.0	0.995	Yes	Yes	No	Yes	Yes	Yes

Based on all possible combinations of switch variables, 337 regressions were estimated. The robustness of the results was assessed by employing a test procedure comparable to that described in Akçomak and ter Weel (2008). The six tests employed were:

1. Strong sign test: All coefficients for institutional quality of property rights have the same sign.
2. Weak sign test: 95% of the coefficients for institutional quality of property rights have the same sign.
3. Strong extreme bounds test: A robust relationship exists if all estimated coefficients for the institutional quality of property rights have the same sign and are statistically significant.

[3] These results are available upon request. We also ran regressions employing the Entrepreneurial Attitudes Index (ATT) as an independent variable that aims to measure entrepreneurial attitudes associated with the entrepreneurship-related behavior of the country population (Acs & Szerb, 2009). The hypothesized relationship between the acceptance ratio and the ATT is that in countries with higher entrepreneurial attitudes of the total population, the difference in institutional acceptance between self-employed and non-self-employed should be smaller. The ATT was available for 24 countries considered in this analysis. However, the ATT was not significant. Additional variables such as a Gini for income inequality have been tested as well.

4. Weak extreme bound test: The relationship between the acceptance ratio of the legal system and institutional quality of property rights is robust if 95% of all coefficients have the same sign and are significant. This test follows the relaxation of the strong extreme bounds test introduced in Sala-i-Martin (1997).
5. Weighted extreme bounds test: This test is accepted if 95% of the estimated coefficients for institutional quality of property rights are significant and have the same sign. The weights are based on the likelihood values of the regression.
6. Value of the cumulative density function: Accepted if the test score is smaller than 0.05 or larger than 0.95.

Using data from the EFW database reveals a robust relationship between institutional quality of property rights and the acceptance ratio of the legal system. The alternative indicator of institutional quality derived from the Global Competitiveness Index does not pass the strong extreme bounds test, but it does pass all other tests.

5. Conclusions

In this paper, we tried to shed some light on the relationship of institutional quality in terms of economic freedom to entrepreneurs' acceptance of institutions. Our basic findings include:

- Entrepreneurs' acceptance of institutions is higher in countries with better institutions.
- Deviations in acceptance between entrepreneurs and non-entrepreneurs decreases with better institutions.

The findings of this study suggest that economic freedom, which is crucial for entrepreneurial activity, allows entrepreneurs to act in an environment which is to a large degree in accordance with their preferred incentive structures, and thus allows for higher acceptance. Furthermore, economic freedom seems to be important for entrepreneurs' willingness to act as a member of the whole society. The well-known examples of destructive entrepreneurship show how entrepreneurial activity can

develop unwanted results. However, as our results suggest, even smaller nuances in the deviations of institutions seem to have an effect on institutional acceptance gaps.

However, this paper is only a first hint that institutional quality significantly matters for entrepreneurs' acceptance of institutions that are important for entrepreneurial activity. It would be interesting to analyze time series data to see how entrepreneurial acceptance of institutions reacts to changes in the governance setting. This would allow for a more direct application of models of institutional change. Thus, possible implications for policy may be drawn. In addition, more research may be able to draw more attention to differences in the impact of institutions on economically important sub-groups of society.

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Appendix A1. Summary statistics

Variable		No. of obs.	Mean	Median	Std. dev.	Min.	Max.
Self-employed	Acceptance of proper tax payments	23	0.777	0.779	0.052	0.631	0.901
	Acceptance of legal system	23	0.505	0.531	0.123	0.28	0.707
Non-self-employed	Acceptance of proper tax payments	23	0.803	0.798	0.032	0.725	0.892
	Acceptance of legal system	23	0.52	0.543	0.115	0.303	0.723
Size of government exp, taxes, and enterprises		23	5.525	5.69	1.414	2.41	7.88
Legal structure and security of property rights		23	7.884	8.3	1.249	5.62	9.41
Share of male self-employed		23	0.655	0.66	0.088	0.5	0.91
Mean age of self-employed		23	50	51.09	4.435	39.6	56.4
Share of necessity entrepreneurs		23	0.102	0.08	0.065	0.03	0.31
Mean household income of self-employed		23	6.038	6.98	2.128	1.26	8.64

Appendix A2. Country-wise summary statistics of institutional acceptance. Continued on next page.

		Self-employed		Non-self-employed	
	No. of entrepreneurs in the sample (percentage of workforce in the sample)	Proper tax payments by citizens	Trust in legal system	Proper tax payments by citizens	Trust in legal system
AT	143 (7.7%)	0.753	0.595	0.784	0.581
BE	110 (7.3%)	0.631	0.471	0.725	0.484
CH	187 (9.5%)	0.779	0.610	0.807	0.608
CZ	165 (6.4%)	0.764	0.359	0.822	0.369
DE	173 (7.0%)	0.743	0.546	0.762	0.543
DK	91 (6.5%)	0.801	0.707	0.821	0.723
EE	95 (5.4%)	0.823	0.509	0.828	0.490
ES	152 (11.6%)	0.793	0.476	0.782	0.470
FI	145 (7.7%)	0.813	0.670	0.823	0.692
GB	133 (7.6%)	0.745	0.478	0.794	0.506
GR	297 (15.9%)	0.784	0.531	0.787	0.550
IE	201 (10%)	0.793	0.497	0.820	0.525
IS	63 (12.1%)	0.778	0.604	0.826	0.600
LU	94 (7.3%)	0.777	0.592	0.798	0.607
NL	108 (6.3%)	0.753	0.539	0.789	0.545
NO	138 (8.2%)	0.781	0.646	0.788	0.634
PL	158 (11%)	0.803	0.280	0.818	0.303
PT	162 (10.1%)	0.853	0.376	0.831	0.395
SE	136 (7.5%)	0.753	0.548	0.784	0.580
SI	50 (4.5%)	0.764	0.319	0.819	0.388
SK	97 (7.7%)	0.787	0.328	0.786	0.361
TR	156 (18.4%)	0.901	0.616	0.892	0.646
UA	45 (2.6%)	0.695	0.320	0.784	0.363

Appendix A2. Country-wise summary statistics of institutional acceptance. Continued from previous page.

Additional data for the robustness checks (Source: ESS Round I and ESS Round III).					
		Self-employed		Non-self-employed	
	No. of entrepreneurs in the sample (percentage of workforce in the sample)	Proper tax payments by citizens	Trust in legal system	Proper tax payments by citizens	Trust in legal system
IL (2003)	253 (12.9 %)	–	0.694	–	0.660
HU (2003)	154 (10.9 %)	–	0.478	–	0.514
IT (2003)	250 (27.3 %)	–	0.558	–	0.557
CY (2006)	123 (15.6 %)	–	0.612	–	0.606
FR (2006)	136 (7.5 %)	–	0.474	–	0.489
RU (2006)	80 (4.0 %)	–	0.325	–	0.376

Appendix A3. Correlation table

		1	2	3	4	5	6	7	8	9	10
1	Acceptance of proper tax payments – self employed	1									
2	Acceptance of proper tax payments – non self employed	0.85	1								
3	Acceptance of legal system –self employed	0.20	0.11	1							
4	Acceptance of legal system – non self employed	0.21	0.15	0.98	1						
5	Size of government exp, taxes, and enterprises	0.47	0.30	0.24	0.17	1					
6	Legal structure and security of property rights	-0.03	-0.13	0.81	0.78	0.09	1				
7	Share of male self-employed	0.45	0.46	0.47	0.52	0.25	0.26	1			
8	Mean age of self-employed	-0.05	-0.22	0.50	0.50	-0.11	0.54	-0.17	1		
9	Share of necessity entrepreneurs	-0.11	0.00	-0.51	-0.51	-0.10	-0.57	-0.25	-0.76	1	
10	Mean household income of self-employed	-0.21	-0.29	0.68	0.66	-0.01	0.88	0.24	0.62	-0.68	1

Appendix A4. Regression results acceptance ratio of legal system (trust in legal system of self-employed / trust in legal system of non-self-employed)

	Model I	Model II
Freedom Index: Property rights	0.178** (0.043)	–
WEF-Competitiveness Index: Property rights	–	0.185** (0.055)
Gender ratio	0.105 (0.098)	0.028 (0.094)
Age ratio	0.249 (0.163)	0.253 (0.169)
Household income ratio	0.131 (0.117)	0.125 (0.116)
No. of observations	29	29
R-squared	0.44	0.41

OLS estimation with robust standard errors in parentheses. ** significant at 1%, * significant at 5%, + significant at 10%.

Appendix A5. Variables employed in the stability analysis

Variable	Definition
necessity	Share of self-employed that suffered from previous unemployment over all self-employed.
gndr	Percentage of males.
age	Mean age.
sclmeet	How often meet with friends, relatives or colleagues.
rlgdgr	How religious are you.
vote	Voted last election.
tvtot	TV watching, total time on average weekday.
rdtot	Radio listening, total time on average weekday.
catholics	Percentage of Catholics.
orthodox	Percentage of Orthodox.
other_christians	Percentage of other Christians.
jews	Percentage of Jews.
eastern_rel	Percentage of eastern religions.