Markets Wanted – Expectation Overshooting in Transition Countries

Frank Neher

Economics

2011/1

Markets Wanted – Expectation Overshooting in Transition Economies

Frank Neher[*]
Freie Universität Berlin
January 5th 2011

Abstract:
We analyse and compare individual beliefs about the effects of competition and their evolution over time in transition economies and experienced market economies. At the onset of transition, competition beliefs in transition countries were far more positive than in market economies. Over time this difference has vanished. Convergence can be attributed to changing believes in transition countries. We argue that overly optimistic competition beliefs in transition countries contributed to the possibility of implementing far reaching pro-market reform and show that competition beliefs underlay support for economic reform. The empirical analysis is supplemented with a simple learning model rationalizing the findings on competition belief overshooting.

Keywords: convergence, beliefs, public support, reform, bias, signalling

JEL: D72, D83, P5

Economics

Introduction

Following the dissolution of the Soviet Union, a number of countries engaged in a process of systemic change, replacing formerly centrally planned economies with market economies. Market reforms were in general supported by democratic decision-making. Involving citizens into the political process resulted in political constraints in the formulation of reform policies: beliefs of the electorate about how well markets work found their expression in the ballots.

In the present paper individual beliefs on the effect of market competition and their evolution over time in transition economies and experienced market economies are analysed and compared. We argue that overly positive beliefs about the performance of markets prevailed at the time when transition began, allowing the implementation of far reaching reform policies. Hence, they played an important role at a crucial juncture in the history of those countries, contributing to extend the role of the market in the economy and reducing the role of the government.

There is a growing body of economic literature which seeks to understand the interaction between reform policies, policy outcomes and the reform path. Using a political economy approach, a number of theoretical contributions establish that adverse reform outcomes might lead to policy reversals or abolition of ongoing reforms.[1] In fact, public support for market reforms was widespread in most post-communist countries when strong reform policies were introduced. While policy measures and resulting outcomes varied greatly (Svenjar 2002, Milanovic 1999), all transition countries experienced a reduction in output, rising inequality, inflation and unemployment (World Bank 2002, EBRD 1999). Economists and most politicians have been aware, that adaption processes are likely to lead to a temporary economic downturn, resulting in a J-shaped evolution of output and employment over the course of transition. Still a lot of relevant actors where taken by surprise when public support rapidly diminished, reforms stalled, and in some countries parties opposing market reforms were voted into power (Wyplosz 1993, Fidrmuc 2000).

Analysing survey and election data, empirical contributions complement theoretical approaches to understand the determinants of public support for market reforms. Using data from the Russian elections in 1995, Warner (2001) exploits regional variation in reform effort and finds that more intense reforms result in higher public support. Using election and survey data from 1991 to 1997 Jackson et al. (2003) show that the growth of new enterprises resulted in a pro-reform constituency which changed the political arena. For Bulgaria, Valev (2004) presents the rather surprising finding, that personal unemployment results in stronger support

---

[1] See for example Rodrik (1995), Dewatripont and Roland (1992, 1995) and Wyplosz (1993). Roland (2000, 2002) provides an extensive survey of the literature.

for reform. He uses survey data and argues that the majority of the population is aware of the necessary short term cost of reforms and expects future benefits. Doyle and Fidrmuc (2003) use opinion surveys from the Czech Republic from 1991 to 1998 to document political preference change of the constituency over time. While reforms had broad support at the onset of transition and political preferences mostly varied over age and education, economic outcomes got more decisive in later years. Private economy jobs and high income increased, the experience of widespread unemployment in the social environment decreased reform support. Another survey based analysis for Russia is presented by Eble and Koeva (2002). They find that education has a positive, age a negative effect on the support for reform. In addition, ideology, private sector participation and regional characteristics play a role in shaping preferences for reform. Focusing on political constraints in the reform process, Doyle and Walsh (2007) find that voting in 1990 in the Czech Republic was forward-looking and associated expectations largely correct.

Next to country studies, some authors have studied groups of transition countries. Fidrmuc (2000) analyses election outcomes for the Czech Republic, Hungary, Poland and Slovakia exploiting regional variation in population composition. He finds that private entrepreneurs, white collar workers and university educated voters are pro-reform, while the unemployed, retirees, blue collar and agricultural workers oppose reform. Hayo (2004) uses two data sets to separately perform a macro- and microeconomic analysis. On the macro level, unemployment, inflation, privatization and enterprise restructuring are found to reduce public support for market reforms while democratization, foreign aid per capita and the creation of working financial markets increase support. On the micro level, labour market status, education, age, gender, the economic status of a person and ideology affect support for the creation of a market economy. Specifically, higher education and younger age are found to increase reform support; individual unemployment decreases the acceptance of reforms. Kim and Pirttilä (2006) use the Central and Eastern Eurobarometer Survey, also used by Hayo (2004), to examine the linkages between political constraints and economic reform. They show that support for reforms depend on past macroeconomic conditions and the perception of individual consequences of future reforms.

The present study uses a difference-in-difference estimation approach to add to the understanding of public support for reform. However, instead of directly analysing survey questions on reform or election results, competition beliefs are analysed. It is argued that beliefs about the desirability or non-desirability of competition are fundamental to individual attitudes towards a market economy and accordingly shape attitudes toward systemic reform. We find that at the onset of transition, beliefs in competition were far more optimistic in

transition countries than in established market economies, contributing to the acceptance of wide ranging economic reforms. Overly optimistic competition beliefs which are later revised, seem to contrast Doyle's and Walsh's (2007) finding that individuals behave forward looking and hold correct anticipations. This perspective of biased beliefs will be challenged in the second part of the paper where a simple signalling model is employed to show that potentially biased media might induce perfectly rational agents to overestimate the merits of markets.

In the following section the data and sample used in the empirical analysis will be introduced. In Section 3 potential determinants of competition beliefs are evaluated. Descriptive and estimated results on the overshooting and convergence hypothesis are presented in Section 4. Then the linkage between competition beliefs and support for economic reforms will be considered in Section 5. In Section 6 possible explanations for the overshooting phenomenon will be considered. A simple signalling model will help to rationalize the empirical findings. Section 7 finally concludes.

Data and Sample

The analysis is based on data from the World Value Survey and the European Value Survey (WVS, 2006), a multinational survey conducted in four waves since 1980 in a host of countries[2]. The central item we focus on is a question on individual beliefs about the effects of competition:

> "Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between.
> Sentences:
> Competition is good. It stimulates people to work hard and develop new ideas vs. Competition is harmful. It brings the worst in people."

The emphasis on hard work and the development of new ideas clearly indicates that the question refers to the incentives that people expect from a system of *market* competition. The dependent variable *competition* is coded so that it takes higher values for more positive beliefs about competition (from '1 Competition is harmful' to '10 Competition is good'). Likert-scaled variables on self-reported beliefs and attitudes often exhibit a lot of noise. To minimize the influence of noise, a binary dependent variable, *competition_bin1*, with a cut-off at 1 is coded.[3] Robustness checks with dependent variables with cut-off points 2, 3, 4 and 5

---

[2] Detailed documentation of the data can be obtained from http://www.worldvaluessurvey.org/
[3] Using a binary dependent variable as opposed to an ordinal variable has some advantages for the choice and use of the appropriate econometric method. For a discussion see Winkelmann and Winkelmann (1998).

(*competition_bin2* - *competition_bin5*) and the original ordinal variable are performed. Descriptive statistics for the dependent variable are shown in Table 1. Competition beliefs have not been surveyed in the first wave of the WVS. Accordingly, only waves 2, 3 and 4 are used. The surveys of the second wave have been conducted in the years 1989-1993. In fact, most transition countries are surveyed in 1990, at the onset of transition.[4]

To explain the difference between transition countries and established market economies with respect to competition beliefs, we control for individual socioeconomic factors and macroeconomic conditions at the country level. The macro variables of interest are unemployment, per-capita GDP, GPD-growth and inflation and are taken from the World Bank Development Indicator database (World Bank, 2009).

[Table 1 about here]

OECD- and transition countries are included in the analysis. Due to data availability, the actual sample consists of 34 countries. We put two conditions on the data:

Condition 1) All countries where competition beliefs have not been surveyed in wave 2 (1989-1993) are dropped from the sample.

Condition 2) Countries with no observations in either the third or fourth wave are dropped.

The first condition is necessary because we want to observe individual attitudes at the onset of transition, i.e. in wave 2 (1989-1993). The second condition ensures that there are at least two time points for each country, a necessary prerequisite for an analysis of changes in attitudes over time. We are left with a sample of 115123 individual observations in 34 countries.[5] Sample countries, number of individual observations and country specific means of the dependent variable *competition_bin1* are shown in Table 2.

[Table 2 about here]

Determinants of Faith in the Market

To investigate the dynamics of competition beliefs, we control for individual- and macro-level characteristics. Respective variables, their explanations and summary statistics are listed in Table 3. Those regressors are primarily included to control for potential conflating effects. However, for some of those variables theoretical considerations justify their inclusion. Why and how would they affect competition beliefs?

Age determines an individual's position in the lifecycle. Success in competition demands physical and mental strength. At some point, aging reduces strength and thus the probability

---

[4] The actual survey year in each wave and country is shown in Table A1 in the Appendix.
[5] Albeit East- and West-Germany are unified since 1990, for the purpose of this study East Germany is treated as an independent transition country.

of successful competition. Accordingly, we can expect that a positive belief in competition declines with age. In addition, older individuals might possess human capital that is outdated and devalued in a competitive market environment (e.g. Chase 1998, Campos and Dabusinskas 2002, Guriev and Zhuravskaya 2009).

Different outcomes in the labour market for women and men are partly the result of a lower competitiveness of women (Gneezy et al. 2003, Datta Gupta et al. 2005). We hypothesize that less competitive behaviour of women comes with a less positive attitude toward competition. However, Gneezy et al. (2008) show that there is a strong cultural component in gender differences with regard to competitiveness, so that the influence of gender on competition in principle might be ambiguous across countries.

With different sets of dummy variables we will control for legal status, job status, job type and town size. Regarding legal status, there is no conjecture as to the effect of being divorced or widowed. Married men earn a wage premium, which in the literature is explained either by marriage induced productivity increases or the presence of characteristics which are simultaneously desired in the labour and marriage market (Chun and Lee 2001, Datta Gupta et al. 2005a and 2005b, Nakosteen and Zimmer 1997). In any case marriage raises the probability of successful competition so that married individuals should have more positive beliefs toward competition.

An individual's living environment presumably also influences beliefs. Dummy variables for town size are used to proxy for living environment. Population density rises with town size. Higher population density implies stronger competition due to more competitors. Thus bigger cities have stronger competition and their inhabitants should, in equilibrium have more positive attitudes toward competition.

The variables on job status, job type and income are problematic, since most probably there is a reciprocal relation with competition beliefs. Accordingly, specifications including those variables will result in biased estimates due to endogeneity. These variables will be included without employing the appropriate methods to tackle endogeneity issues as robustness checks only.

To control for economy-wide factors, macro variables are taken into account. The market is the arena where competition is enacted. Macro variables indicate the performance of the economy and thus of the market and might influence individual judgments about the desirability of markets and competition. An additional argument for the inclusion of macroeconomic variables comes from the literature on economic voting. There it is argued, that individual voting decisions are influence stronger by national economic conditions than by individual economic circumstances (Valev 2004). Finally, we follow Hayo (2004) who

presents compelling arguments for the inclusion of inflation, unemployment and GDP growth in the explanation of support for market reforms. We hypothesise that high inflation, high unemployment, low per-capita income and shrinking GDP (negative GDP growth) reduce support for competition. The descriptive statistics for macroeconomic variables are reported in Table 4.

[Table 3 about here]

[Table 4 about here]

Overshooting and Convergence in Competition Beliefs

First, the evolution of unconditional means of competition beliefs in varying samples is depicted. Econometric results using only micro-data are presented in the second part of this section. In the third part, macroeconomic variables will be added to the estimations and results from a extensive set of robustness tests will be reported.

Preliminary Results

More optimistic competition beliefs and subsequent convergence in transition countries can be observed for a variety of comparison groups. Average competition beliefs for East- and West-Germany with a quadratic fit are shown in Figure 1. The left panel shows the mean of the original ten scale variable *competition*, the right panel shows the mean of the binary *competition_bin1*. At the time of reunification, beliefs on competition on average have been more positive in East-Germany than in West-Germany. Over time, average beliefs of East-Germans converged to the West-German level. The same pattern can be found in Figure 2 and Figure 3. In Figure 2 the average competition beliefs of transition countries which are OECD members are compared to those of all other OECD countries.[6] In Figure 2a and Figure 2b *competition* and *competition_bin1* with a linear and quadratic fit are depicted. In Figure 3, the mean levels of *competition_bin1* in all transition countries in the sample are compared to those in all non-transition countries.[7]

---

[6] Country selection refers to OECD membership in 2009, i.e. Slovenia and Chile are not included.
[7] Average competition beliefs by country and wave are depicted in Figure C1, C2a and C2b in the Appendix.

Figure 1: Average levels of *competition* (left) and *competition_bin1* (right) and quadratic fit.
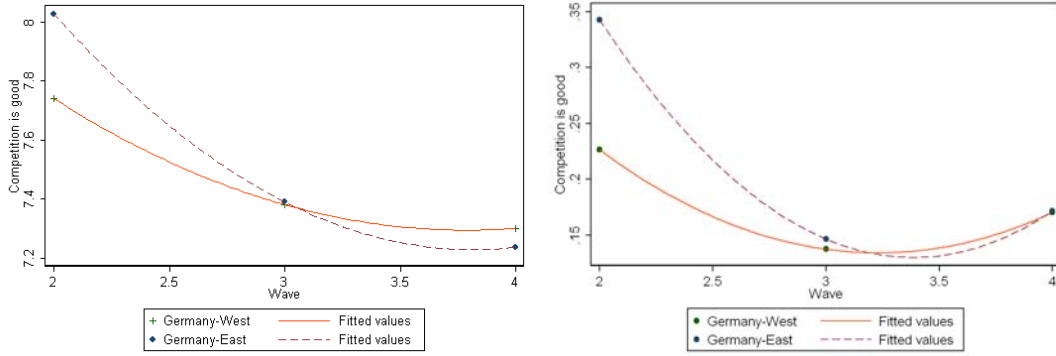
Figure 2a: Linear fit (left) and quadratic fit for country means of *competition*.
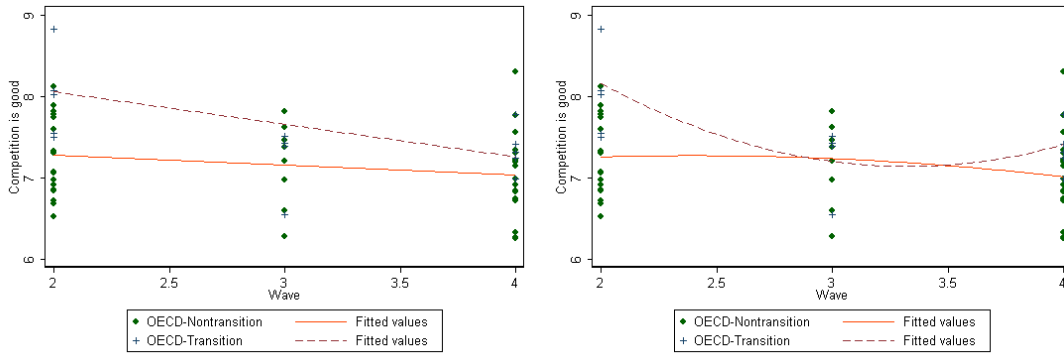
Figure 2b: Linear fit (left) and quadratic fit (right) for country means of *competition_bin1*.

Figure 3: Linear fit (left) and quadratic fit for country means of *competition_bin1*.

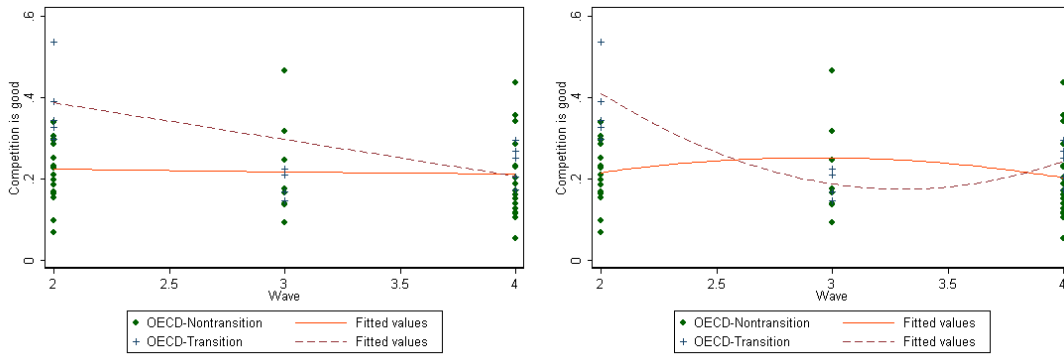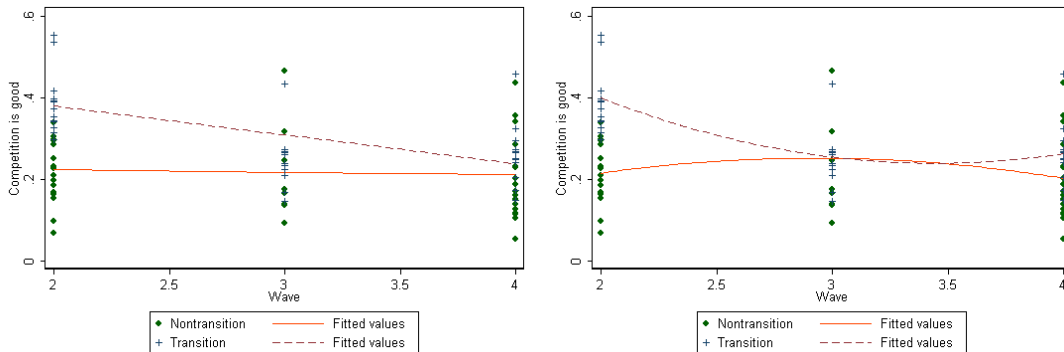Using the Wilcoxon rank-sum test, we test the hypothesis that respective samples are drawn from the same population or a population with the same distribution. For East- and West-Germany the hypothesis that the respondents to the question on competition come from a

similar population is rejected for the year of unification. However, the hypothesis can not be rejected for the surveys in 1997 and 1999, suggesting a convergence in competition beliefs. Using the same approach on the sample of all OECD countries does not provide clear cut indications for convergence. For each wave the hypothesis that the transition and non-transition sample are drawn from a similar population is rejected.

Econometric Results

The overshooting and convergence we observe in the descriptive data might result from conflating factors like cultural differences, structural differences, economic performance, level of education and others. To control for these possibly conflating factors, multivariate regressions are employed. Using a difference-in-difference estimation approach, the basic specification of the probit model takes the form

(1) $$B_{ict}^* = \alpha + \beta T_c + \gamma_t W_t + \delta_t (T_c * W_t) + \lambda' X_i + \varepsilon_{ict}$$

(2) $$\Pr(B_{ict} = 1) = \Pr(B_{ict}^* > 0).$$

Competition belief B of individual i, living in country c, being surveyed at time t, is explained by individual characteristics X_i, a transition-country dummy T_c, wave dummies W_t and the interactions of wave and transition dummies. The transition dummy captures the effect of living in a transition economy. The interaction variables tells us weather and how the effect of living in a transition economy changes over time. Following the overshooting and convergence hypothesis we expect a positive but over time diminishing effect of T_c on the probability of optimistic competition beliefs (i.e. $\beta > 0, \delta_t < 0$).

As already mentioned, the limited dependent variable is constructed from the *competition* variable with cut-off 1, i.e. only individuals who unambiguously state that competition is good, will be coded 1, all others zero. The estimation is first performed on the sample of OECD countries, in a second step the exercise is repeated using the full sample. On each sample three models are estimated. Model 1 only includes time dummies, transition dummies and interactions thereof.[8] Model 2 extends the model for the whole set of individual controls.[9] Finally, model 3 additionally includes country dummies to control for unobservable country specific characteristics.[10] The results are presented in Table 5. All six estimations convey the

---

[8] Note that time dummies are in fact wave dummies. The use of year dummies does not change central results. Some year dummies are insignificant and convergence can not be observed for all year-transition interactions, probably due to small case numbers for some years.
[9] Model 2 will be referred to as the standard specification.
[10] For estimation equations for model 2 and 3 see Item B1 in the Appendix.

same message. Living in a transition country significantly increases the probability of believing that market competition is good. The coefficients for the interaction dummies are negative and significant for both waves; the positive effect of living in a transition country on the probability for positive competition beliefs diminishes over time. With respect to competition beliefs, transition countries and experienced market economies get more similar over time.[11]

As shown by Moulton (1990), the inclusion of country dummies and other group or country specific variables, is likely to bias estimated standard errors downward. Accordingly, the results are derived using a robust estimator of variance, taking account of within country clustering. Robustness of these results is confirmed with a wide array of different estimation methods and specifications discussed below.

[Table 5 about here]

Let's shortly consider the empirical results with respect to other determinants of competition beliefs. Age has a negative and at best small effect. Woman are less likely to favour market competition. Self-employed have a higher probability tp be pro-market, part time workers a lower probability than fully employed workers. Managers and army members have more faith in the market system than blue collar workers. However, results on income, legal status and town size are ambiguous and do not allow clear cut conclusions regarding their influence on competition beliefs.

Macroeconomic Influences and Robustness

Macroeconomic variables might convey important information on markets and competition which could explain both, the difference and convergence in competition beliefs. To incorporate the effect of macro variables, the standard specification is estimated with the inclusion of the inflation rate, per-capita GDP, GDP growth rate and unemployment, each in turn and all simultaneously. Again the robust variance estimator, taking account of within-country clustering, is used. Results for the OECD sample are shown in Table 6, for the full sample in Table 7.

For the OECD sample no overshooting and no convergence is found. However, in the OECD sample used, Hungary is the only transition country left. The other transition countries have been dropped due to missing data or violation of Condition 1 or 2. The same estimations on the full sample, presented in Table 7, produce the familiar overshooting and convergence result. Still, results for the full sample have to be regarded with caution, since coefficients

---

[11] Estimations on the sample of East- and West-Germany alone, also confirm overshooting and convergence in competition beliefs. These and all following results that are not reported in full detail can be obtained from the author on demand.

indicating convergence are insignificant and there are only three transition countries in the full sample.

[Table 6 about here]

[Table 7 about here]

If per-capita GDP, GDP-growth and the inflation rate are simultaneously included in the probit estimation, the resulting coefficients for the full sample have the sign to indicates overshooting and convergence, but are insignificant. Employing instead an ordered probit, some significant results are obtained. Note that the coefficients for the macro variables contradict the intuition that better macroeconomic conditions increase the probability of positive competition beliefs.

There is ample evidence that preferences for redistribution differ between people from post communist countries and those from long time market economies (Corneo and Grüner 2002, Alesina and Fuchs-Schündeln 2007). Thus, it is conceivable that the determinants of belief formation are different if socialised under a different system. In order to analyse weather determinants of competition beliefs differ between market economies and transition countries, a constrained probit model is estimated with all independent variables being interacted with the transition dummy. The constrained and unconstrained models are compared using the likelihood ration test (LR Test) and the Bayesian Information Criterion (BIC). Both tests refute the constrained model if estimated on the OECD sample, but recommend it when the estimation is done on the full sample. Estimation results on the full sample with robust standard errors are shown in Table 9. The overshooting and convergence hypothesis once more is confirmed. But there are some more interesting results: While the effect of gender is independent of cultural influences, it is obvious that the negative effect of age only arises in transition economies. This age effect is consistent with the effect of ideology which is more deeply engrained in older individuals (Alesina and Fuchs-Schündeln 2007, Eble and Koeva 2002) and the devaluation of system specific human capital of which older persons have accumulated more of (Doyle and Fidrmuc 2003, Guriev and Zhuravskaya 2009). The effect of employment relations on competition beliefs is mainly observed in transition countries. There, the probability of positive competition beliefs is higher for white collar workers (*trans_job_office*) and managers (*trans_job_manager*). Also the positive effect of town size on the probability of positive competition beliefs only shows up in transition countries.

[Table 9 about here]

So far, competition beliefs have been analysed, using *competition_bin1* as dependent variable. This binary variable has been coded from *competition*, a ten point Likert scaled variable, with cut-off point one. It might well be, that results are driven by the choice of the cut-off point. To

exclude this possibility, the standard specification is also estimated with modified dependent variables with cut-off point two, three, four and five. Table A2 and Table A3 in the Appendix report results for the OECD and the full sample, respectively. The overshooting and convergence hypothesis is confirmed. For cut-off five the coefficients indicating convergence are insignificant.

All specifications presented so far have been re-estimated using logit rather than probit estimation. Model 1 to 3 have also been estimated with the original *competition* variable using ordered probit as well as ordered logit. All estimations reproduce the overshooting and convergence result. Finally a linear regression using ordinary least squares is employed to estimate the standard specification using the original dependent variable *competition*. Again there is a positive effect on competition beliefs if an individual lives in a transition country; and again this effect diminishes over time.[12]

Competition Beliefs and Support for the use of Markets

A central element of transition is the introduction of competitive markets. While competition is a universal phenomenon inherent in evolution, it is often and to a large extent associated with the way a market economy works.[13] It is this prevalence of competition in market economies, as compared to other form of social organisation, which allows for the presupposition that competition beliefs are indicative for individuals' attitudes and beliefs toward free competitive markets. These in turn affect the support for economic reforms during transition. This claim is now empirically substantiated.

Simple correlations between individual competition beliefs and questions regarding markets and market reforms provide first indicative evidence. Correlation coefficients of individual answers are calculated for each country and time point separately. If people think, that success results from hard work rather than luck or connections, this expresses a belief in the functioning of markets and the fairness of market results (Corneo 2001, Corneo and Grüner 2002, Benabou and Tirole 2006). In all countries in the sample there is a tendency that people with more positive competition beliefs also hold that hard work brings success.[14] On average the correlation coefficient is .26 (.16 to .34) in transition countries and .33 (.12 to .54) in established market economies. In wave 2 (1989-1993) there is an item stating that the

---

[12] Results can be obtained from the author upon request.
[13] Independent of a society's economic organisation, there is competition for sexual partners, social prestige and the like.
[14] For detailed wording see Item B2 in the Appendix.

"country's economic system needs fundamental changes".[15] In transition countries individuals who feel positive about competition tend to see a need for fundamental changes with correlation coefficients ranging from .02 to .21. On the contrary, in long time market economies the correlation is largely negative ranging from -0.27 to .07. However, since correlations only offer weak evidence for our claim that competition beliefs are intimately connected to political support for economic reforms, the effect of competition beliefs on the attitudes toward the need for fundamental systemic change is analysed using multivariate estimation.

To analyse individual attitudes toward the need for changes of the economic system, a binary dependent variable *need_change_bin1* is coded, taking the value one whenever respondents agree completely to the question "This country's economic system needs fundamental changes". All other responses are coded zero. In a first step we treat competition beliefs as exogenous: employing probit estimation for different specifications, individual reform attitudes are explained with individual competition beliefs and a whole set of socioeconomic variables. Results using the binary independent variable *competition_bin1* are shown in Table 10. Competition beliefs have a positive and significant effect on the probability for holding strong reform attitudes. Using competition belief dummies from the original ten-scale variable with the lowest competition beliefs as base category, we find no effect unless competition dummies are interacted with the transition dummy. As shown in Table 11, in transition countries the probability of a strong attitude for economic reform increases with positive competition beliefs, while the opposite is true for non-transition countries. These results are robust to variations of the estimation method (Ordered Probit, Logit and OLS) and coding of the dependent variable.

[Table 10 about here]

[Table 11 about here]

There is arguably an endogeneity problem if competition beliefs are used as a regressor for reform attitudes. Estimating IV- and Two-Step Probit estimations with age and gender as instruments confirms the results. [16] While age and gender are arguably weak instruments, they are still employed for lack of better ones. Albeit the estimation results might still be biased, we are convinced, that the unconditional correlations together with the regressions show the qualitative relation between competition beliefs and reform attitudes.

We conclude that at the onset of transition optimistic beliefs on the effect of market competition were conducive to strong reform attitudes in transition countries. Those strong

---

[15] Detailed wording of the item and descriptive statistics can be found in the Appendix, Item B3 and Table A4, respectively.
[16] See Table A5 and A6 in the Appendix.

reform attitudes very likely contributed to the implementation of rapid and far-reaching pro-market policies.

Why did Competition Beliefs Overshoot?

There are a number of possible accounts why competition beliefs overshoot. Very optimistic beliefs in the merits of competition in transition countries at the onset of transition could simply result from wrong expectations. People in transition countries knew about the relative material wealth in long time market economies and mistakenly believed that once market competition is introduced, their living standard will rise to similar levels. In fact, there is empirical evidence of the public holding biased beliefs on economic issues (Caplan 2002). There are also a number of theoretical approaches that elaborate upon standard economic theory to account for systematic biases. Caplan (2001) reviews these concepts and augments Downs's argument of rational ignorance to rational irrationality.[17] In contrast to mistakes and limited rationality, Doyle and Walsh (2007) claim that voting behaviour, at least in the Czech Republic, has been forward looking and expectations largely correct. We now present a simple model that shows how biased expert advice might result in overshooting and convergence of competition beliefs in a setting of full rationality with uncertainty. Our modelling strategy is inspired by Corneo (2006), who put forward the link between media capture and inequality. An empirical investigation of that link is offered by Petrova (2008).

A Simple Model

There are two countries A and B. At time $t = 0$, only the representative agent of country A has experienced a market economy. Country B is about to begin the transition from a planned to a market economy and must decide weather certain goods and services are to be provided by the government or through markets. In the long run, markets are expected to yield a welfare gain given by

$$U = \overline{U} + \omega V,$$

where $\overline{U}$ and V are constants, $V > 0$, and the state of the world ω can take two values, 0 and 1. Markets perform better if the state is 1 rather than 0. The state of the world is unknown to agents; without loss of generality, each state occurs with equal probability.

Long-term utility is not experienced until time $t = 2$. At $t = 0$, agents in country A directly receive a signal about the benefit of markets (first-hand experience). Agents in country B

---

[17] His argument basically boils down to the familiar argument that no rational agent will choose full rationality if its marginal benefit is smaller than marginal cost of information collection and processing.

merely receive a report about that signal from a media expert (IMF, big shot, local guru, local pundit, anchorman...). The media industry has access to privileged information about the state of the world through the expert and uses a technology to communicate messages to the representative agent. Specifically, the media expert's superior information about the underlying state ω comes from a signal $s_0 \in \{0,1\}$. With probability $p \in (1/2,1)$, this signal is equal to the true state, while with probability $1-p$ the agents are misinformed about the state. The media expert reports a message $r \in \{0,1\}$ about the state of the world to agent B.

The media expert may be one of three types and her type is her private information. With prior probability μ the expert is pro-market and always reports 1 irrespective of the signal that she observes. With probability η the expert is anti-market and always reports 0. With probability $1-\mu-\eta$ the expert is unbiased and truthfully reports the signal. The expert's type and the signal are independently distributed. Agents' beliefs in country B are formed according to Bayes's rule, as implied by the expert's report and the agents' priors about both the state of the world and the expert's type.

Between time $t=0$ and $t=1$ transition occurs and agent B also experiences a market economy. At $t=1$, both agents A and B observe a new signal s_1, drawn from the same distribution as s_0, and revise their beliefs about the virtues of markets. At $t=2$ the state of the world is realized and agents receive the associated long-term utility gain.

Equilibrium Beliefs at the onset of Transition

The inference problem of agent A at $t=0$ is straightforward: if the agent observes 1, he assigns probability p to the good state $(\omega=1)$, while if the signal is 0 the assigned probability is $1-p$. The inference problem of agent B is more difficult. Because of the possible expert's bias, agent B will not completely believe the media. The agent realizes that the reports of biased media convey no information, while with honest media an optimistic report on the virtues of markets means that the good state has probability p.

Without first-hand experience of markets, agent B assigns probability $q=\Pr(\omega=1\,|\,r=1)$ to the good state if the media's report is optimistic $(r=1)$; by Bayes's rule it is given by

$$q = \frac{\Pr(r=1\,|\,\omega=1)\Pr(\omega=1)}{\Pr(r=1\,|\,\omega=1)\Pr(\omega=1)+\Pr(r=1\,|\,\omega=0)\Pr(\omega=0)}.$$

If $\omega=1$, the probability to hear good news from an anti-market expert is zero, while that probability is 1 if the expert is pro-market. If the expert is honest, the probability to hear good news is p, i.e. the informativeness of the signal that she has observed. Thus,

$\Pr(r=1|\omega=1)=\mu+(1-\mu-\eta)p$. By the same token, $\Pr(r=1|\omega=0)=\mu+(1-\mu-\eta)(1-p)$. Substituting into the above expression yields

$$q = \frac{(1-p)\mu + p(1-\eta)}{1+\mu-\eta}.$$

This probability is smaller than p because the media are not entirely credible. Therefore, rationality puts an upper bound to the extent of beliefs manipulation by means of media reports. The probability q assigned to state 1 is however strictly larger than 1/2, the prior probability of that state: $q \in (1/2, p)$. Conversely, if the media's report is pessimistic, the probability associated by agent B to the good state, $q' = \Pr(\omega=1|r=0)$, is

$$q' = \frac{(1-p)(1-\mu) + p\eta}{1-\mu+\eta}.$$

In this case, one has $q' \in (1-p, 1/2)$.

Transition and Belief Change

At time $t=1$, both agents A and B directly observe signal s_1 and revise their beliefs in a Bayesian fashion about the underlying state of the world. To illustrate, consider first agent A when the independent draws are $s_0 = s_1 = 0$. Then, the probability assigned at $t=1$ to the good state is

$$\Pr(\omega=1|s_0=0, s_1=0) = \frac{(1-p)^2}{(1-p)^2 + p^2},$$

which is smaller than the probability assigned at time $t=0$, $1-p$.

Consider now agent B observing $s_1=0$ after having received an optimistic message from the expert. In this case, she assigns probability $Q = \Pr(\omega=1|r=1, s_1=0)$ to the good state; by Bayes's rule it is given by

$$Q = \frac{(1-p)\mu + p(1-p)(1-\mu-\eta)}{\mu + 2p(1-p)(1-\mu-\eta)}.$$

If instead agent B received $r=0$ at $t=0$, the probability that she assigns to the good state after observing a bad signal is

$$Q' = \frac{(1-p)\eta + (1-p)^2(1-\mu-\eta)}{\eta + [(1-p)^2 + p^2](1-\mu-\eta)}.$$

It is straightforward to show that $Q < q$ and $Q' < q'$, i.e. B's beliefs about the long term benefits of markets become less positive, once she obtains signals from first hand experience.

Model and Empirical Findings

In the data we observe that at the beginning of transition individuals from transition countries held more optimistic views about the market system than individuals from western countries. This is consistent with the model only if $s_0 = 0$, in which case agent A expects a long-term benefit $(1-p)V$, which is smaller than the benefit expected by agent B ($q'V$ or qV, depending on the media report). Notice that in the special case where anti-market experts are virtually impossible and thus η goes to zero, q' goes to $(1-p)$.[18] In this case, observing more optimistic beliefs in transition countries implies that $r = 1$ occurred. Since the true signal was 0, we can deduce that the media expert was biased in favour of markets if $\eta \approx 0$.

In the data we also observe that in transition countries attitudes towards markets became less favourable over time. This is consistent with the model only if $s_1 = 0$.

To sum up, the observed overshooting of beliefs about the virtues of markets can be rationalized in terms of media bias along two alternative lines:

    1. Pro-market experts reported optimistic messages that were contradicted by experience;

    2. Anti-market or honest experts reported realistic messages that were not completely believed by agents because they thought the experts to be biased against the market system.

Is the model also consistent with a convergence of beliefs across countries?

At time 0, the belief gap between agent B and agent A is predicted to be either $q-(1-p)$ or $q'-(1-p)$, depending on the report sent by the media. In the first case, the belief gap becomes

$$Q - \frac{(1-p)^2}{(1-p)^2 + p^2}$$

at time 1, while in the second case it becomes

$$Q' - \frac{(1-p)^2}{(1-p)^2 + p^2} \,.$$

Belief convergence occurs, if the belief gap between agent B and agent A decreases, i.e.

$$(6) \qquad q-(1-p) > Q - \frac{(1-p)^2}{(1-p)^2 + p^2}$$

or

$$(7) \qquad q'-(1-p) > Q' - \frac{(1-p)^2}{(1-p)^2 + p^2} \,.$$

---

[18] At the onset of transition it was often stated, that the failure of communism proofed the dominance of the market system. In this historical context an anti-market expert indeed seems virtually impossible.

Inequality (6) and (7) always hold for given assumptions, so that the model predicts convergence, irrespective weather the expert is pro market and transmits a biased signal or weather an honest signal is discounted by the agents.

The given path of transition towards a market economy entails the timing of reform policies and the depth of reform or the scope of privatization. The scope of privatization thereby refers to the decision as to what services (e.g. schooling, health, pensions, utilities) should be provided by markets or the state; a question not only contested in transition countries, but in experienced market economies too (World Bank 2005). The timing of reform determines the sequencing of measures and accordingly determines the distribution of the cost of reform over time. The model raises the possibility that an expert with access to mass media transmitted a biased report about the desirability of markets inducing exaggerated competition beliefs. As a result, both, the scope of privatization as well as the timing of reform might have extended beyond the level chosen by a correctly informed electorate.

Conclusion

The introduction of market institutions in former centrally planned economies is expected to foster development and bring about convergence toward the living conditions of older market economies. Transition countries are expected to converge to and in fact do converge to older market economies with respect to a large number of measures of economic activity (World Bank 2002). The current paper shows that not only living conditions but also beliefs converge. While belief convergence seems natural given the general convergence tendency, it is in fact surprising that initial levels of positive competition beliefs are much higher in transition countries than in experienced market economies.

At the onset of transition there was basically no experience with market competition in these countries. Expert advice was crucial for individual perceptions on the desirability of markets and influenced support for market oriented reforms. It is argued that overly positive beliefs in competition contributed to the possibility of introducing widespread economic reforms in transition countries. It is shown that in transition countries more positive competition beliefs increased demand for fundamental changes in the economic system. Once the basic market institutions were installed, individuals made actual experiences in a competitive market and accordingly updated their beliefs. Average beliefs in transition and established market economies converge. A learning model shows, that such belief dynamics can result from rational belief formation if an outside expert supplies biased information about the desirability of markets to people in transition countries.

Guriev and Zhuravskaya (2009) identify a happiness gap in transition countries. They explain a large part of this gap with decreasing supply of public goods, economic instability and the deterioration of human capital. However, decreasing happiness levels might also arise from disappointed expectations with respect to the results of transition. Köszegi and Rabin (2006) introduce a model where expectations serve as a reference point for reference dependent utility. If outcomes are less positive than expected, utility levels are low. In this sense it is conceivable, that a part of the decrease in happiness levels during transition could result from disappointment in the market and competition which did not match high expectations, i.e. positive competition beliefs. This interpretation so far remains hypothetical and it is up to future research to substantiate these claims.

Tables and Figures

Table 1: Descriptive Statistics of differently defined dependent variables

Variable	Description	# Obs	Mean	Std. Dev.	Min	Max
competition	Competition belief	115123	7.352	2.426	1	10
competition_bin1	Competition belief with cut-off 1	115123	0.252	0.434	0	1
competition_bin2	Competition belief with cut-off 2	115123	0.384	0.486	0	1
competition_bin3	Competition belief with cut-off 3	115123	0.546	0.498	0	1
competition_bin4	Competition belief with cut-off 4	115123	0.664	0.472	0	1
competition_bin5	Competition belief with cut-off 5	115123	0.816	0.387	0	1

Table 2: Country means and number of observations of *competition_bin1* by wave

Country	Status	1989-1993	1994-1999	1999-2004	Total
Austria	OECD	0.251	.	0.231	0.241
		1431	0	1471	2902
Belarus	transition	0.313	0.269	0.249	0.276
		973	1902	906	3781
Belgium	OECD	0.185	.	0.127	0.161
		2569	0	1858	4427
Bulgaria	transition	0.391	0.233	0.324	0.316
		969	982	919	2870
Canada	OECD	0.339	.	0.229	0.281
		1713	0	1906	3619
Czech Republic	OECD/ transition	0.537	0.211	0.268	0.392
		2977	1102	1866	5945
Denmark	OECD	0.167	.	0.138	0.152
		987	0	987	1974
Estonia	transition	0.397	0.260	0.147	0.268
		959	993	950	2902
Finland	OECD	0.163	0.138	0.103	0.130
		566	967	996	2529
France	OECD	0.168	.	0.162	0.164
		970	0	1585	2555
Germany-East	OECD/	0.343	0.147	0.172	0.233

	transition	1284	982	924	3190
Germany-West	OECD	0.226	0.138	0.171	0.190
		1992	1002	1002	3996
Hungary	OECD/ transition	0.296	0.318	0.295	0.301
		914	629	930	2473
Iceland	OECD	0.297	.	0.340	0.322
		687	0	959	1646
Ireland	OECD	0.210	.	0.198	0.204
		987	0	951	1938
Italy	OECD	0.185	.	0.187	0.186
		1887	0	1905	3792
Japan	OECD	0.098	0.092	0.115	0.103
		840	958	1251	3049
Korea, Rep.	OECD	0.364	0.162	0.151	0.227
		1235	1238	1199	3672
Latvia	transition	0.552	0.240	0.264	0.335
		832	1177	961	2970
Lithuania	transition	0.372	0.264	0.274	0.303
		932	953	924	2809
Mexico	OECD	0.296	0.248	0.437	0.313
		1472	2236	1379	5087
Netherlands	OECD	0.069	.	0.053	0.061
		987	0	992	1979
Norway	OECD	0.231	0.176	.	0.204
		1209	1120	0	2329
Poland	OECD / transition	0.325	0.167	0.250	0.263
		1809	1035	1043	3887
Portugal	OECD	0.212	.	0.204	0.208
		1115	0	961	2076
Romania	transition	0.416	0.433	0.458	0.435
		1061	1182	981	3224
Russian Fed.	transition	0.353	0.272	0.242	0.285
		1739	1848	2263	5850
Slovak Republic	OECD/ transition	0.391	0.223	0.203	0.283
		1502	1052	1254	3808
Slovenia	transition	0.340	0.257	0.296	0.297
		914	959	980	2853
Spain	OECD	0.153	0.166	0.152	0.155
		3801	1156	2277	7234
Sweden	OECD	0.239	0.173	0.175	0.195
		962	1003	1002	2967
Turkey	OECD	0.302	0.466	0.357	0.394
		988	1855	1127	3970
United Kingdom	OECD	0.196	.	0.115	0.164
		1446	0	940	2386
United States	OECD	0.286	0.317	0.284	0.296
		1751	1484	1199	4434
Total		0.284	0.244	0.220	0.252
		46460	27815	40848	115123

Table 3: Descriptive statistics of independent variables and controls

Variable	Description	Obs	Mean	Std. Dev.	Min	Max	Reference Category
transition	Transition Dummy	115123	0.404	0.491	0	1	
wave_2	surveyed in 1989-1993	115123	0.404	0.491	0	1	X
wave_3	surveyed in 1994-1999	115123	0.242	0.428	0	1	
wave_4	surveyed in 1999-2004	115123	0.355	0.478	0	1	
wave2_trans	interaction term	115123	0.146	0.354	0	1	X
wave3_trans	interaction term	115123	0.129	0.335	0	1	
wave4_trans	interaction term	115123	0.129	0.336	0	1	
age	age	115123	43.322	16.548	15	101	
age_sqr	age squared	115123	2150.624	1567.175	225	10201	
female	female	115123	0.521	0.500	0	1	
income	income	98010	4.870	2.471	1	10	
income_sqr	income squared	98010	29.822	26.980	1	100	
stat_single	single	114812	0.211	0.408	0	1	X
stat_married	married	114812	0.648	0.478	0	1	
stat_divorced	divorced or separated	114812	0.068	0.252	0	1	
stat_widowed	widowed	114812	0.073	0.261	0	1	
jobstat_full	full-time employed	111983	0.455	0.498	0	1	X
jobstat_part	part-time employment	111983	0.068	0.252	0	1	
jobstat_self	self employed	111983	0.063	0.244	0	1	
jobstat_retired	retired	111983	0.181	0.385	0	1	
jobstat_wife	housewife	111983	0.102	0.303	0	1	
jobstat_student	student	111983	0.054	0.225	0	1	
jobstat_unemp	unemployed	111983	0.058	0.234	0	1	
jobstat_other	other job status	111983	0.018	0.133	0	1	
job_manual	blue collar job	98035	0.405	0.491	0	1	X
job_manager	leading position	98035	0.083	0.276	0	1	
job_office	white collar job	98035	0.369	0.483	0	1	
job_farmer	farming	98035	0.054	0.227	0	1	
job_military	military	98035	0.009	0.096	0	1	
job_never	never had a job	98035	0.078	0.268	0	1	
job_other	other	98035	0.001	0.025	0	1	
townsize_1	2000 and less inhabitants	96097	0.170	0.376	0	1	X
townsize_2	2000-5000 inhabitants	96097	0.099	0.299	0	1	
townsize_3	5000-10000 inhabitants	96097	0.082	0.274	0	1	
townsize_4	10000-20000 inhabitants	96097	0.093	0.290	0	1	
townsize_5	20000-50000 inhabitants	96097	0.123	0.329	0	1	
townsize_6	50000-100000 inhabitants	96097	0.094	0.292	0	1	
townsize_7	100000-500000 inhabitants	96097	0.173	0.378	0	1	
townsize_8	500000 and more inhabitants	96097	0.166	0.372	0	1	

Table 4: Descriptive Statistics of macroeconomic variables

Variable	Description	# Obs.	Mean	Std. Dev.	Min	Max
inflation	inflation rate	82	41.078	136.906	-0.712	1058.374
gdp_pc	per-capita GDP	90	15253.790	7732.289	3604.726	33028.24
ln_pcgdp	log per-capita GDP	90	9.484	0.573	8.190	10.405
pc_gdp_growth	per-capita GDP-growth	89	1.796	4.433	-14.573	9.480
unemployment	unemployment rate	74	8.384	4.568	0.6	22.7

Table 5: Main Results

	OECD	OECD	OECD	full sample	full sample	full sample
	m1	m4	m4	m3	m4	m4
	b/se	b/se	b/se	b/se	b/se	b/se
wave_3	0.041	0.041	-0.146	0.041	0.035	-0.146
	(0.127)	(0.082)	(0.091)	-0.126	(0.084)	(0.092)
wave_4	-0.079	-0.062	-0.079	-0.079	-0.058	-0.077
	(0.056)	(0.055)	(0.057)	-0.056	(0.055)	(0.058)
transition	0.549***	0.618***	1.156***	0.518***	0.593***	0.314***
	(0.144)	(0.154)	(0.059)	-0.094	(0.118)	(0.039)
wave3_trans	-0.639***	-0.685***	-0.379**	-0.442**	-0.389*	-0.181
	(0.192)	(0.188)	(0.130)	-0.159	(0.166)	(0.146)
wave4_trans	-0.399**	-0.425**	-0.382*	-0.300**	-0.322**	-0.279*
	(0.133)	(0.141)	(0.149)	-0.104	(0.121)	(0.121)
age		-0.004	0.000		-0.004	-0.000
		(0.003)	(0.003)		(0.003)	(0.003)
age_sqr		0.000	0.000		0.000	0.000
		(0.000)	(0.000)		(0.000)	(0.000)
female		-0.130***	-0.139***		-0.134***	-0.138***
		(0.017)	(0.019)		(0.017)	(0.017)
income		0.018	0.011		-0.018	-0.013
		(0.019)	(0.015)		(0.027)	(0.019)
income_sqr		-0.000	0.001		0.003	0.003
		(0.002)	(0.001)		(0.002)	(0.001)
stat_married		0.045	0.019		0.049*	0.027
		(0.025)	(0.024)		(0.021)	(0.020)
stat_divorced		0.065	0.013		0.044	0.018
		(0.034)	(0.028)		(0.036)	(0.027)
stat_widowed		0.070*	0.038		0.038	0.021
		(0.034)	(0.032)		(0.033)	(0.028)
jobstat_part		-0.108***	-0.109***		-0.116***	-0.118***
		(0.027)	(0.023)		(0.024)	(0.020)
jobstat_self		0.114*	0.097*		0.108*	0.076*
		(0.053)	(0.039)		(0.047)	(0.039)
jobstat_retired		-0.001	0.015		-0.011	0.000
		(0.032)	(0.021)		(0.033)	(0.025)
jobstat_wife		0.069	0.066*		0.076	0.070*
		(0.043)	(0.029)		(0.044)	(0.033)
jobstat_student		0.059	0.027		0.028	-0.000
		(0.093)	(0.084)		(0.085)	(0.077)
jobstat_unemp		0.006	0.022		-0.009	0.003
		(0.034)	(0.027)		(0.035)	(0.030)
jobstat_other		-0.066	-0.031		-0.043	-0.034

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.067)	(0.076)			(0.065)	(0.071)
job_manager	0.248***	0.251***			0.267***	0.270***
	(0.041)	(0.037)			(0.040)	(0.037)
job_office	0.035	0.032			0.067	0.062*
	(0.036)	(0.029)			(0.034)	(0.028)
job_farmer	-0.050	-0.062			-0.062	-0.093**
	(0.066)	(0.040)			(0.051)	(0.034)
job_military	0.162*	0.161*			0.141**	0.148**
	(0.074)	(0.073)			(0.051)	(0.050)
job_never	-0.055	-0.047			-0.027	-0.032
	(0.045)	(0.030)			(0.044)	(0.029)
townsize_2	-0.041	-0.054			-0.010	-0.039
	(0.027)	(0.040)			(0.024)	(0.032)
townsize_3	0.009	0.029			0.070	0.076*
	(0.038)	(0.031)			(0.040)	(0.035)
townsize_4	-0.070	-0.005			-0.024	0.025
	(0.059)	(0.040)			(0.053)	(0.038)
townsize_5	-0.114*	-0.061*			-0.051	-0.015
	(0.055)	(0.029)			(0.053)	(0.033)
townsize_6	0.050	0.060			0.105*	0.095**
	(0.048)	(0.035)			(0.044)	(0.032)
townsize_7		-0.061	-0.041		0.007	0.006
		(0.054)	(0.029)		(0.055)	(0.037)
townsize_8	-0.011	-0.057			0.038	-0.005
	(0.050)	(0.037)			(0.050)	(0.043)
Country dummies			included			included
_cons	-0.775***	-0.813***	-1.664***	-0.775***	-0.749***	-0.811***
	(0.056)	(0.073)	(0.094)	-0.055	(0.091)	(0.088)
r2_p	0.016	0.033	0.056	0.018	0.032	0.053
N	87864.000	48942.000	48942.000	115000	59788.000	59788.000

Notes: 1) Presented are coefficients of probit regression with *competition_bin1* as dependent variable. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 6: Results with macroeconomic variables on OECD sample

	OECD	*OECD*	*OECD*	*OECD*	*OECD*
	inflation	gdp_growth	pc_gdp	ln_pcgdp	unemployment
wave_3	0.090	0.077	0.091	0.064	No
	(0.113)	(0.119)	(0.112)	(0.112)	observations
wave_4	-0.027	-0.032	0.081	0.057	
	(0.059)	(0.054)	(0.093)	(0.075)	
transition	0.105	0.546***	0.526**	0.503**	
	(0.226)	(0.135)	(0.178)	(0.182)	
wave3_trans	0.110	-0.588**	-0.617*	-0.569*	
	(0.201)	(0.199)	(0.253)	(0.255)	
wave4_trans	0.097	-0.430***	-0.528**	-0.486**	
	(0.212)	(0.122)	(0.166)	(0.164)	
age	-0.008*	-0.006*	-0.004	-0.004	
	(0.003)	(0.003)	(0.003)	(0.003)	
age_sqr	0.000*	0.000	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	
female	-0.133***	-0.134***	-0.126***	-0.125***	
	(0.026)	(0.024)	(0.019)	(0.019)	
Legal status dummies	included	included	included	included	
Job-status dummies	included	included	included	included	
Job dummies	included	included	included	included	
inflation	0.001				
	(0.001)				
pc_gdp_growth		-0.009			
		(0.010)			
gdp_pc			-0.000		
			(0.000)		
ln_pcgdp				-0.275*	
				(0.121)	
unemployment					---
_cons	-0.655***	-0.665***	-0.463**	1.909	
	(0.083)	(0.079)	(0.158)	(1.136)	
r2_p	0.012	0.024	0.028	0.029	
N	55080	66509	65624	65624	---

Notes: 1) Presented are coefficients of a probit regression with *competition_bin1* as dependent variable. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 7: Results with macroeconomic variables on full sample

	full sample	full sample	full sample	full sample	full sample
	inflation	gdp_growth	pc_gdp	ln_pcgdp	unemployment
wave_3	0.103	0.077	0.087	0.066	0.150
	(0.122)	(0.119)	(0.112)	(0.111)	(0.157)
wave_4	-0.031	-0.026	0.072	0.035	-0.093*
	(0.057)	(0.053)	(0.085)	(0.070)	(0.039)
transition	0.487***	0.465***	0.442***	0.434**	0.480***
	(0.116)	(0.077)	(0.130)	(0.136)	(0.108)
wave3_trans	-0.115	-0.402*	-0.453**	-0.451*	-0.404**
	(0.159)	(0.167)	(0.174)	(0.176)	(0.132)
wave4_trans	-0.114	-0.231*	-0.398**	-0.361**	-0.522***
	(0.097)	(0.112)	(0.132)	(0.128)	(0.112)
age	-0.007*	-0.006	-0.006	-0.006	-0.009*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
age_sqr	0.000*	0.000	0.000	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
female	-0.135***	-0.132***	-0.137***	-0.138***	-0.165***
	(0.025)	(0.022)	(0.021)	(0.021)	(0.031)
Legal status dummies	Included	Included	Included	Included	Included
Job-status dummies	Included	Included	Included	Included	Included
Job dummies	Included	Included	Included	Included	Included
inflation	-0.000				
	(0.000)				
pc_gdp_growth		-0.013			
		(0.009)			
gdp_pc			-0.000		
			(0.000)		
ln_pcgdp				-0.194*	
				(0.095)	
unemployment					-0.017
					(0.010)
_cons	-0.646***	-0.647***	-0.451***	1.176	-0.513***
	(0.081)	(0.078)	(0.136)	(0.894)	(0.134)
r2_p	0.017	0.025	0.027	0.027	0.016
N	60205	79185	83840	83840	56352

Notes: 1) Presented are coefficients of a probit regression with *competition_bin1* as dependent variable. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 8: Results with simultaneously including pc-GDP growth, log pc-GDP and inflation

	OECD	OECD	OECD	full sample	full sample	full sample
	(1)	(2)	(3)	(1)	(2)	(3)
	b/se	b/se	b/se	b/se	b/se	b/se
wave_3	-0.049**	-0.048**	-0.045**	0.060	0.061	0.043
	(0.017)	(0.017)	(0.018)	(0.117)	(0.117)	(0.107)
wave_4	-0.010	-0.005	0.016	0.061	0.064	0.072
	(0.014)	(0.014)	(0.016)	(0.068)	(0.067)	(0.070)
transition	-0.127*	-0.151**	-0.327***	0.080	0.069	0.078
	(0.057)	(0.057)	(0.065)	(0.118)	(0.122)	(0.151)
wave3_trans	0.433***	0.441***	0.673***	0.010	0.013	0.061
	(0.079)	(0.079)	(0.086)	(0.149)	(0.149)	(0.151)
wave4_trans	0.363***	0.364***	0.556***	0.009	0.002	-0.004
	(0.072)	(0.073)	(0.080)	(0.120)	(0.119)	(0.127)
pc_gdp_growth	-0.008**	-0.007**	-0.021***	-0.010	-0.010	-0.014
	(0.002)	(0.002)	(0.003)	(0.008)	(0.008)	(0.009)
inflation	0.009***	0.009***	0.011***	-0.000**	-0.000***	-0.000***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
ln_pcgdp	-0.063**	-0.087***	-0.021	-0.355**	-0.368**	-0.351**
	(0.021)	(0.021)	(0.025)	(0.119)	(0.118)	(0.127)
age		0.001	-0.007**		0.001	-0.007
		(0.002)	(0.002)		(0.002)	(0.004)
age_sqr		0.000	0.000***		0.000	0.000*
		(0.000)	(0.000)		(0.000)	(0.000)
female		-0.137***	-0.105***		-0.134***	-0.111***
		(0.011)	(0.014)		(0.015)	(0.019)
Legal status dummies			Included			Included
Job-status dummies			Included			Included
Job dummies			Included			Included
_cons	-0.233	-0.039	-0.553*	2.666*	2.793*	2.738*
	(0.207)	(0.210)	(0.246)	(1.100)	(1.086)	(1.171)
r2_p	0.016	0.020	0.023	0.020	0.023	0.025
N	67038	67038	56560	73132	73132	61685

Notes: 1) Presented are coefficients of a probit regression with *competition_bin1* as dependent variable. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 9: Restricted model

	OECD	OECD	OECD	full sample	full sample	full sample
	m1	m2	m4	m1	m2	m4
	b/se	b/se	b/se	b/se	b/se	b/se
wave_3	0.041	0.043	0.046	0.041	0.043	0.045
	(0.127)	(0.127)	(0.081)	(0.126)	(0.126)	(0.081)
wave_4	-0.079	-0.081	-0.068	-0.079	-0.081	-0.067
	(0.056)	(0.058)	(0.053)	(0.056)	(0.058)	(0.052)
transition	0.549***	0.716***	0.747***	0.518***	0.792***	0.734***
	(0.144)	(0.161)	(0.146)	(0.094)	(0.113)	(0.130)
wave3_trans	-0.639***	-0.638***	-0.717***	-0.442**	-0.437**	-0.410**
	(0.192)	(0.191)	(0.185)	(0.159)	(0.159)	(0.157)
wave4_trans	-0.399**	-0.393**	-0.407**	-0.300**	-0.288**	-0.291*
	(0.133)	(0.133)	(0.145)	(0.104)	(0.106)	(0.127)
age		0.002	-0.001		0.003	0.002

	(0.003)	(0.004)	(0.002)	(0.004)
age_sqr	0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
trans1_age	-0.004**	-0.007***	-0.007***	-0.008***
	(0.001)	(0.002)	(0.002)	(0.002)
female	-0.151***	-0.127***	-0.151***	-0.128***
	(0.018)	(0.023)	(0.018)	(0.023)
trans_female	0.032	0.002	0.024	-0.011
	(0.026)	(0.034)	(0.028)	(0.034)
income		0.025		-0.007
		(0.017)		(0.022)
trans_income		-0.012		-0.012
		(0.011)		(0.011)
income_sqr		-0.001		0.002
		(0.002)		(0.002)
stat_married		0.020		0.016
		(0.029)		(0.029)
trans_stat_married		0.063		0.040
		(0.034)		(0.039)
stat_divorced		0.062		0.054
		(0.041)		(0.041)
trans_stat_divorced		0.015		-0.040
		(0.075)		(0.077)
stat_widowed		0.079*		0.074
		(0.040)		(0.040)
trans_stat_widowed		-0.003		-0.061
		(0.075)		(0.064)
jobstat_part		-0.099***		-0.100***
		(0.030)		(0.030)
trans_jobstat_part		0.014		0.007
		(0.076)		(0.048)
jobstat_self		0.106		0.105
		(0.059)		(0.059)
trans_jobstat_self		-0.005		-0.007
		(0.068)		(0.069)
jobstat_retired		0.020		0.027
		(0.042)		(0.042)
trans_jobstat_retired		0.014		-0.011
		(0.042)		(0.053)
jobstat_wife		0.047		0.047
		(0.050)		(0.049)
trans_jobstat_wife		0.136		0.167*
		(0.079)		(0.067)
jobstat_student		0.091		0.096
		(0.089)		(0.090)
trans_jobstat_student		-0.185		-0.150
		(0.236)		(0.168)
jobstat_unemp		-0.011		-0.017
		(0.040)		(0.039)
trans_jobstat_unemp		0.098		0.039
		(0.058)		(0.070)
jobstat_other		-0.017		-0.020
		(0.091)		(0.089)
trans_jobstat_other		-0.247*		-0.104
		(0.110)		(0.132)
job_manager		0.215***		0.212***
		(0.040)		(0.040)

27

	(1)	(2)	(3)	(4)	(5)	(6)
trans_job_manager			0.148*			0.125*
			(0.066)			(0.062)
job_office			-0.010			-0.011
			(0.039)			(0.038)
trans_job_office			0.129*			0.156**
			(0.054)			(0.055)
job_farmer			0.036			0.032
			(0.073)			(0.073)
trans_job_farmer			-0.226**			-0.142
			(0.083)			(0.093)
job_military			0.099			0.102
			(0.088)			(0.087)
trans_job_military			0.204			0.054
			(0.139)			(0.108)
job_never			-0.057			-0.056
			(0.051)			(0.050)
trans_job_never			-0.023			0.059
			(0.104)			(0.088)
townsize_2			-0.072			-0.071
			(0.042)			(0.042)
trans_town2			0.080			0.128*
			(0.049)			(0.050)
townsize_3			-0.062			-0.062
			(0.044)			(0.044)
trans_town3			0.184**			0.264***
			(0.060)			(0.063)
townsize_4			-0.141*			-0.140*
			(0.067)			(0.067)
trans_town4			0.193			0.234*
			(0.104)			(0.092)
townsize_5			-0.199**			-0.197**
			(0.069)			(0.068)
trans_town5			0.232**			0.304***
			(0.076)			(0.082)
townsize_6			-0.008			-0.006
			(0.062)			(0.062)
trans_town6			0.147			0.223**
			(0.084)			(0.078)
townsize_7			-0.131*			-0.130*
			(0.064)			(0.064)
trans_town7			0.210**			0.284**
			(0.075)			(0.097)
townsize_8			-0.033			-0.032
			(0.055)			(0.054)
trans_town8			-0.005			0.139
			(0.092)			(0.094)
_cons	-0.775***	-0.781***	-0.862***	-0.775***	-0.815***	-0.844***
	(0.056)	(0.088)	(0.094)	(0.055)	(0.086)	(0.090)
r2_p	0.016	0.020	0.036	0.018	0.022	0.036
N	87864	87864	49365	115000	115000	60211

Notes: 1) Presented are coefficients of a probit regression with *competition_bin1* as dependent variable. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 10: The effect of competition beliefs on support for economic reform

	m1	m2	m3	m4	m5
	b/se	b/se	b/se	b/se	b/se
age	0.012***	0.012***	0.013***	0.010***	0.009*
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
age_sqr	-0.000***	-0.000***	-0.000***	-0.000***	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
female	-0.041**	-0.042	-0.054*	-0.048*	-0.030
	(0.013)	(0.022)	(0.021)	(0.021)	(0.031)
competition_bin1	0.331***	0.249***	0.227***	0.227***	0.219***
	(0.015)	(0.031)	(0.032)	(0.032)	(0.034)
transition		2.630***	2.618***	2.619***	2.620***
		(0.009)	(0.009)	(0.010)	(0.019)
trans_comp1		0.182***	0.203***	0.203***	0.189***
		(0.035)	(0.038)	(0.037)	(0.038)
income			-0.019*	-0.020*	-0.017*
			(0.009)	(0.009)	(0.008)
Country dummies	included	included	included	included	included
Legal status dummies				included	included
Job-status dummies					included
Job dummies					included
Town size dummies					included
_cons	0.819***	-1.840***	-1.747***	-1.701***	-1.763***
	(0.066)	(0.065)	(0.071)	(0.070)	(0.096)
r2_p	0.160	0.161	0.170	0.170	0.165
N	41032.000	41032.000	34562.000	34542.000	27047.000

Notes: 1) Shown are coefficients of a probit regression with *need_reform_bin1* as dependent variable. 2) Only wave 2 observations are considered. 3) Standard errors in parenthesis are robust to within country clustering. 4) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table 11: The Effect of competition belief (dummies) on support for economic reform

	m1	m2	m3	m4	m5
	b/se	b/se	b/se	b/se	b/se
age	0.012***	0.012***	0.013***	0.010***	0.009*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
age_sqr	-0.000***	-0.000***	-0.000***	-0.000***	-0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
female	-0.042	-0.041	-0.051*	-0.045*	-0.027
	(0.022)	(0.022)	(0.021)	(0.020)	(0.030)
comp_2	-0.328***	-0.366***	-0.255***	-0.252***	-0.251**
	(0.066)	(0.075)	(0.071)	(0.071)	(0.091)
comp_3	-0.440***	-0.485***	-0.442***	-0.440***	-0.431***
	(0.070)	(0.082)	(0.078)	(0.078)	(0.076)
comp_4	-0.509***	-0.506***	-0.441***	-0.439***	-0.435***
	(0.068)	(0.085)	(0.079)	(0.079)	(0.088)
comp_5	-0.573***	-0.583***	-0.546***	-0.545***	-0.547***

	(0.075)	(0.095)	(0.097)	(0.097)	(0.104)
comp_6	-0.569***	-0.626***	-0.566***	-0.564***	-0.570***
	(0.070)	(0.081)	(0.075)	(0.076)	(0.075)
comp_7	-0.663***	-0.753***	-0.676***	-0.675***	-0.671***
	(0.068)	(0.073)	(0.072)	(0.073)	(0.072)
comp_8	-0.648***	-0.771***	-0.729***	-0.727***	-0.734***
	(0.068)	(0.069)	(0.069)	(0.070)	(0.081)
comp_9	-0.516***	-0.655***	-0.593***	-0.591***	-0.587***
	(0.073)	(0.074)	(0.080)	(0.081)	(0.091)
comp_10	-0.221**	-0.382***	-0.347***	-0.346***	-0.351***
	(0.075)	(0.075)	(0.077)	(0.078)	(0.086)
transition		2.341***	2.382***	2.385***	2.378***
		(0.097)	(0.096)	(0.096)	(0.108)
comp_trans2		0.078	-0.000	-0.006	0.084
		(0.127)	(0.118)	(0.118)	(0.144)
comp_trans3		0.130	0.103	0.102	0.172
		(0.130)	(0.126)	(0.126)	(0.118)
comp_trans4		-0.060	-0.118	-0.120	-0.053
		(0.124)	(0.126)	(0.126)	(0.134)
comp_trans5		0.008	-0.020	-0.019	0.028
		(0.120)	(0.122)	(0.123)	(0.139)
comp_trans6		0.208	0.150	0.147	0.150
		(0.112)	(0.111)	(0.110)	(0.129)
comp_trans7		0.306**	0.228*	0.227*	0.232*
		(0.102)	(0.102)	(0.102)	(0.095)
comp_trans8		0.398***	0.346***	0.345***	0.360**
		(0.104)	(0.104)	(0.104)	(0.120)
comp_trans9		0.433***	0.380**	0.379**	0.365**
		(0.114)	(0.117)	(0.118)	(0.135)
comp_trans10		0.461***	0.428***	0.427***	0.420***
		(0.108)	(0.111)	(0.110)	(0.123)
income			-0.016	-0.017*	-0.015
			(0.009)	(0.009)	(0.008)
Country dummies	included	included	included	included	included
Legal status dummies				included	included
Job-status dummies					included
Job dummies					included
Town size dummies					included
_cons	1.380***	-1.201***	-1.174***	-1.131***	-1.191***
	(0.091)	(0.093)	(0.097)	(0.097)	(0.123)
r3_p					
N	41032.000	41032.000	34562.000	34542.000	27047.000

Notes: 1) Shown are coefficients of a probit regression with *need_reform_bin1* as dependent variable. 2) Only wave 2 observations are considered. 3) Standard errors in parenthesis are robust to within country clustering. 4) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

References

Alesina, A. and N. Fuchs-Schuendeln, 2007, "Good Bye Lenin (or not?). The Effect of Communism on People's Preferences", American Economic Review 97, 1507-1528.

Benabou, R. and J. Tirole, 2006, "Belief in A Just World and Redistributive Politics", Quarterly Journal of Economics 121, 699-746.

Blanchard, O.J., 1997, *The Economics of Post-Communist Transition*. Clarendon Lectures in Economics. Clarendon Press, Oxford.

Blanchflower, D. and R. Freeman, 1997, "The Legacy of Communist Labour Relations", Industrial and Labour Relations Review 50, 438–459.

Campos, N. F. and & A. Dabusinskas, 2002, "So many Rocket Scientists, so few Marketing Clerks: Occupational Mobility in Times of Rapid Technological Change", CEPR Discussion Papers 3531, C.E.P.R. Discussion Papers.

Campos, N.F. and J. Fidrmuc (Eds.), 2003, *Political Economy of Transition and Development: Institutions, Politics and Policies*. ZEI Studies in European Economics and Law. Kluwer Academic, Boston.

Camdessus, M., 1994, "Supporting Transition in Central and Eastern Europe An Assessment and Lessons from the IMF's Five Years' Experience", Second Annual Francisco Fernández Ordóñez Address, IMF Homepage.

Caplan, B., 2002, "Systematically Biased Beliefs About Economics: Robust Evidence of Judgemental Anomalies from the Survey of Americans and Economists on the Economy", The Economic Journal 112 (479), 433–458.

Caplan, B., 2003, "The Logic of Collective Belief", Rationality and Society 15 (2), 218-242.

Chase, S. R., 1998, "Markets for communist human capital: Returns to education and experience in the Czech republic and Slovakia," Industrial and Labor Relations Review 51(3), 401-423.

Chun, H. and I. Lee, 2001, "Why do Married Men Earn More: Productivity or Marriage Selection?", Economic Inquiry 39 (2), 307-319.

Corneo, G., 2001, "Inequality and the State: Comparing U.S. and German Preferences", Annales d'Economie et de Statistique 63-64, 283-296.

Corneo, G., 2006, "Media Capture in a Democracy: The Role of Wealth Concentration", Journal of Public Economics 90, 37-58.

Corneo, G. and P.H. Grüner, 2002, "Individual Preferences for Political Redistribution", Journal of Public Economics 83, 83-107.

Datta Gupta, N., A. Poulsen and M. Villeval, 2005, "Male and Female Competitive Behavior: Experimental Evidence", IZA Discussion Papers 1833, Institute for the Study of Labour (IZA).

Datta Gupta, N., N. Smith and L. Stratton, 2005, "Is Marriage Poisonous? Are Relationships Taxing? An Analysis of the Male Marital Wage Differential in Denmark", IZA Discussion Papers 1591, Institute for the Study of Labour (IZA).

Dewatripont, M. and G. Roland, 1992, "Economic Reform and Dynamic Political Constraints", Review of Economic Studies 59(4), 703-730.

Dewatripont, M. and G. Roland, 1995, "The Design of Reform Packages under Uncertainty", American Economic Review 85(5), 1207-1223.

Doyle, O. and J. Fidrmuc, 2003, "Anatomy of Voting Behavior and Attitudes during Post-Communist Transition: Czech Republic 1990–98", in: Campos, N. and J. Fidrmuc (Eds.), *Political Economy of Transition and Development: Institutions, Politics and Policies.* 139–164.

Doyle, O. and P.R. Walsh, 2007, "Did Political Constraints bind during Transition? Evidence from Czech Elections 1990-2002", Economics of Transition 15, 575-601.

Eble, S. and P. Koeva, 2002, "What Determines Individual Preferences over Reform? Microeconomic evidence from Russia", IMF Staff Papers 49, 87–110.

EBRD, 1999, *Transition Report 1999, Ten Years of Transition.* European Bank for Reconstruction and Development.

Fernandez, R. and D. Rodrik, 1991, "Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty", American Economic Review 81, 1146–1156.

Fidrmuc, J., 2000, "Political Support for Reforms: Economics of Voting in Transition Countries", European Economic Review 44, 1491–1513.

Fidrmuc, J., 2003, "Economic Reform, Growth and Democracy during Post-communist Transition", European Journal of Political Economy 19, 583–604.

Gneetzy U., K.L. Leonard and J.A. List, 2008, "Gender Differences in Competition: Evidence from a Matrilineal and a Patriarchal Society", NBER Working Papers 13727, National Bureau of Economic Research, Inc.

Gneezy, U., M. Niederle and A. Rustichini, 2003, "Performance in Competitive Environments: Gender Differences", Quarterly Journal of Economics, 1049-1074.

Guriev, S and with E. Zhuravskaya, 2009, "(Un)Happiness in Transition", Journal of Economic Perspectives 23(2), 143-168.

Hayo, B., 2001, "A Note on Democratization and Economic Conditions in Eastern Europe", Journal of Socio-Economics 30, 469–566.

Hayo, B., 2004, "Public Support for Creating a Market Economy in Eastern Europe", Journal of Comparative Economics 32, 720–744.

Hellman, J.S., 1998, "Winners Take All: The Politics of Partial Reform in Post Communist Transitions", World Politics 50, 203–234.

Jackson, J.E., J. Klich and K. Poznanska, 2003, "Economic Transition and Elections in Poland", Economics of Transition 11, 41–66.

Kim, B. and J. Pirttila, 2006, "Political Constraints and Economic Reform: Empirical Evidence from the Post-communist Transition in the 1990s", Journal of Comparative Economics 34, 446-466.

Köszegi, B. and M. Rabin, 2006, "A Model of Reference-Dependent Preferences", Quarterly Journal of Economics 121 (4), 1133-1165.

Milanovic, B., 1999, "Explaining the Increase in Inequality during Transition", Economics of Transition 7, 299–341.

Moulton, B., 1990, "An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Unit", Review of Economics and Statistics 72, 334–338.

Nakosteen, R. and M. Zimmer, 1997, "Men, Money and Marriage: Are High Earners More Prone Than Low Earners To Marry", Social Science Quarterly 78, 66-82.

Petrova, M., 2008, "Inequality and Media Capture", Journal of Public Economics 92, 183–212.

Rodrik, D., 1995, "The Dynamics of Political Support for Reform in Economies in Transition", Journal of the Japanese and International Economies 9, 403–425.

Roland, G., 2000, *Transition and Economics. Politics, Markets, and Firms.* MIT Press, Cambridge, MA.

Roland, G., 2002, "The Political Economy of Transition", Journal of Economic Perspectives 16 (1), 29-51.

Svejnar, J., 2002, "Transition Economies: Performance and Challenges", Journal of Economic Perspectives 16 (1), 3-28.

Valev, N., 2004, "No Pain, no Gain: Market Reform, Unemployment, and Politics in Bulgaria", Journal of Comparative Economics 32, 409–425.

Warner, A.M., 2001, "Is Economic Reform Popular at the Polls? Russia 1995", Journal of Comparative Economics 29 (3), 448-465.

Winkelmann, L and R. Winkelmann, (1998), "Why are the Unemployed so Unhappy? Evidence from Panel Data", Economica 65(257), 1-15.

World Bank, 2002, *The First Ten Years of Transition.* World Bank.

World Bank, 2005, *Economic Growth in the 1990s: Learning from a Decade of Reform.* World Bank

World Bank, 2009, World Development Indicators Database. World Bank.

WVS, 2006, European and World Values Surveys four-wave integrated data file, 1981-2004, v.20060423. Surveys designed and executed by the European Values Study Group and World Values Survey Association. File Producers: ASEP/JDS, Madrid, Spain and Tilburg University, Tilburg, the Netherlands. File Distributors: ASEP/JDS and GESIS, Cologne, Germany.

Wyplosz, C., 1993, "After the Honeymoon: On the Economics and the Politics of Economic Transformation", European Economic Review 37, 379–386.

Appendix

Table A1: Survey year

Country	Wave 2	Wave 3	Wave 4
	1989- 1993	1994-1999	1999-2004
Austria	1990	.	1999
Belarus	1990	1996	2000
Belgium	1990	.	1999
Bulgaria	1990	1997	1999
Canada	1990	.	2000
Czech Republic	1990/1991	1998	1999
Denmark	1990	.	1999
Estonia	1990	1996	1999
Finland	1990	1996	2000
France	1990	.	1999
Germany-East	1990	1997	1999
Germany-West	1990	1997	1999
Great Britain	1990	1998	1999
Hungary	1991	1998	1999
Iceland	1990	.	1999
Ireland	1990	.	1999
Italy	1990	.	1999
Japan	1990	1995	2000
Republic of Korea	1990	1996	2001
Latvia	1990	1996	1999
Lithunia	1990	1997	1999
Mexico	1990	1996	2000
Netherlands	1990	.	1999
Norway	1990	1996	.
Poland	1989/1990	1997	1999
Portugal	1990	.	1999
Romania	1993	1998	1999
Russian Federation	1990	1995	1999
Slovakia	1990/1991	1998	1999
Slovenia	1992	1995	1999
Spain	1990	1995	1999/2000
Sweden	1990	1996	1999
Turkey	1990	1996	2001
United States	1990	1995	1999

Table A2: Robustness check, different cut-offs of dependent variable competition, OECD sample

	bin2	*bin3*	*bin4*	*bin5*
	b/se	b/se	b/se	b/se
wave_3	-0.039	-0.057	-0.033	-0.017
	(0.096)	(0.089)	(0.076)	(0.072)
wave_4	-0.099*	-0.151**	-0.158**	-0.127*
	(0.047)	(0.047)	(0.052)	(0.060)
transition	0.585***	0.536**	0.466**	0.417**
	(0.161)	(0.166)	(0.167)	(0.161)
wave3_trans	-0.535**	-0.375*	-0.209	-0.238
	(0.182)	(0.178)	(0.171)	(0.166)
wave4_trans	-0.340**	-0.231*	-0.211*	-0.196
	(0.110)	(0.111)	(0.097)	(0.123)
age	-0.005	-0.002	-0.004	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)
age_sqr	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
female	-0.170***	-0.172***	-0.155***	-0.097***
	(0.022)	(0.022)	(0.022)	(0.022)
income	0.025	0.014	0.021	0.015
	(0.020)	(0.019)	(0.018)	(0.019)
income_sqr	0.000	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Legal status dummies	included	included	included	included
Job-status dummies	included	included	included	included
Job dummies	included	included	included	included
Town-size dummies	included	included	included	included
_cons	-0.427***	-0.031	0.313**	0.828***
	(0.093)	(0.109)	(0.110)	(0.112)
r2_p	0.033	0.033	0.031	0.024
N	49365	49365	49365	49365

Notes: 1) Shown are coefficients of a probit regression on the OECD sample with dependent variable competition_bin2, _bin3, _bin4 and _bin5 respectively. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table A3. Robustness check, different cut-offs of dependent variable, full sample

	bin2	*bin3*	*bin4*	*bin5*
	b/se	b/se	b/se	b/se
wave_3	-0.044	-0.061	-0.036	-0.020
	(0.099)	(0.094)	(0.081)	(0.074)
wave_4	-0.093*	-0.145**	-0.152**	-0.121*
	(0.046)	(0.047)	(0.052)	(0.060)
transition	0.560***	0.514***	0.441***	0.421***
	(0.123)	(0.124)	(0.126)	(0.119)
wave3_trans	-0.388*	-0.370*	-0.310	-0.295*
	(0.178)	(0.169)	(0.168)	(0.138)
wave4_trans	-0.295**	-0.248*	-0.241*	-0.260*
	(0.104)	(0.106)	(0.099)	(0.106)
age	-0.006	-0.004	-0.004	-0.004
	(0.003)	(0.004)	(0.004)	(0.004)
age_sqr	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
female	-0.177***	-0.180***	-0.168***	-0.114***
	(0.020)	(0.021)	(0.022)	(0.022)
income	-0.007	-0.006	0.001	0.003
	(0.026)	(0.021)	(0.019)	(0.019)
income_sqr	0.002	0.003*	0.003*	0.003
	(0.002)	(0.002)	(0.002)	(0.002)
Legal status dummies	included	included	included	included
Job-status dummies	included	included	included	included
Job dummies	included	included	included	included
Town-size dummies	included	included	included	included
_cons	-0.344**	0.051	0.377**	0.850***
	(0.107)	(0.111)	(0.116)	(0.104)
r2_p	0.032	0.032	0.029	0.024
N	60211	60211	60211	60211

Notes: 1) Shown are coefficients of probit regression on the full sample with dependent variable competition_bin2, _bin3, _bin4 and _bin5 respectively. 2) Standard errors in parenthesis are robust to within country clustering. 3) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table A4: Descriptive Statistic of *need_change_bin1* by country (only surveyed in wave 2)

Country	*Wave 2 (1989-1993)*
Belgium	0.141
	2275
Bulgaria	0.735
	914
Canada	0.392
	1669
Czech Republic	0.606
	2934
Denmark	0.529
	965
Estonia	0.746

	935
Finland	0.202
	538
France	0.201
	913
Germany	0.384
	3170
Hungary	0.694
	889
Iceland	0.273
	680
Ireland	0.382
	978
Italy	0.356
	1806
Japan	0.077
	720
Korea, Rep.	0.338
	1223
Latvia	0.838
	809
Lithuania	0.531
	895
Mexico	0.535
	1407
Netherlands	0.063
	925
Norway	0.284
	1202
Poland	0.631
	1733
Portugal	0.345
	1019
Romania	0.502
	1027
Russian Federation	0.784
	1719
Slovak Republic	0.509
	1449
Slovenia	0.513
	835
Spain	0.417
	3377
Sweden	0.457
	920
United Kingdom	0.336
	1389
United States	0.320
	1717
Total	0.440
	41032

Table A5: Instrument variable probit estimation of the effect of competition on support for economic reform

	m1	m2	m3	m4	m5
	b/se	b/se	b/se	b/se	b/se
competition	0.239**	0.211*	0.112	0.154	0.149
	(0.076)	(0.083)	(0.101)	(0.113)	(0.112)
transition	2.234***	2.341***	2.549***	2.484***	2.499***
	(0.304)	(0.278)	(0.168)	(0.252)	(0.247)
income				-0.026**	-0.024**
				(0.008)	(0.008)
Country dummies	included	included	included	included	included
Legal status dummies		included	included	included	included
Job dummies			included	included	included
Job-status dummies				included	included
Town-size dummies					included
_cons	-3.193***	-3.057***	-2.331***	-2.547***	-2.573***
	(0.430)	(0.484)	(0.693)	(0.729)	(0.730)
competition					
transition	0.279***	0.274***	0.363***	0.351***	0.369***
	(0.003)	(0.003)	(0.011)	(0.017)	(0.023)
female	-0.248***	-0.247***	-0.282***	-0.270***	-0.277***
	(0.044)	(0.042)	(0.043)	(0.041)	(0.042)
age	0.012*	0.005	0.001	0.000	0.003
	(0.006)	(0.007)	(0.007)	(0.009)	(0.010)
age_sqr	-0.000*	-0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
income				0.060***	0.060***
				(0.010)	(0.012)
Country dummies	included	included	included	included	included
Legal status dummies		included	included	included	included
Job dummies			included	included	included
Job-status dummies				included	included
Town size dummies					included
_cons	7.668***	7.772***	7.610***	7.398***	7.300***
	(0.143)	(0.153)	(0.151)	(0.197)	(0.204)
athrho					
_cons	-0.577*	-0.491*	-0.237	-0.331	-0.328
	(0.237)	(0.236)	(0.234)	(0.277)	(0.271)
lnsigma					
_cons	0.826***	0.826***	0.819***	0.816***	0.817***
	(0.024)	(0.024)	(0.026)	(0.028)	(0.030)
N	41032.000	40997.000	35295.000	29669.000	27047.000

Notes: 1) Shown are coefficients of a IV-probit regression with *need_reform_bin1* as dependent variable. 2) *competition* is instrumented with *age*, *age_sqr* and *female* 3) Only wave 2 observations are considered. 4) Standard errors in parenthesis are robust to within country clustering. 4) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Table A6: Two step probit estimation of the effect of competition on the attitude toward reform

	m1	m2	m3	m4	m5
	b/se	b/se	b/se	b/se	b/se
competition	0.240***	0.212***	0.109*	0.151*	0.146*
	(0.054)	(0.057)	(0.055)	(0.065)	(0.066)
transition	2.626***	2.634***	2.623***	2.624***	2.637***
	(0.068)	(0.068)	(0.068)	(0.070)	(0.070)
income				-0.027***	-0.025***
				(0.006)	(0.006)
Country Dummies	included	included	included	included	included
Legal Status Dummies		included	included	included	included
Job Dummies			included	included	included
Job-status Dummies				included	included
Town-size Dummies					included
_cons	-3.427***	-3.239***	-2.352***	-2.607***	-2.633***
	(0.423)	(0.443)	(0.417)	(0.485)	(0.490)
N	41032.000	40997.000	35295.000	29669.000	27047.000

Notes: 1) Shown are coefficients of a probit regression with *need_reform_bin1* as dependent variable. 2) *competition* is instrumented with *age*, *age_sqr* and *female* 3) Only wave 2 observations are considered. 4) Standard errors in parenthesis are robust to within country clustering. 5) Significance levels of 5 percent are denoted by (*), of 1 percent by (**) and of 0.1 percent by (***).

Item B1: Model specifications of extended models

(1) $$B_{ict}^* = \alpha + \beta T_c + \gamma_t W_t + \delta_t (T_c * W_t) + \lambda' X_{ict} + \varepsilon_{ict}$$

(2) $$\Pr(B_{ict} = 1) = \Pr(B_{ict}^* > 0)$$

The augmented model with macro-variables:

(3) $$B_{ict}^* = \alpha + \beta T_c + \gamma_t W_t + \delta_t (T_c * W_t) + \omega' M_{ct} + \lambda' X_{ict} + \varepsilon_{ict}$$

(4) $$\Pr(B_{ict} = 1) = \Pr(B_{ict}^* > 0)$$

The augmented model with country fixed effects:

(5) $$B_{ict}^* = \alpha + \beta T_c + \gamma_t W_t + \delta_t (T_c * W_t) + \phi_c + \lambda' X_{ict} + \varepsilon_{ict}$$

(6) $$\Pr(B_{ict} = 1) = \Pr(B_{ict}^* > 0)$$

Item B2: Original wording of item on fairness of the market place
Question:
Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can chose any number in between. Agreement: Hard work brings success.
Responses:
1 'In the long run, hard work usually brings a better life'
2 - 9
10 'Hard work doesn't generally bring success - it's more a matter of luck and connections'

Item B3: Original wording of item for attitude toward reform: *need_change_bin1*
Question:
I am going to read out some statements about the government and the economy. For each one, could you tell me how much you agree or disagree?
This country's economic system needs fundamental changes
Responses:
5 'Agree completely'
4 'Agree somewhat'
3 'Neither agree nor disagree'
2 'Disagree somewhat'
1 'Disagree completely'

$$B_{ict}^* = \alpha + \beta T_c + \gamma_t W_t + \delta_t (T_c * W_t) + \lambda' X_{ict} + \varepsilon_{ict}$$

Figure C1: average levels of competition beliefs over time in transition countries
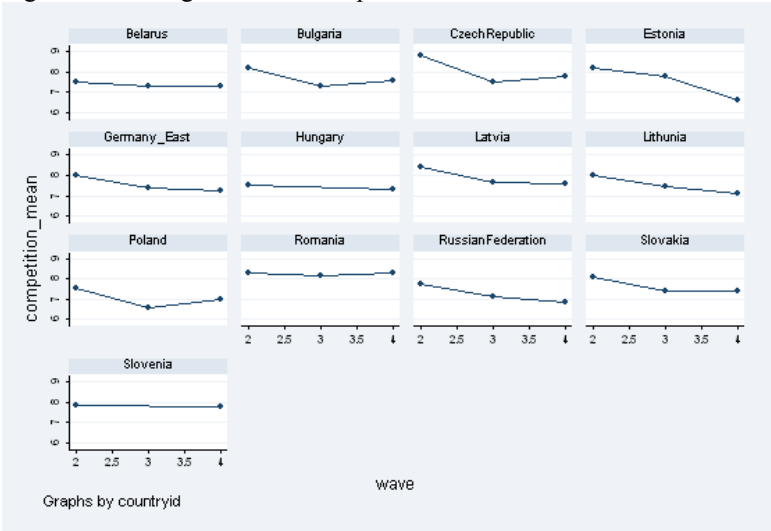

Graphs by countryid

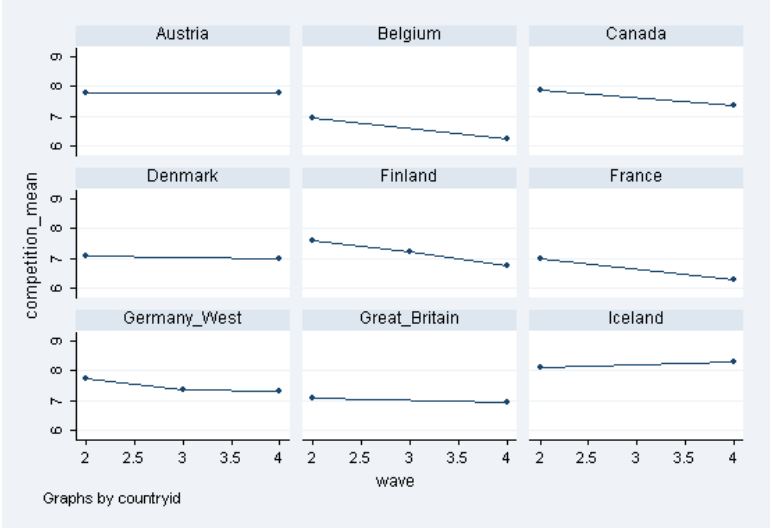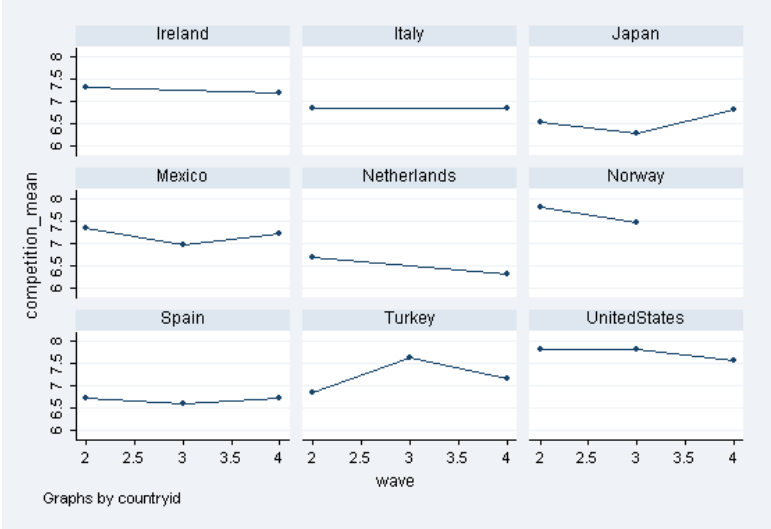Figure C2a: average levels of competition beliefs over time in OECD countries

Graphs by countryid

Figure C2b: average levels of competition beliefs in OECD countries

Graphs by countryid

Diskussionsbeiträge
des Fachbereichs Wirtschaftswissenschaft
der Freien Universität Berlin

2011

2011/1   NEHER, Frank
              Markets Wanted – Expectation Overshooting in Transition Countries
              Economics