Growth in Post-Soviet Russia:
A Tale of Two Transitions

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Challenges

Daniel Berkowitz and David N. DeJong
Department of Economics
University of Pittsburgh

- In the early stages of post-Soviet Russia's economic transition, 1993-2000, entrepreneurial activity appeared to be a strong engine of growth (Berkowitz and DeJong, 2003 & 2005).

- Small companies in an environment with under-developed market supporting institutions; for example, limited access to external finance; poor protection of property rights; high and unpredictable taxes; little recourse to courts to enforce contracts (Frye and Shleifer, 1997; Johnson et al, 2002).

- We investigate whether these relationships have persisted during 2000-2007, and find that they have not.

- And, we then document that the emergence of bank-issued credit, virtually non-existent outside of Moscow prior to 2000, has been an important engine of growth since 2000 (see Berglöf, E. and A. Lehmann (2008).

- Centrality of bank finance suggests that market supporting institutions improve during 1993-2007.

Growth: 1993-2000 & 2000-2007

- Growth in 1993-2000 averaged –2.2% across regions, with only 17 regions in the sample experiencing positive growth;

- Growth in 2000-2007 averaged 14.8%, with all regions enjoying growth > 9%.

- This dramatic difference across time periods is due in part to aggregate-level shocks realized after 2000, including surges in oil and gas prices, and a sharp currency devaluation;

- Here we ignore these national shocks that drive growth and focus on regional differences.

- See Figure below.

y = -0.3518x + 0.1424
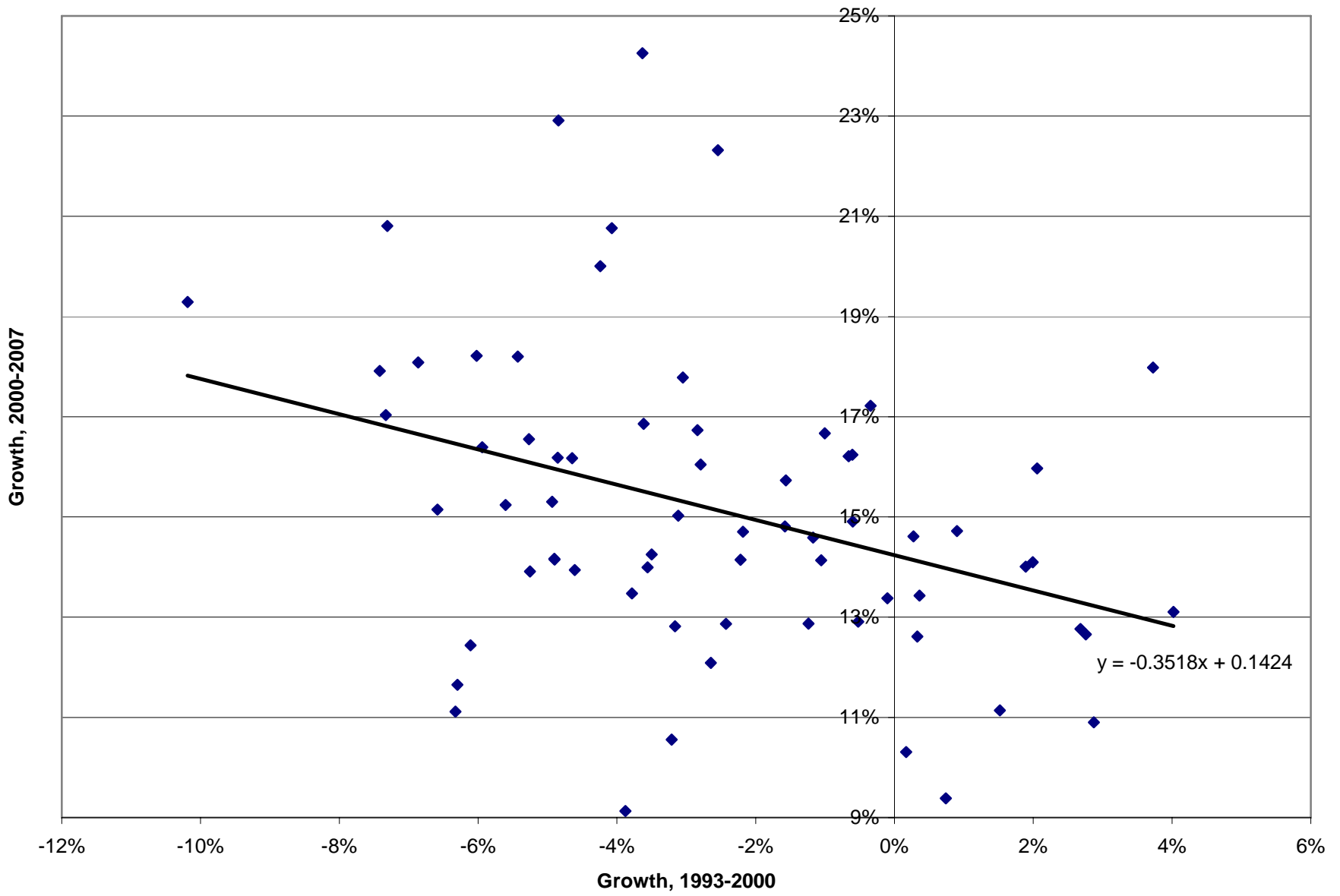
- According to the fitted regression line in the figure above, regions with a 1-percentage-point relative growth-rate advantage between 1993:IV-2000:IV on average experienced a 0.35% relative disadvantage between 2000:IV-2007:IV.

- Using the setup in Barro and Sala-i-Martin, 2003, between 1993:IV-2000:IV, regional income converged at an average annual rate of 0.57%;

- And, between 2000:IV-2007:IV, the speed of convergence approximately doubled to 1.08%.

Accounting for Growth

- The primary explanatory variables we examine are small-scale entrepreneurial activity and bank-issued credit. Both are measured as stock variables.

- For small scale entrepreneurial activity we use we use the stock of small enterprises reported in the region at the end of 1995 for 1993-2000 and at the end of 2000 per thsd inhabitants for 2000-2007.

- For bank-issued credit there is no data before 2001. We use the stock of credits issued to private individual borrowers within each region, normalized by the regional population.

- We exclude legal entities from this measure, because these include large state enterprises and members of financial industrial groups (FIGS), both of which receive credits in part due to political connections. We use the stock of credit per capita measured as of September 30, 2001 for 2000-2007.

- Additional controls include initial income, initial human capital, initial physical capital, political culture, and location.

- In order to control for potential endogeneity between small enterprises and growth, and between bank-issued credit and growth, we use the measures of political culture as instruments that capture sources of exogenous variation.
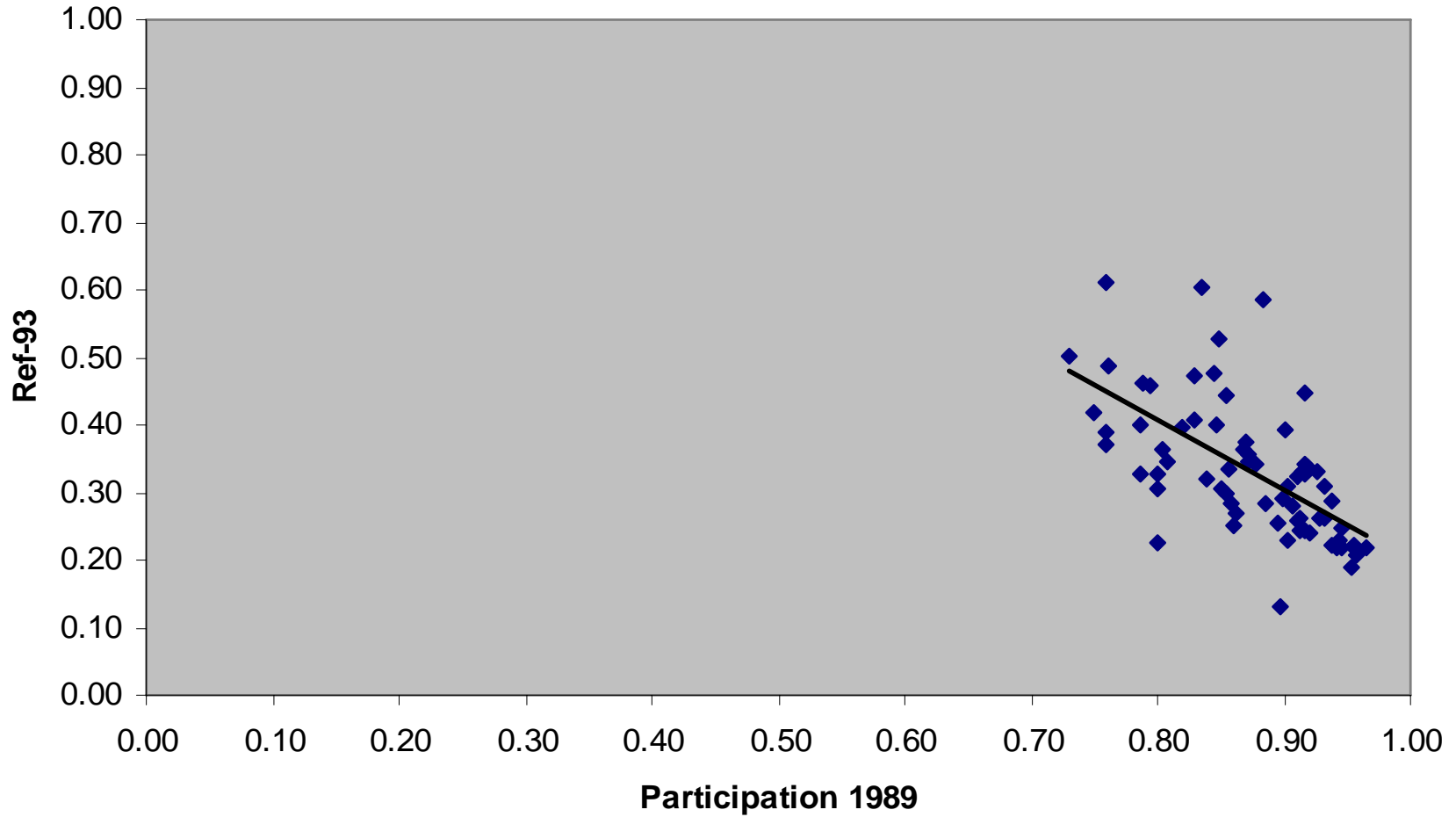
- Political culture in Russia – use the share of the regional population that voted for pro-reformist candidates in national parliamentary elections.

- For 1993-2000 use the December 1993 parliamentary elections (REF-93), and for the period 2000-2007 we use the 1999 elections (REF-99).

- Second measure of political culture - regional voter-participation rates observed in the 1989 elections (PART) in the Former Soviet Union (FSU).

- Citizens were allowed to vote for some representatives to the national legislature in the FSU in 1989. These elections threatened the power of the Communist elites by opening up positions of power to opposition candidates.

- Thus, in regions in which the Communist Party remained strong, turnout was relatively high, as the "…less reformed regions continued to mobilize turnout through the still intact party-state apparatus that extended into state farms and enterprises." (Petrov, 2004, and Berezkin et al., 1989).
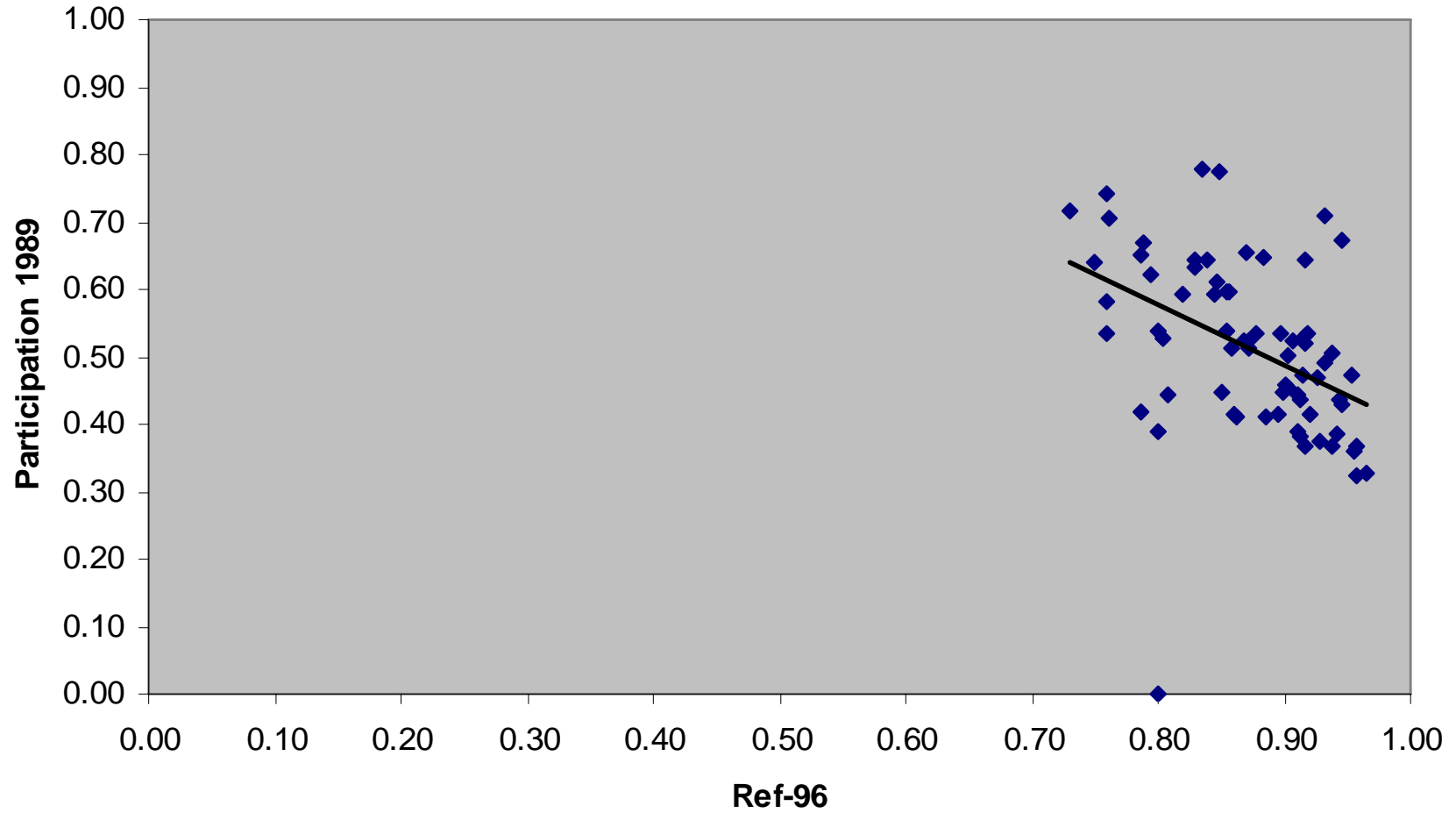
- Voting patterns observed during 1993 and 1999 were sharply divided between pro-reformist and recidivist candidates, and thus clearly reflect regional preferences for economic reform.

- Voter-participation patterns observed in the 1989 elections are also plausibly relevant, since the Communist Party strongly influenced these patterns, and remained resistant to subsequent reforms pursued during transition.

- This persistence is documented in more detail by Remington (2008).

- The figures below illustrate that among regions in which the Communist Party was relatively strong anti-reformist sentiments remained strong during the 1990s.

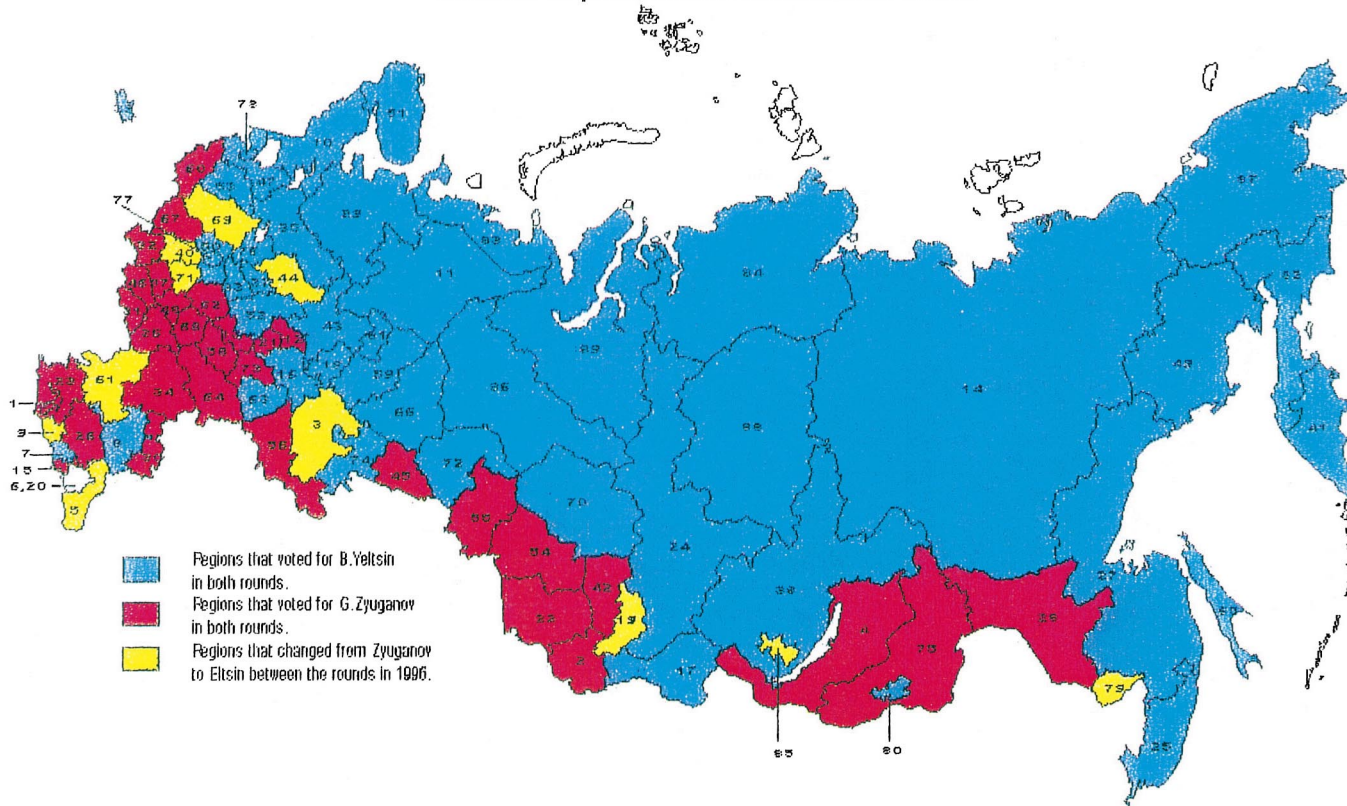- Figures show that anti-reformist sentiments growth during 1993-99.

Voting: 1989 (USSR) and 1993 (Russia)

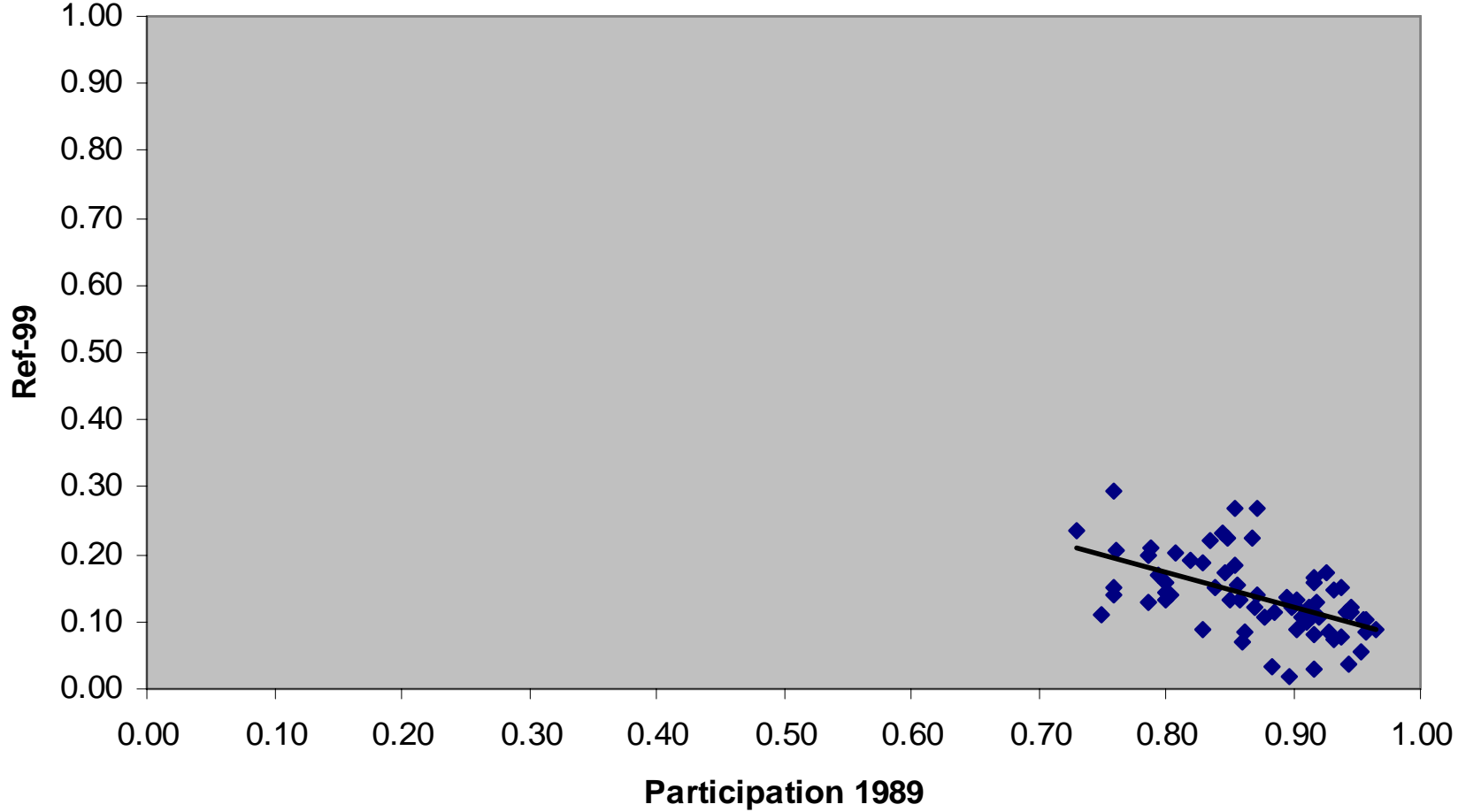# Voting: 1989 (USSR) and 1996 (Russia)

Results of presidential elections in 1996.

Regions that voted for B. Yeltsin in both rounds.

Regions that voted for G. Zyuganov in both rounds.
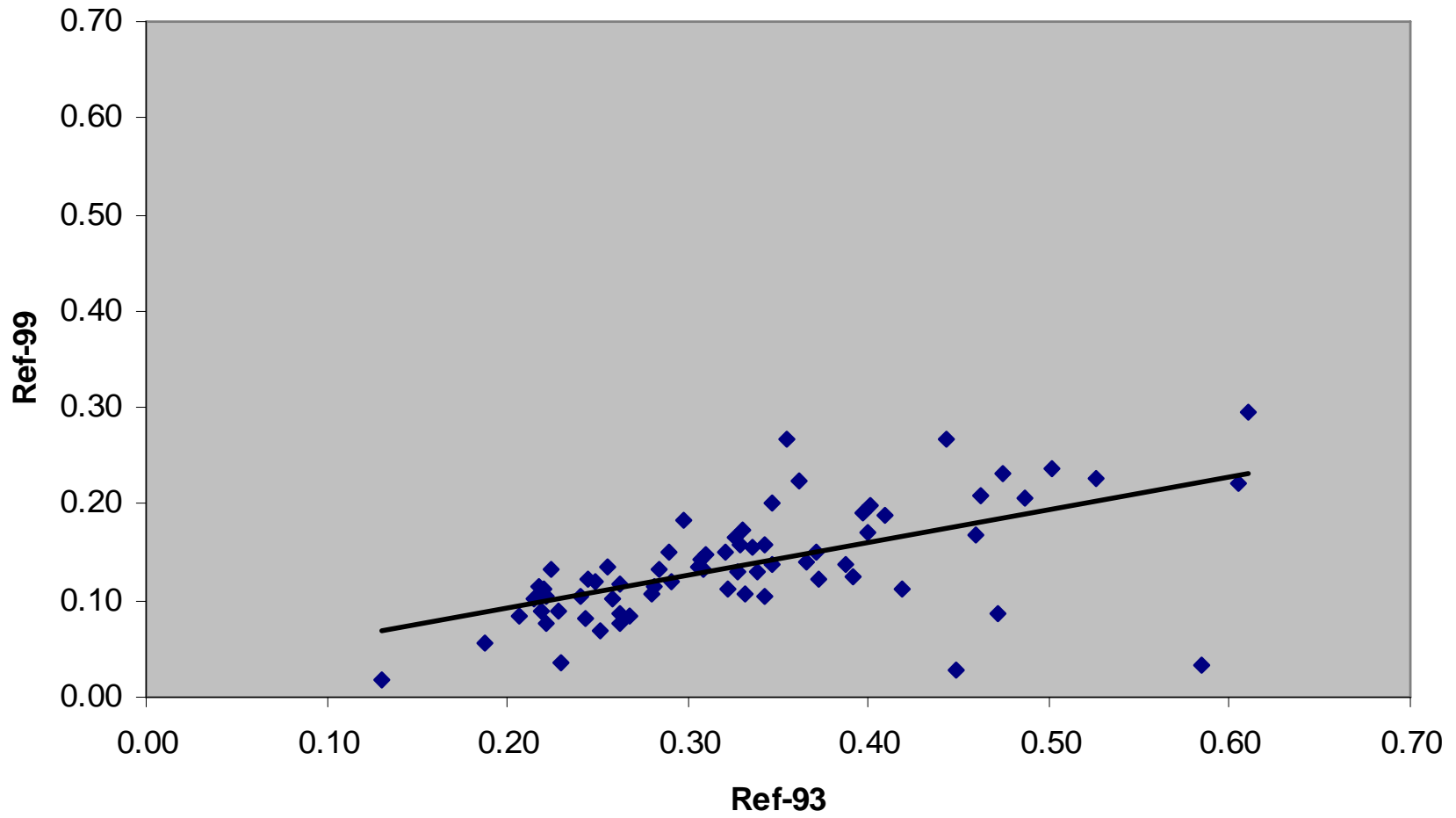
Regions that changed from Zyuganov to Eltsin between the rounds in 1996.

Voting: 1989 (USSR) and 1999 (Russia)

Voting in Russia: 1993 and 1999

- **"Relevance of Instruments"**

Table 2

Correlation Patterns

	PART	REF-93	REF-99	ENT-95	ENT-00	CRED
PART	1.00					
REF-93	-0.63	1.00				
REF-95	-0.54	0.81				
REF-99	-0.55	0.60	1.00			
ENT-95	-0.44	0.57	0.36	1.00		
ENT-00	-0.06	-0.04	-0.04	-0.08	1.00	
CRED	-0.38	0.32	0.49	0.44	-0.41	1.00

- **"Exclusion Restriction"**
- It is not obvious that political culture should influence growth exclusively through these channels.
- However, voting patterns reflect regional preferences towards the implementation of economic reforms. In turn, since the purpose of reforms is to produce local environments conducive to the conduct of business, a natural manifestation of their implementation is the emergence of entrepreneurial activity, and the emergence of banks as a source of external finance.

- In turn, the emergence of these activities is reflected in subsequent economic growth.

- However, reform could affect growth through other channels. For example, in Berkowitz and DeJong (1999), we showed that Communist-controlled regions often withdrew from internal markets, and this behavior was associated with relatively poor economic performance. Thus it is plausible that there remains positive covariance between reformist voting patterns and the error term in the growth equation.

- In this case estimates of the impact of either entrepreneurial activity or credit issuance would be inconsistent and biased upward. Moreover, violation of the exclusion restriction could lead us to over-reject the null that either variable has no influence on growth using a t test (Berkowitz, Caner and Fang, 2008).

- Likewise, there could remain negative covariance between PART-99 and growth. However, since in this case increased participation is associated with resistance towards reform, estimates of the impact of either entrepreneurial activity or credit issuance would be biased downward, and we would tend to under-reject the null that either variable has no influence on growth.

- Given these competing potential biases, use of each instrument in isolation should yield a plausible range of estimates for the impact of credit on growth.

Table 3: 2SLS Estimates of Structural Equation For Growth and Small Enterprises

Specifications	(1) Unrestricted	(2) Parsimonious
Dependent Variable	Growth, 93:IV-2000:IV	
Initial Income	-3.87* (2.02)	-3.99** (1.77)
IO	0.08*** (0.02)	0.08*** (0.02)
Defense	0.08 (0.33)	
Distance (log)	0.23 (0.41)	
Education	-0.17 (0.33)	
Small Enterprises	1.34* (0.74)	1.21*** (0.44)
Excluded instruments	PART and REF-93	
P values for hypothesis tests		
Parsimonious versus unrestricted reg.		0.875
Over-identification: Hansen J test	0.814	0.617
First stage F-statistic for instruments	8.65	6.48

Table 4: 2SLS Estimates of Structural Equation For Growth and Credit

Specifications	(1) Unrestricted	(2) Parsimonious
Dependent Variable	Growth, 2000:IV-2007:IV	
Initial Income	-10.0*** (1.48)	-9.48*** (1.46)
IO	0.02 (0.02)	
Defense	0.47* (0.26)	0.50* (0.26)
Distance (log)	-0.04 (0.40)	
Education	0.27* (0.15)	0.22* (0.13)
Bank credit, 2001	8.00* (4.32)	6.91** (3.19)
Excluded Instruments	PART and REF-99	
P-values for hypothesis tests		
Parsimonious versus unrest.		0.686
Over-ident.: Hansen J test	0.483	0.451
First stage F-statistic for instruments	15.3	26.4

Upper and Lower Bounds Using Exact Identification: Growth and Credit

- We have already argued that the use of REF-99 ought to impart an upward bias in the measure of the relationship between CREDIT and growth, as well as overly-optimistic standard errors;

- And, the use of PART ought to impart a downward bias with conservative standard errors.

- We re-estimate the relationship between CREDIT and growth using each instrument in isolation in order to obtain upper- and lower-bound approximations of the impact of CREDIT on growth.

- Using REF-99 in isolation, the quantitative-significance measure of CREDIT is 1.51 annual percentage points using the complete specification, and 1.63 percentage points using the parsimonious specification (the former is statistically significant at the 10% level; the latter has a p-value of 11%).

- Using PART in isolation, the measures are 0.8 and 0.9 percentage points (respective p-values are 29% and 8%) for the full and parsimonious specifications.

- In all cases, F statistics associated with the instrument exclusions are no less than 10.

- Thus it appears that [0.8 1.6] is a plausible range for the estimated impact of CREDIT on growth.