

INSTITUT
FÜR
HÖHERE STUDIEN

Institute
for
Advanced Studies

PRESIDENTIAL ELECTIONS AND
STRUCTURE OF INDUSTRY IN UKRAINE

Andrij A. HALUSHKA

No. 14

December 1994

**Bestellen Sie jetzt: Codex. Die neue
Publikationsreihe über die Rechtslage
in den Reformstaaten Ungarn,
Polen, Slowenien, Tschechien
und Slowakei.**

Ja, senden Sie mir ein Codex-Jahresabonnement: Eine Länderanalyse: öS 4.280,- (inkl. MWST)
 Zwei Länderanalysen: öS 7.480,- (inkl. MWST) Drei Länderanalysen: öS 8.600,-
(inkl. MWST) Alle vier Länderanalysen (Ungarn, Polen, Slowenien, Tschechien und
Slowakei): öS 11.000,- (inkl. MWST)
 Ungarn Polen Slowenien Tschechien und Slowakei

Name: _____
Adresse: _____

Kupon einsenden an: Bank Austria
Auslandsgeschäftsstelle 2 (8529)
Postfach 35
A-1011 Wien

Bank Austria

INSTITUTE
FOR
ADVANCED STUDIES

*“PRESIDENTIAL ELECTIONS AND
STRUCTURE OF INDUSTRY IN UKRAINE”*

Andrij A. HALUSHKA

Worcester College, Oxford

Bestellungen: Institut für Höhere Studien
Bibliothek
Stumpergasse 56
A-1060 Wien
Tel.: (1) 59 991-237
Fax: (1) 59 70635

Einzelpersonen	70,- öS
Institutionen	220,- öS
Abonnement (10 Papers)	
Einzelpersonen	300,- öS
Institutionen	1.000,- öS

Alle Rechte vorbehalten

PRESIDENTIAL ELECTIONS AND STRUCTURE OF INDUSTRY IN UKRAINE

Andrij A. Halushka

Worcester College, Oxford

Abstract

The results of the presidential elections in Ukraine in June–July of 1994 could be considered as influenced not only by the ethnic structure of the Ukrainian society but by the structure and regional differences of the Ukrainian economy, especially the Ukrainian industry. The paper shows that the outcome of the elections (share of votes given to the newcomer president Leonid Kuchma) is highly correlated with the share of industrial workers employed on the enterprises of the fuel industry, ferrous metallurgy and machine-building industry, i.e. those industries that suffered most severely from the economic crisis in 1992–1994.

The presidential elections of summer 1993 in Ukraine drew a lot of attention in the West. The outcome of the elections, especially the enormous dispersion of votes across the regions, caused sometimes in the Western media the apocalyptic visions of break-up of the second largest successor-state of the former Soviet Union with catastrophic consequences for all the Eastern and Central European region. Usual comments were that the mostly Russian-dominated East and South voted in favour of (finally elected) Leonid Kuchma, who proposed closer ties with Russia, and mostly Ukrainian West and Centre voted for 'nationalist' incumbent president Leonid Kravchuk.

Indeed, as Figure 1 shows, Kuchma got almost all votes in the secessionist Crimean republic and in the far Eastern oblast of Luhansk, whilst Kravchuk got almost all votes in three Western Ukrainian oblasts of Lviv, Ternopil and Ivano-Frankivsk, with the whole spectrum of voting outcomes in-between. There is a clear tendency that, in general, the bigger is the share of the Russian-speaking population (not only the ethnic Russians, but also persons of different ethnic origin, who consider Russian as their mother-tongue), the more votes were given in favour of Leonid Kuchma in the presidential elections. Figure 2 illustrates this result.

The regression run of votes (in per cent of total votes) for Kuchma (KUCH) on the percentage share of Russian-speaking population in the total population of region (RUSSP) shows a strong dependence:

$$KUCH = 25.32 + 0.86 \text{ RUSSP} \\ (4.69) \quad (0.13) \quad (1)$$

$$R^2 = 0.65 \quad F_{1,25} = 46.70$$

Figure 2 shows the regression line along with the true values of variable KUCH. Now it is possible to explain the deviations of KUCH from the regression line. The points corresponding to Kyiv (Kiev) and Western Ukrainian regions (already mentioned Lviv, Ternopil, Ivano-Frankivsk and Vohlynia and Rivne) lie below the line. These regions voted mainly for the rival of Kuchma, incumbent president Leonid Kravchuk, because of strong influence of nationalist and national-democratic parties, that decided to support Kravchuk, fearing pro-Russian tendencies clearly visible during Kuchma's campaigning. And inversely, in Chernihiv, Luhansk, Sumy (their points are substantially above the regression line) pro-Russian and left-wing parties are influential, and they supported Kuchma.

However, it is possible to look on the outcome of the elections from the slightly different point of view. It is usually emphasised that the Eastern part of Ukraine is not only Russified but also industrialised, with the domination of heavy industry (i.e. fuel, energy, metallurgical, chemical and machine-building industry). Figure 3 shows that the proportion of workers employed in the enterprises of these industries in the total number of industrial workers of region, is positively related with the proportion of Russian-speaking population (which is, clearly, predominantly urban). This relation can be expressed as

$$HI = 0.43 + 0.65 \text{ RUSSP} \quad (2)$$

(0.03) (0.11)

$$R^2 = 0.65 \quad F_{1,20} = 37.46$$

where HI is the proportion of the industrial workers employed in the enterprises of heavy industries.

The Ukrainian heavy industry, once 'All-Union Smithy', is suffering from the obsolete capital stock, outdated and wasteful technologies and it is highly dependent on the cheap Russian energy resources and Russian market. During the last few decades it was developed mainly as producing intermediate goods for the enterprises situated out of Ukraine, in Russia and other republics of the USSR. In modern situation it is obviously collapsing. So many people connected with heavy industry were eager to support Kuchma, who promised to restore the 'severed ties' with other republics of the former Soviet Union. As the outcome of the presidential elections in Lviv, Ternopil and Ivano-Frankivsk and in the republic of Crimea (including Sevastopol, which is a separate constituency) was too heavily influenced by the ideological issues, these regions are no more considered in the analysis below.

The relation between the votes for Kuchma and the share of workers in heavy industry is as follows:

$$KUCH = -5.61 + 0.95HI$$

$$(12.01) \quad (0.19) \quad (3)$$

$$R^2 = 0.55 \quad F_{1,20} = 24.36$$

Figure 4 shows the true values of KUCH and the regression line of this regression. There is still big unexplained dispersion around the regression line. It can be explained from such point of view. People voted for Kuchma and against the former president Kravchuk also because they were dissatisfied with the current situation, current standard of life etc. The reasonable proxy of this

discontent, to the author's mind, is the population's natural growth rate in the region, i.e. birth rate minus death rate.

The inclusion of this parameter (GR) in the regression gives much better result.

$$KUCH = 4.66 + 0.62HI - 2.78GR$$
$$(10.57) \quad (19.25)(0.90) \quad (4)$$

$$R^2 = 0.70 \quad F(2, 19) = 22.25$$

So, the more people in the region are connected with the heavy industry and the less they are satisfied with their life, the more likely the region voted in favour of Leonid Kuchma.

Figure 4 shows also the predicted values of KUCH for this regression – as bhat. It is evident that in most cases they are much closer to the true values than the regression line based on the equation (3).

However, this result tells us nothing about the importance of structure of industry, or in other words, what industries were more likely to influence the outcome of the elections.

Now, instead of the cumulative variable HI, six new variables are introduced in the regression: EL – proportion of workers in the energy industry (power stations) in the total number of industrial workers in the region, FU – proportion of workers in the fuel industry (oil, gas, coal-mining), FE – ferrous metallurgy, NF – non-ferrous metallurgy, CH – chemical industry, MA –

machine-building industry. The result of the regression is:

$$\begin{aligned} \text{KUCH} = & -120.51\text{EL} + 62.75\text{FU} + 75.56\text{FE} - 38.91\text{NF} + 2.13\text{CH} + 59.02\text{MA} - 2.95\text{GR} \\ & (131.63) \quad (30.81) \quad (38.83) \quad (119.52) \quad (61.80) \quad (28.45) \quad (0.99) \\ \\ R^2 = & 0.77 \quad F_{7,14} = 6.63 \end{aligned}$$

Testing of the coefficients for EL, NF, CH shows that they are not distinguishable from zero. So, the result is that the 'politically important' industries for the new-coming president Leonid Kuchma are the coal-mining (that dominates fuel industry), ferrous metallurgy and machine©building.

REFERENCES

1. Holos Ukrainy 12 July 1994.
2. Ministerstvo Statystyky Ukrainy. Ukraïna u cyfrakh u 1992 roci. Kyiv 199.
3. Ministerstvo Statystyky Ukrainy. Ukraïna u cyfrakh u 1993 roci. Kyiv 1994.
4. Ministerstvo Statystyky Ukrainy. Special'nyj statystychnyj vypusk, III kvartal 1994 roku. Kyiv 1994.

Appendix. Regression Analysis Data

Region	KUCH	RUSSP	HI	EL	FU	FE	NF	CH	MA	GR
Crimea	89.70	82.74	59.75	0.049	0.001	0.03	0.000	0.107	0.407	-2.6
Vinnycia	42.31	8.91	44.08	0.048	0	0.001	0	0.023	0.368	-5.4
Vohlynia (Volyn')	13.96	5.36	43.97	0.021	0.101	0.002	0	0.024	0.291	1.5
Dnipro- petrovsk	67.81	37.76	82.91	0.020	0.054	0.322	0.009	0.162	0.262	-4.3
Donetsk	79.00	67.90	85.47	0.027	0.408	0.166	0.007	0.023	0.222	-6.2
Zhytomyr	41.56	12.68	38.52	0.026	0.011	0.004	0.011	0.032	0.300	-2.8
Zakarpattia (Trans- carpatia)	25.21	5.25	36.37	0.015	0	0	0.002	0.013	0.333	4.5
Zaporizhzhia	70.70	49.34	88.67	0.064	0.007	0.140	0.050	0.022	0.604	-4.0
Ivano- Frankivsk	3.85	4.86	44.36	0.036	0.017	0.000	0	0.129	0.260	2.5
Kyiv oblast	38.38	11.25	55.72	0.081	0.004	0.021	0	0.128	0.324	-5.0
Kirovohrad	49.72	15.67	67.55	0.032	0.098	0.004	0.105	0.003	0.433	-5.5
Luhansk	88.00	64.29	84.55	0	0.454	0.051	0	0.093	0.247	-5.8
Lviv	3.90	9.05	62.83	0.022	0.079	0.002	0.001	0.068	0.457	1.2
Mykolajiv	52.80	34.23	62.29	0.067	0	0.001	0.034	0.001	0.519	-2.3
Odesa	66.80	47.37	55.18	0.042	0.004	0.027	0.002	0.038	0.439	-3.2
Poltava	59.16	13.61	62.86	0.021	0.045	0.056	0.000	0.009	0.497	-6.6
Rivne	11.04	5.84	43.19	0.092	0.008	0.001	0	0.055	0.275	3.2
Sumy	67.75	21.71	69.17	0.018	0.004	0.002	0	0.206	0.462	-7.4
Ternopil	3.75	2.69	36.69	0.023	0	0.002	0	0.024	0.318	-1.1
Kharkiv	71.01	48.63	73.91	0.033	0.006	0.004	0.000	0.020	0.676	-6.1
Kherson	64.64	31.21	60.02	0.033	0.015	0.001	0	0.007	0.552	-1.0
Khmelnyskyj	39.27	8.34	56.82	0.054	0.003	0.007	0	0.003	0.501	-3.5
Cherkasy	45.72	10.67	59.87	0.029	0.014	0.008	0	0.109	0.437	-6.1
Chernihiv	72.33	13.79	49.85	0.029	0.031	0.002	0	0.072	0.366	-8.4
Chernivci (Bukovyna)	35.27	10.71	37.39	0.024	0	0.001	0	0.052	0.296	1.0
Kyiv	35.58	41.47	69.59	0.026	0.001	0.003	0.001	0.069	0.597	-1.6
Sevastopol	91.98	88.00	69.88	0	0	0.027	0	0.002	0.669	-2.7

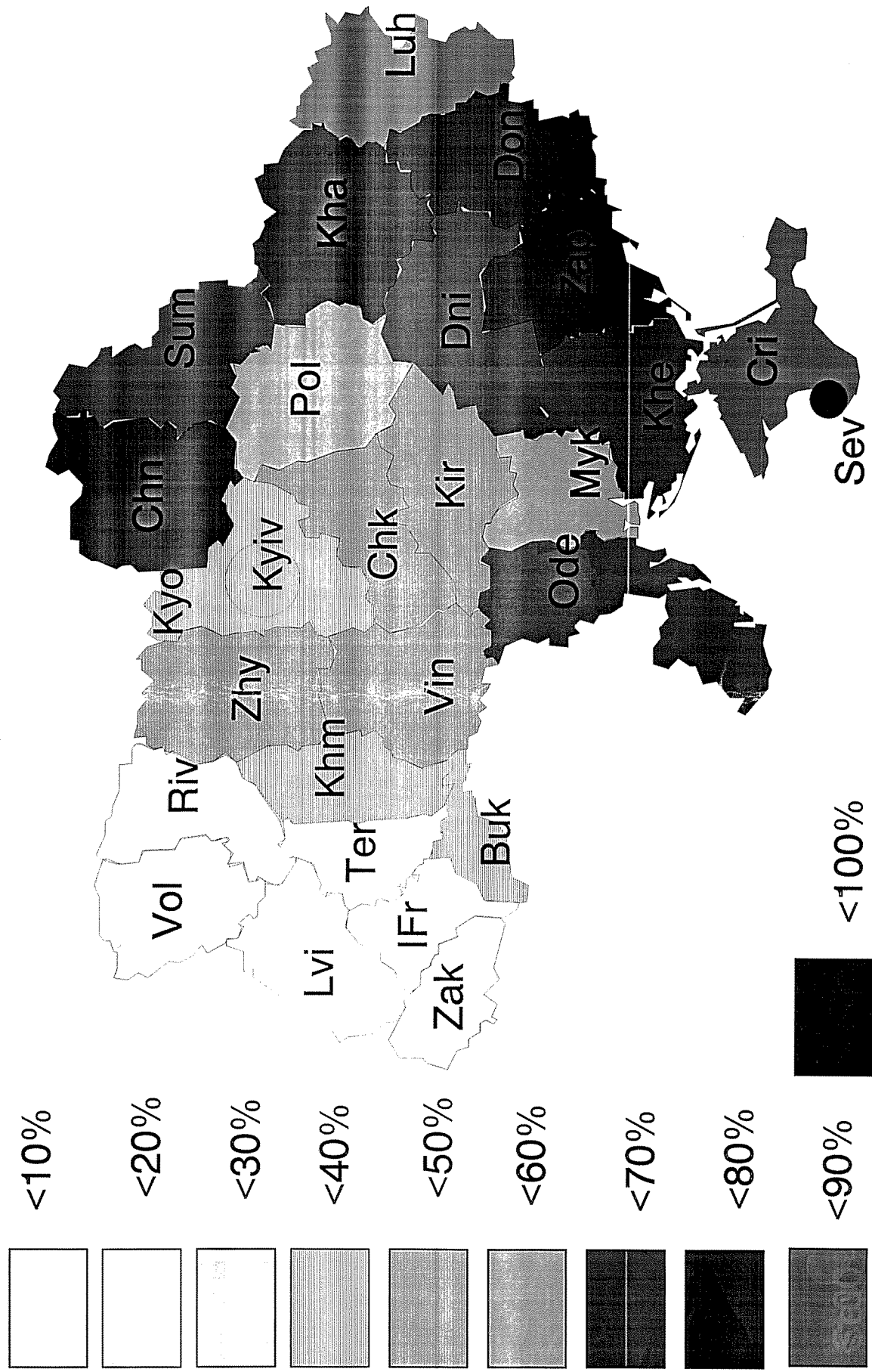


Figure 1. Voting for L.Kuchma in the presidential elections in Ukraine in 1993

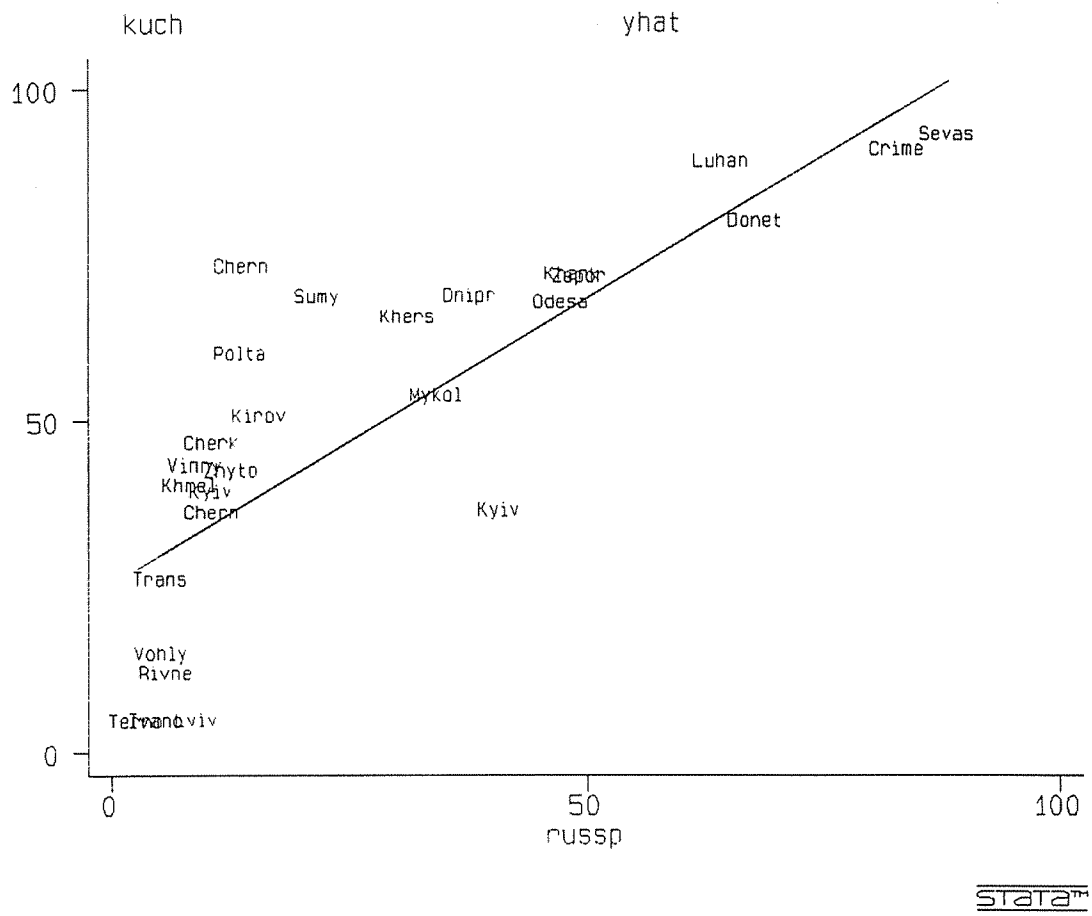
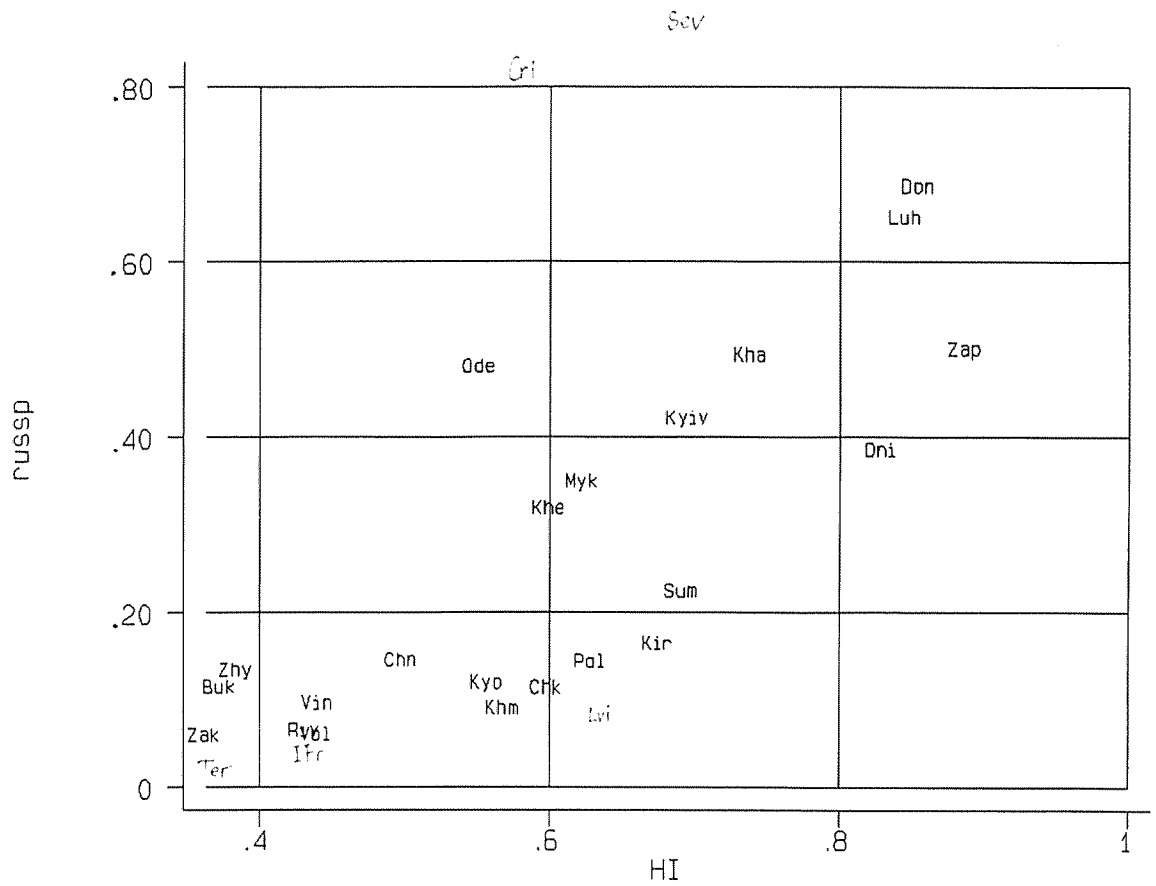


Figure 2: Votes for Kuchma and share of Russian-speakers.



STATA™

Figure 3: Connection between the heavy industry in Ukraine and the distribution of Russian-speaking population.

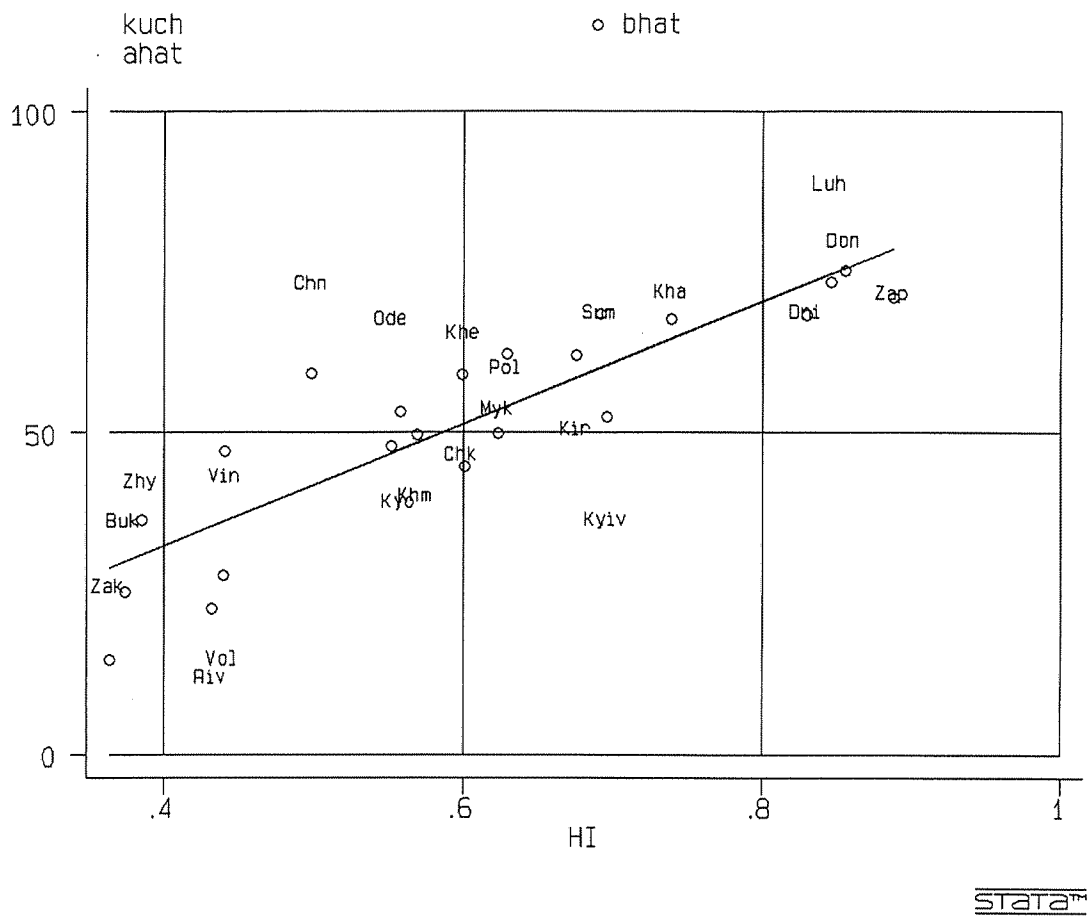
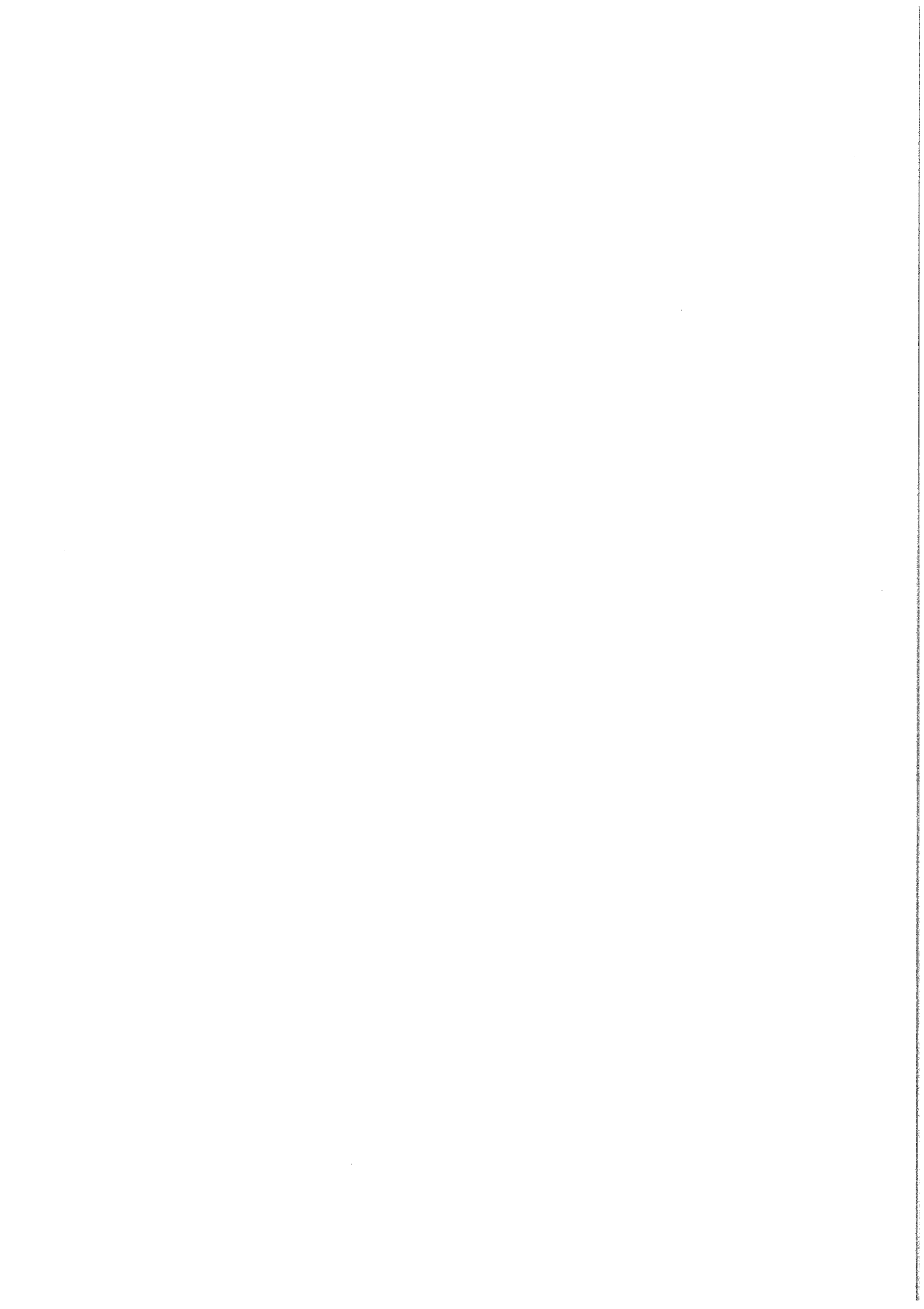


Figure 4: Votes for Kuchma and share of workers employed in the enterprises of heavy industry.



INSTITUTE FOR ADVANCED STUDIES
Department of Economics
Stumpergasse 56, A-1060 Vienna, Austria

Phone: (1) 59 991 – 149
Fax: (1) 59 991 – 163
e-mail: woergoet@ihssv.wsr.ac.at