THE DEGREE OF CONSENSUS AMONG ECONOMIC EDUCATORS IN A TRANSITION ECONOMY

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ABSTRACT

The question of consensus regarding important economic issues among economists has been studied for over 30 years in many countries with established market economies. The authors investigate the degree of agreement about such issues among economic educators in Belarus by adapting the survey previously used by American and Western European economists. The study specifically analyzes the differences in the views of the former participants of retraining programs vs. non-participants while also comparing them to a survey of U.S. economists. Several statistical measures designed to identify "consensus" are applied to analyze the results. The authors generally find disagreement within the economics profession in Belarus although they conclude that training in market economics principles results in a greater degree of consensus.

KEY WORDS: consensus, economists' views, change of opinions, transition economy. JEL Code: A11

INTRODUCTION

How much do economists disagree? Various researchers have explored this question over the years (Kearl, Pope, Whiting, & Wimmer, 1979; Frey, Pommerehne, Schneider, & Gilbert, 1984; Block & Walker, 1988; Frey & Eichenberger 1992; Ricketts & Shoesmith, 1992; Alston, Kearl, & Vaughan, 1992; Becker, Walstad, & Watts, 1994; Fuller & Geide-Stevenson, 2003). In a profession with different theoretical and ideological approaches and competing schools of thought some disagreement is inevitable, however, while disagreement among economists is a part of economic tradition, many studies have found that there is more agreement than disagreement among economists in Northern American and Western European countries. This paper adds another dimension to the existing research by examining whether economists from the countries that are in the process of establishing market economies have achieved a similar level of agreement. By replicating the survey of opinions from Alston *et al.* (1992) in Belarus, this paper attempts to answer the following research questions: *What is the degree of consensus on economic issues among Belarusian economic educators? Did retraining programs in market* economic principles shift these opinions? How do the results of the survey conducted in Belarus differ from the findings of the same survey among American economists?

PREVIOUS RESEARCH ON CONSENSUS AMONG ECONOMISTS

Over the last 30 years a number of studies have examined the areas of agreement and disagreement among economists over time and across countries. The first survey examined economic consensus on 30 propositions. Kearl, Pope, Whiting, and Wimmer (1979) used the criterion of relative entropy. They concluded that there is consensus among economists on most economic issues and found that 211 members of American Economic Association (AEA) tend to agree on "textbook" microeconomic and positively stated issues, but disagree about statements that involve macroeconomic concepts and have value judgments.

Another study (Frey *et al.*, 1984) analyzed the results of similar surveys conducted in France, Germany, Austria, and Switzerland and compared the responses to those from the USA. Although the results from each of the four European countries were different, the researchers found the least disagreement among economists regarding issues concerning the effectiveness of the price mechanism and the market system and that American, German, and Swiss economists tended to support typical "textbook" neoclassical propositions, while Austrian and French economists were more inclined to agree with broader government presence in the economy. Frey *et al.* argued that possible causes for this disagreement could be different historical and cultural backgrounds.

Canadian economists Block and Walker (1988) found that Canadian and U.S. economists have similar views on most propositions. In general, Canadian economists also tend to support the idea of effectiveness of the price mechanism in allocation, but they are less supportive of any "interventionist policy" by government than their American colleagues except in areas of government's redistributive role.

Surveys of British economists were published in 1990 and 1992 by M. Ricketts and E. Shoesmith. They found that British economists were more likely to support government intervention into market operations and income distribution.

Another attempt to analyze the degree of consensus was undertaken by Alston, Kearl, and Vaughan (1992). They analyzed the responses of American economists with an updated survey (later referred as AKV-92 survey) in order to look at the shifts in opinions over time. A new "vintage of degree" factor was used and the results showed that it played an important role for 40% of the statements. For example, the respondents who received their degrees in Economics before 1970s showed a greater support for Keynesian propositions and lower support for monetarists' statements.

In 1994 there was a new direction in surveys of the U.S. consensus. After omitting 11 "PhD level" questions from the AKV-92 survey, Becker, Walstad, and Watts (1994) assessed similarity in economic thinking among economists, economic educators, high school social

studies and economics teachers, and journalists. Economists and economic educators showed the highest level of agreement. Among surveyed teachers, the high school economics teachers demonstrated fairly similar views with the economists. The opinions of journalists and secondary social studies teachers deviated from those of economists or economic educators most of all. Among the factors explaining the variation were the differences in completed economics coursework and participation in economics-related professional development programs. Moreover, the authors suggested that the opinions of social studies teachers, who received the least amount of formal training in economics, could be impacted more by the news media rather than by economists.

Fuller and Geide-Stevenson (2003) looked at the dynamics of opinions among the members of AEA since the 1990s. They used 24 questions from the AKV-92 survey and 20 new propositions and applied the consensus index measure. Their findings were grouped by the following areas: international economics, macroeconomics, microeconomics, income distribution, and New Economy issues. The strongest agreement among economists was found in the area of international economics. Interestingly, both strong consensus and no consensus emerged for positive propositions, while economists tended to agree with normative propositions. The tendency that economists are more likely to agree on microeconomic than on macroeconomic propositions has not changed over the years, though the authors suggested that recent empirical studies resulted in a greater disagreement on some "textbook treatments" of allocative efficiency of the competitive price mechanism.

Thus, the literature examining the opinions of economists shows general consensus within the profession in the West. At the same time, economics as a social science reflects the incessant changes that emerge in public policy and public opinions, and these changes in turn influence the degree of agreement among economists and cause economics professors to reconsider the propositions they teach.

TRENDS IN ECONOMIC EDUCATION IN BELARUS DURING TRANSITION

In this paper we examine whether a similar consensus has developed among the economists from the countries that have been moving "from plan to market." Transition periods affect all population groups in one way or another; to some, it is a time of revaluation of values, to others, it is a time of deeper ideological disarray. During the period of ideological and economic confrontation between socialism and capitalism before the 1990s, the choice of adherence to an economic school in the former command economies was often political rather than scientific. Marxian theory was dominant and the only accepted economic theory taught in courses on the *political economy of socialism*. Neoclassical views were presented as criticism of the "vulgar" economic doctrines in courses on the *political economy of capitalism*. Since both subjects were mandatory for obtaining an undergraduate degree and no other views could be openly expressed, the question of consensus among the Marxist economists was not appropriate at that time.

The collapse of the socialist system brought new challenges to academic economists and made them rethink their agenda and core ideas in order to adjust their views and teaching to the new economic and political situation. The fall of the Iron Curtain allowed the inflow of western ideas, textbooks, and training opportunities that made the former "indoctrinated" consensus history. These changes led to a paradigm shift towards a more mainstream view combined with some "heretical" economics.

However, after fifteen years of transition the question of what version of economics to teach at colleges and universities still remains an important issue in these countries. This problem has yet to be resolved because economic educators have had different theoretical backgrounds and re-training opportunities (Kovzik & Watts, 2001). Hence, it seems reasonable to ask whether economic educators themselves believe in the market system and in competitive market forces, and what approach they communicate.

The issue of consensus among economists has long been studied in many countries with established market economies. We extend the previous work done on consensus among economists on theoretical and policy propositions to economic educators in Belarus, a country that has one of the slowest rate of transition to the market economy among the former socialist countries. Given the challenges of transitional period in teaching economics, this study specifically analyzes the differences in the views of Belarusian economic educators who received some training in market economic principles versus those who have not been formally re-trained, while also comparing the results of the Belarusian survey with the original American survey (AKV, 1992).

This research is particularly interesting because the vast majority of economic educators at both the college and high school levels in Belarus are self-educated in mainstream economics, due to limited supply of official retraining programs in this field. During the last fifteen years the gap in the state retraining system has been partially filled by international and nongovernmental initiatives (Kovzik, Kovalenko, Chepikov, & Watts, 2002). One of the most successful opportunities has been offered by the U.S. National Council on Economic Education (NCEE, and as of 2009, Council for Economic Education). NCEE's "Training of Trainers" and "Training of Teachers" programs were conducted in cooperation with the Belarusian Economic Association – an NGO, formed by market oriented economists and businessmen – and have involved about 250 economic educators since 1995. Analysis of the former participants' responses provides an additional opportunity for a comparative analysis of consensus and the impact of international retraining activities.

SAMPLE AND SURVEY

A translated version of the AKV-92 survey consisting of 40 economic propositions, as reported in Alston *et al.* (1992), was administered in Belarus in the spring of 2003. Even though the surveys were conducted with the large time gap, and 1992 results do not reflect the current

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opinions among American economists, the AKV-92 survey is still a reasonable point of reference for a country in transition where economic education is in its embryonic stage. Fuller and Geide-Stevenson (2003) provided additional tools for the statistical analysis of the Belarusian data, specifically chi-square test of a uniform distribution and conditional percentage of broad agreement and disagreement on economic propositions, reinforcing the quality of the research results.

Five hundred hard copies of the two-page questionnaire were mailed to economics departments of all major universities, i.e. Belarusian State University, Belarusian State Economic University, Grodno State University, and to high schools that offered economics as a separate subject. The response rate was 40.8 percent.

Most economic educators who participated in the survey had received their formal education before the transition to a market economy; thus, the only difference among the respondents we considered was whether or not they had acquired additional knowledge in the principles of market economy through the system of international workshops and seminars. Of the 204 received surveys, 71 (34.8 %) were filled out by the respondents who had completed NCEE or BEA training programs. For the sake of consistency with the previous U.S. studies, the recipients were asked to express their opinion on suggested economic propositions by choosing either "generally disagree", "agree with provisions", or "generally agree."

MEASURES

Fuller and Geide-Stevenson's (2003) *consensus index* measure was used to measure the degree of consensus among economic educators in Belarus. This index is based on three measures of consensus: relative entropy, a chi-square test of uniform distribution, and the conditional percentage of broad agreement or disagreement on suggested propositions. The first component of the consensus index, relative entropy $(\varepsilon)^1$, varies from 0 meaning perfect consensus to 1 meaning no consensus. With three possible answers (1 - "generally disagree", 2 - "agree with provisions", and 3 - "generally agree"), we interpret a relative entropy index of 0.8 and below to indicate the existence of a consensus, while values higher than 0.8 mean the answers to the economic propositions were relatively equally distributed among the three possible options, implying no consensus.

The second component, the chi-square test was used to test if answers to the economic propositions were uniformly distributed. At a 1% significance level, a chi-square statistics greater than 9.210 will allow us to reject such a hypothesis.²

The third component of the consensus index (CI) contrasted conditional percentage of those who disagreed (answer 1) with those who either agreed (answer 3) or agreed with provision (answer 2). If 67 % or more of respondents disagreed or broadly agreed with a proposition, we assumed consensus on this proposition.

Following Fuller and Geide-Stevenson (2003), if all three components indicate consensus, we designated that as strong consensus. If two out of three components indicate

consensus, it was considered as substantial consensus. If only one component out of three indicated consensus, we labeled it as modest consensus. Otherwise, we designated the topic as having no consensus.

DATA ANALYSIS AND DISCUSSION

Table 1 lists the propositions and reports the simple frequency distribution of three possible answer options, the degree of consensus estimated by the relative entropy index, the chi-squared test of a uniform distribution, and the consensus index. The table contains results for the whole sample of Belarusian economic educators (n = 204) and for the sub-sample of economic educators (n = 71) who participated in the NCEE training programs.

Table 1 Propositions, Responses, Entropy, Chi-Squared, Mean Response, and Consensus Index for Belarusian Total												
Sample and NCEE Trained Sub-Sample												
1	2	3	4	5	6	7	8	9	10	11	12	
Proposition	R	%	%	Mean	Mean	3	3	χ2	χ2	CI	CI	
	ĸ	total	NCEE	Total	NCEE	Total	NCEE	Total	NCEE	Total	NCEE	
1 Tariffs and import quotas usually reduce the	1	13.24	2.82									
general welfare of society	2	57.35	25.35	2.16	2.69	0.86	0.62	60.97	52.75	SubC	SC	
	3	29.41	71.83									
2. Large federal budget deficit has an adverse effect	1	1.96	5.63									
on the economy.	2	26.99	26.76	2.69	2.62	0.61	0.71	149.91	42.28	SC	SC	
	3	71.08	67.61									
3. The money supply is a more important target than	1	22.06	21.13							~ . ~	~ . ~	
interest rates for monetary policy.	2	45.59	53.52	2.10	2.04	0.96	0.92	17.03	13.21	SubC	SubC	
······································		32.35	25.35									
4. Cash payments increase the welfare of recipients	1	17.65	8.45	2.24	0.00	0.04	0.04	22.50	20.01	0.10	0.10	
to a greater degree than do transfers-in-kind of equal	2	41.18	50.70	2.24	2.32	0.94	0.84	22.59	20.81	SubC	SubC	
cash value.	3	41.18	40.85									
5. Flexible and floating exchange rates offer an		10.18	16.90	2.22	2 21	0.02	0.04	22.20	0.15	S. h.C.	MC	
effective international monetary arrangement.	2	33.29 19 52	45.07	2.32	2.21	0.92	0.94	32.38	9.15	SUDC	MC	
6 As the USSP meyor toward a market according a	3	40.33	38.03									
b. As the USSK moves toward a market economy, a	1	39.71	14.08									
would result in a better outcome than a slow	2	33.82	22.54	1.87	2.49	0.99	0.82	5.38	29.60	Ν	SubC	
transition	3	26.47	63.38									
	1	38 24	16.90									
7. Minimum wages increase unemployment among	2	29.41	26.76	1 94	2 39	0.99	0.89	2 47	17 94	Ν	SubC	
young and unskilled workers.	3	32.35	56 34	1.71	2.37	0.77	0.09	2.17	17.51	1,	Suce	
8. An economy in short-run equilibrium at a real												
GDP below potential GDP has a self-correcting	1	23.53	16.90									
mechanism that will eventually return it to potential	2	51.47	53.52	2.01	2.13	0.94	0.91	30.26	14.73	SubC	SubC	
real GDP.		25.00	27.58									
	1	17.65	8.45									
9. Fiscal policy has a significant stimulative impact	2	29.41	53.52	2.35	2.30	0.91	0.83	39.53	22.33	SubC	SubC	
on a less than fully employed economy.		52.94	38.03									

Page 8	39
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Table 1 Propositions, Responses, Entropy, Chi-Squared, Mean Response, and Consensus Index for Belarusian Total Servel and NGEE Trained Science											
Sample a	nd	NCE	C Traine	ed Sub	-Sample	e 7	0	0	10	11	10
	2	3	4	2	6	/	8	9	10		12 CI
Proposition	R	% total	% NCEE	Total	NCEE	3 Total	ε NCEE	χ2 Total	χ2 NCEE	CI Total	CI NCEE
	1	35.20	67.61	Total	NCEL	Total	NCEE	Total	INCLL	Total	NCLL
10. The distribution of income in the U.S. should be	$\frac{1}{2}$	29.41	25 35	2 00	1 39	1.00	0.73	1 4 1	41.09	Ν	SubC
more equal.	3	35 29	7 04	2.00	1.57	1.00	0.75	1.11	11.09	11	Sube
11 Wage contracts are the primary factor that	1	27.94	22.54								
prevents the economy from continuously operating	2	50.00	70.42	1.94	1.85	0.94	0.70	26.56	46.50	SubC	SC
at full employment.	3	22.06	7.04								
12 Antimatic sets that the set from the set	1	16.18	25.35								
12. Antitrust laws should be enforced vigorously to	2	30.88	8.45	2.37	2.41	0.90	0.76	41.91	37.54	SubC	SC
reduce monopoly power from its current level.	3	52.94	66.20								
	1	16.18	19.72								
13. Inflation is primarily a monetary phenomenon.	2	33.82	38.03	2.34	2.23	0.92	0.96	35.03	6.11	SubC	MC
	3	50.00	42.25								
14 The government should restructure the welfare	1	25.00	36.62								
system along the lines of "negative income tax".	2	39.71	33.80	2.10	1.93	0.98	1.00	6.97	0.54	MC	Ν
	3	35.29	29.58								
15. Wage-price controls are a useful policy option in	1	38.24	64.79	1 00							<u>a 1 a</u>
the control of inflation.	2	34.31	25.35	1.88	1.45	0.99	0.78	3.65	34.16	Ν	SubC
	5	27.45	9.86								
16. A ceiling on rents reduces the quantity and	1	14./1	16.90	2 20	2.21	0.02	0.02	21.05	10.24	0.10	0.10
quality of housing available.	2	42.05	35.21	2.28	2.31	0.92	0.93	31.85	10.34	SubC	SubC
		42.03	47.89								
17. The Fed should increase the money supply at a fixed rate.	1 2	32.33 A2.65	20.70	1 03	2.28	0.08	0.90	9.62	15.66	SubC	SubC
	3	25.00	54 93	1.75	2.20	0.76	0.70	9.02	15.00	Sube	Sube
18 Effluent taxes or marketable pollution permits	1	14 71	2.82								
represent a better approach to pollution control than	2	26.47	39.44	2.44	2.55	0.86	0.71	63.88	33.32	SubC	SC
imposition of pollution ceilings.	3	58.82	57.74	-							
	1	7.35	5.64					_			
19. The government should issue an inflation	2	35.29	60.56	2.50	2.28	0.80	0.76	76.85	32.14	SC	SC
indexed security.	3	57.35	33.80								
20. The level of government spending relative to	1	22.06	18.31								
GDP should be reduced (disregarding expenditures	2	50.00	38.03	2.06	2.25	0.94	0.95	26.56	7.55	SubC	MC
for stabilization).	3	27.94	43.66								
21. The Federal Reserve has the capacity to achieve	1	17.65	16.90								
a constant rate of growth in the money supply if it	2	48.53	28.17	2.16	2.38	0.93	0.90	29.21	16.25	SubC	SubC
so desired.	3	33.82	54.93								
22. Economic evidence suggests there are too many	1	32.35	45.07		1 (0	• • -	0.00	12.04	10.50		
resources in American agriculture.	2	44.12	42.25	1.91	1.68	0.97	0.90	13.06	13.72	MC	MC
		23.53	12.68								
23. Reducing the regulatory power of the	1	61.76	43.66								
Environmental Protection Agency (EPA) would	2	30.88	46.48	1.46	1.66	0.78	0.86	91.15	17.69	SubC	MC
economy	3	7.35	9.86								
24 If the federal hudget is to be balanced, it should											
be done over the course of the business cycle rather	1	22.06	8 4 5								
than yearly.	2	25.00	16.90	2.31	2.66	0.93	0.66	35.56	55.29	SubC	SC
	3	52.94	74.65								~~

Page 90

Table 1 Propositions, Responses, Entropy, Chi-Squared, Mean Response, and Consensus Index for Belarusian Total											
Sample a	nd	NCE	C Train	ed Sub	-Sample	e 7	0	0	10	11	10
	2	3	4	5	6	7	8	9	10		12
Proposition	R	%	%	Mean	Mean	3 7	3 NGEE	χ^2	χ^2		CI
	1	total	NCEE	Total	NCEE	Total	NCEE	Total	NCEE	I otal	NCEE
25. The cause of the rise of the gasoline prices that	1	22.06	38.03	0.15	2.06	0.07	0.05	10.00	7.55	0.10	N
occurred in the wake of the Iraqi invasion of Kuwait	2	41.18	18.31	2.15	2.06	0.97	0.95	12.26	7.55	SubC	N
is the monopoly power of the large oil companies.	3	36.76	43.66								
26. The redistribution of income within the U.S. is a	1	35.29	33.80	1.04	2.06	1.00	0.00	1 4 1	1 70	N	N
legitimate role for government.	2	35.29	26.76	1.94	2.06	1.00	0.99	1.41	1.72	N	N
	3	29.41	39.44								
27. In the short run, a reduction in unemployment	1	25.00	16.90	2.07	2.25	0.00	0.04	0.00	0.65	0.10	
causes the rate of inflation to increase.	2	42.65	40.85	2.07	2.25	0.98	0.94	9.62	8.65	SubC	MC
	3	32.35	42.25								
28. The major source of macroeconomic	1	19.12	9.86	a 0.0	0.15	0.00	0.70	50.01	24.16	0.10	
disturbances is supply-side shocks.	2	58.82	64.79	2.03	2.15	0.88	0.78	59.91	34.16	SubC	SC
	3	22.06	25.35								
29. There is a natural rate of unemployment to	1	7.35	16.90	0.54	2.40	0.77	0.00	04.07	24.50		
which the economy tends in the long run.	2	29.41	16.90	2.56	2.49	0.77	0.80	96.97	34.50	SC	SC
	3	63.24	66.20						-		
30. "Consumer protection" laws generally reduce	1	64.71	28.17							~ . ~	~ . ~
economic efficiency.	2	27.94	60.56	1.43	1.83	0.76	0.83	103.32	26.73	SubC	SubC
	3	7.35	11.27								
31. In the movement from a non-market to a market	1	7 35	8 4 5								
conomy (e.g., Poland) it is important that the		39.71	16.90	2.46	2.66	0.81	0.66	67.32	55.29	SubC	SC
ownership of the productive resources be privatized	3	52.94	74.65							~ ~ ~ ~	~ -
at the onset.	-										
32. Rational expectations on the part of market	1	8.82	16.90								
participants play an important role in preventing	2	51.47	35.21	2.31	2.31	0.84	0.93	59.38	10.34	SubC	SubC
significant swings in real aggregate output.	3	39.71	47.89								
33 Changes in aggregate demand affect real GDP in	1	20.59	8.45								
the short run but not in the long run	2	44.12	35.21	2.15	2.52	0.96	0.81	17.29	25.95	SubC	SubC
	3	35.29	57.74								
34 Large balance of trade deficits have adverse	1	5.88	15.49								
effects on the economy	2	30.88	29.58	2.57	2.39	0.75	0.89	101.21	17.01	SC	SubC
	3	63.24	54.93								
35 Lower marginal income tax rates reduce leisure	1	29.41	16.90								
and increase work effort	2	33.82	8.45	2.07	2.58	1.00	0.66	1.68	55.29	MC	SC
and mercase work errort.	3	36.76	74.65								
36 Collusive behavior is likely among large firms	1	14.71	8.45								
in the United States	2	23.53	47.88	2.47	2.35	0.84	0.84	76.59	19.97	SubC	SubC
in the office states.	3	61.76	43.66								
37. The trade deficit is primarily a consequence of	1	17.65	5.63								
57. The trade deficit is primarily a consequence of		48.53	54.93	2.16	2.34	0.93	0.78	29.21	27.07	SubC	SC
the maonity of 0.5. Thins to compete	3	33.82	39.44								
38. The competitive model is generally more useful											
for understanding the U.S. economy than are models	1	22.06	29 58								
of imperfect competition and other game theoretic	$\frac{1}{2}$	50.00	38.02	2.06	2.03	0.04	0 00	26 56	0 70	SubC	MC
models.	2	27 01	32 30	2.00	2.05	0.74	0.77	20.30	0.77	SubC	wit
	5	21.74	54.59								

Page	91
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Table 1 Propositions, Responses, Entropy, Chi-Squared, Mean Response, and Consensus Index for Belarusian Total											
Sample and NCEE Trained Sub-Sample											
1	2	3	4	5	6	7	8	9	10	11	12
Proposition	D	%	%	Mean	Mean	3	3	χ2	χ2	CI	CI
	к	total	NCEE	Total	NCEE	Total	NCEE	Total	NCEE	Total	NCEE
39. Reducing the tax rate on income from capital	1	7.35	8.45								
gains would encourage investment and promote	2	32.35	16.90	2.53	2.66	0.78	0.66	85.85	55.29	SC	SC
economic growth.		60.29	74.65								
40 The U.S. government should retaliate against	1	36.76	16.90								
40. The U.S. government should retained against	2	44.12	36.62	1.82	2.30	0.95	0.93	20.21	9.66	MC	SubC
dumping and subsidies an international trade.	3	19.12	46.48								
Note: $n_{total} = 204$; $n_{NCEE} = 71$.						-	•		•		

Column 2 shows possible responses: 1 - Generally Disagree, 2 - Agree with Provisions, 3 - Generally Agree

Columns 3 and 4 report the percentage of responses.

Columns 5 and 6 report Means for Total and NCEE samples

Columns 7 and 8 report relative entropy index, ε ;

Columns 9 and 10 report a chi-squared test statistics for goodness-of-fit a uniform distribution of responses test, where $\chi 2 < 9.210$ indicates the null hypothesis that the data fit a uniform distribution cannot be rejected at the significance level $\alpha = 0.01$. Columns 11 and 12 report the consensus index indicating strong (SC), substantial consensus (SubC), moderate consensus (MC),

and no consensus (N).

The measure of relative entropy was the most common and conservative estimate of the degree of consensus in previous studies on consensus. Our results (Column 7, Table 1) show that according to this measure there were 7 out of 40 propositions upon which there was consensus for the whole sample (questions 2, 19, 23, 29, 30, 34 and 39). Propositions 2 (large budget deficit has an adverse effect), 19 (inflation indexed security), 29 (natural rate of unemployment), 34 (adverse effect of large balance of trade deficit), and 39 (reducing tax rate on income from capital gains) prove strong consensus using all measures. The other two propositions, 23 (regulatory power and efficiency) and 30 (consumer protection), fall into the category of "substantial consensus".

The Chi-squared tests showed some degree of consensus on 33 propositions, while the loosest measure of agreement, the conditional broad agreement percentage, yielded consensus on 32 propositions.

As shown in Table 1, for the entire sample of economic educators in Belarus, there are 5 propositions with strong consensus index, 26 propositions with substantial consensus, 4 propositions with modest consensus, and there was no consensus on 5 propositions out of 40. These results are summarized in Column 11.

Most respondents agree that both large budget deficit (proposition 2) and balance of trade deficit (34) have an adverse effect on the economy. On the other hand, they strongly support the idea that the government should provide inflation-indexed security (19). Strong consensus on these issues can possibly be explained by the general negative perception of "deficit" and memories of recent hyperinflation experienced during the Soviet and early transitional periods.

No agreement according to any of the three criteria was demonstrated on propositions 6, 7, 10, 15, and 26. Respondents' opinions varied regarding the most debated issues such as

whether shock therapy is better than slow transition. While some respondents agreed that a minimum wage increase results in higher unemployment among the least skilled workers (7), relying on the "textbook" explanation of the phenomenon, others possibly reflected on a Belarusian reality where direct administrative control overpowers market forces regulating the level of employment. About 60% of respondents broadly agree that wage-price control helps manage inflation (15). It is possible to speculate that they expressed their negative attitude toward inflation without giving consideration to the macroeconomic consequences of applying the above-mentioned instrument. Lack of consensus on income distribution (10) and redistribution of income as a legitimate role of government (26) can be attributed to the complexity of the process of mentality changes during the transition from command to market. In other words, some people were fatigued with the wage-levelling system under socialism while others have nostalgia for the paternalistic role of the government in "good old times". For the same reason, no consensus was found whether "shock therapy" is a better approach to transitional reform (6).

The fact that there are only five propositions with strong consensus and five propositions with no agreement indicates a great deal of disagreement in the whole group of Belarusian economic educators. Dispersion in views might be a result of differences in theoretical background (column 11 of Table 1). The paradigm shift in the economics curriculum did not involve formal re-training among instructors. Thus, it would be interesting to compare the results for the whole Belarusian sample with the opinions of economic educators who have gone through the training in mainstream economics principles.

Out of 204 respondents, 71 marked that they had participated in the "training of trainers" or "training of teachers" programs conducted or supported by the NCEE. To examine the influence of that training on the views of Belarusian economic educators, the same consensus measures were analyzed for this sub-group.

The results are summarized in Table 1, columns 4, 6, 8, 10, and 12. There are 13 propositions for which educators demonstrated strong consensus. The number of propositions with no consensus decreased almost by half (from 5 to 3), as compared to the total sample.

Four propositions with strong consensus were the same in the whole sample and the subgroup. The NCEE-trained educators agreed that a large budget deficit has an adverse effect on the economy (2), the government should "issue an inflation indexed security" (19), that the economy tends to the natural level of unemployment in the long run (29), and lowering the tax rate promotes economic growth (39). The transition from strong to substantial consensus for the sub-group on proposition 34 may indicate that graduates from NCEE programs are aware of the ongoing discussions about the effects of balance of trade deficit on the economy.

For eight propositions the NCEE sub-group expressed strong consensus whereas these propositions were in the category of "substantial consensus" for the total group. These propositions are: 1 (tariffs and quotas), 11 (wage contracts prevent from full employment), 12 (antitrust laws), 18 (effluent taxes and pollution permits are better than pollution standards), 24

(cyclical balancing of the federal budget), 28 (supply shocks cause macroeconomic disturbances), 31(onset privatization of productive resources in transitional economies), 37 (trade deficit due to the inability to compete). Proposition 35 (the effect of marginal income taxes on leisure and work) moved from the "moderate consensus" to "strong consensus" for the sub-group.

Propositions 6, 7, 10, and 15 moved from the "no consensus" to the "substantial consensus" category. These are the propositions about rapid transition, minimum wages that increase unemployment among young people, income distribution inequality, and wage-and-price controls during inflation.

Most of the above mentioned popular "textbook" concepts are commonly covered at the NCEE programs for economic educators and this might have influenced the opinions of this subgroup.

The NCEE-trained sub-group demonstrated no consensus on propositions 14, 25, and 26. There was only one proposition (26) on which results coincide. Regardless of training or background, respondents show diverse opinions on the issue of governmentally directed redistribution of income, which has been one of the most controversial topics in the former socialist economies.

There is a chance that many Belarusian economists are not familiar with the concept of "negative income tax" (14) and it resulted in almost equal distribution of answers among given options. Opinions differed on proposition 25 (monopoly power and increase in gasoline prices after the Iraqi invasion of Kuwait) with 38% who disagree and 62 % who broadly agree (as compared to 78% in the whole group). It demonstrates a better understanding of how markets react to supply shocks.

These findings might suggest that the NCEE training and access to quality instructional materials do serve to shift the thinking of Belarusian economic educators towards the mainstream economics framework that leads to a stronger consensus among them.

The next question of interest would be to look at how far the views of those Belarusian economic educators who received NCEE training in market economic principles deviate from the opinions of economists from a country with developed market economy.

Thus, the next step of the analysis is a cross-country comparison of levels of consensus. For the purpose of international comparison of the survey results, the chi-square, conditional percentage, and consensus indices were calculated for the published AKV (1992) data set. Table 2 reports the statistics of the consensus measures for the Belarusian sub-sample and the American sample.

Table 2 Relative Entropy, Conditional Percentage, Chi-Squared, and Consensus Index for Belarusian NCEE Trained Sub-Sample and											
Belarusian sub-sample 1 2 3 4 5 6								AKV-92 samp	le		
1	2	3	4	5	6	7	8	9	10	11	
	3	% disagree	% agree & agree with provisions	χ2	Consensus Index	3	% disagree	% agree & agree with provisions	χ2	Consensus Index	
1	0.62	2.82	97.18	52.75	SC	0.57	6.5	93.5	321.03	SC	
2	0.71	5.63	94.37	42.28	SC	0.79	15.7	84.3	72.05	SC	
3	0.92	21.13	78.87	13.21	SubC	0.85	40.1	59.9	23.14	MC	
4	0.84	8.45	91.55	20.81	SubC	0.72	15.1	84.9	138.66	SC	
5	0.94	16.90	83.10	9.15	MC	0.7	8.4	91.6	158.06	SC	
6	0.82	14.08	85.92	29.60	SubC	0.84	40.1	59.9	12.81	MC	
7	0.89	16.90	83.10	17.94	SubC	0.74	20.5	79.5	114.27	SC	
8	0.91	16.90	83.10	14.73	SubC	0.81	47.6	52.4	50.53	MC	
9	0.83	8.45	91.55	22.33	SubC	0.67	9.1	90.9	176.64	SC	
10	0.73	67.61	32.39	41.09	SubC	0.85	26.7	73.3	49.25	SubC	
11	0.70	22.54	77.46	46.50	SC	0.57	72.4	27.6	344.13	SC	
12	0.76	25.35	74.65	37.54	SC	0.92	27.6	72.4	6.69	MC	
13	0.96	19.72	80.28	6.11	MC	0.84	28.5	71.5	10.09	SubC	
14	1.00	36.62	63.38	0.54	N	0.83	19	81	45.73	SubC	
15	0.78	64.79	35.21	34.16	SubC	0.53	73.9	26.1	349.62	SC	
16	0.93	16.90	83.10	10.34	SubC	0.52	6.5	93.5	396.18	SC	
17	0.90	26.76	73.24	15.66	SubC	0.75	54.1	45.9	116.38	MC	
18	0.71	2.82	97.18	33.32	SC	0.74	20.5	79.5	107.98	SC	
19	0.76	5.63	94.37	32.14	SC	0.89	36.4	63.6	8.41	Ν	
20	0.95	18.31	81.69	7.55	MC	0.79	44.6	55.4	46.98	SubC	
21	0.90	16.90	83.10	16.25	SubC	0.84	36.6	63.4	11.09	MC	
22	0.90	45.07	54.93	13.72	MC	0.85	21.3	78.7	65.41	SubC	
23	0.86	43.66	56.34	17.69	MC	0.69	62.3	37.7	197.49	SubC	
24	0.66	8.45	91.55	55.29	SC	0.72	13.4	86.6	165.17	SC	
25	0.95	38.03	61.97	7.55	Ν	0.63	67.5	32.5	253.10	SC	
26	0.99	33.80	66.20	1.72	N	0.73	16.8	83.2	121.52	SC	
27	0.94	16.90	83.10	8.65	MC	0.81	39.4	60.6	47.33	MC	
28	0.78	9.86	90.14	34.16	SC	0.79	54.7	45.3	129.97	SubC	
29	0.80	16.90	83.10	34.50	SC	0.82	30.8	69.2	1.11	MC	
30	0.83	28.17	71.83	26.73	SubC	0.76	55.8	44.2	114.11	SubC	
31	0.66	8.45	91.55	55.29	SC	0.85	23.7	76.3	16.93	SubC	
32	0.93	16.90	83.10	10.34	SubC	0.82	45.9	54.1	61.22	MC	
33	0.81	8.45	92.96	25.95	SubC	0.84	43.8	56.2	37.68	SubC	
34	0.89	15.49	84.51	17.01	SubC	0.86	33.8	66.2	9.11	N	
35	0.66	16.90	83.10	55.29	SC	0.8	43.8	56.2	31.33	MC	
36	0.84	8.45	91.55	19.97	SubC	0.82	27.8	72.2	12.71	SubC	
37	0.78	5.63	94.37	27.07	SC	0.76	51.5	48.5	80.08	SubC	
38	0.99	29.58	70.42	0.79	MC	0.85	39.7	60.3	15.00	MC	
39	0.66	8.45	91.55	55.29	SC	0.78	49.8	50.2	62.24	SubC	
40	0.93	16.90	83.10	9.66	SubC	0.78	47.6	52.4	75.04	SubC	

Page	94
IUZC	/ 7

Possible responses are: 1 - Generally Disagree, 2 - Agree with Provisions, 3 - Generally Agree

Column 1 shows the proposition number Columns 2 and 7 report relative entropy index, ε ;

Columns 3 and 4 report the conditional percentage of broad agreement (AG) and disagreement (DG) for NCEE sub-group

Columns 5 and 10 report a chi-squared test statistics for goodness-of-fit a uniform distribution of responses test

Columns 8 and 9 report the conditional percentage of broad agreement (AG) and disagreement (DG) for AKV-92

Columns 6 and 11 report the consensus index indicating strong (SC), substantial consensus (SubC), moderate consensus (Mc), and no consensus (N)

Table 3 Distribution of Propositions by Consensus Index across AKV-92, Belarusian Total, andNCEE Trained Groups											
	Total	NCEE	AKV-92								
Strong Consensus	2, 19, 29, 34, 39	1, 2, 11, 12, 18, 19, 24, 28, 29, 31, 35, 37, 39	1, 2, 4, 5, 7, 9, 11, 15, 16, 18, 24, 25, 26								
Substantial Consensus	1, 3, 4, 5, 8, 9, 11, 12, 13, 16, 17,18, 20, 21, 23, 24, 25, 27, 28, 30, 31, 32, 33, 36, 37, 38	3, 4, 6, 7, 8, 9, 10, 15, 16, 17, 21, 30, 32, 33, 34, 36, 40	10, 13, 14, 17, 20, 22, 23, 28, 30, 31, 33, 36, 37, 39, 40								
Modest Consensus	14, 22, 35, 40	5, 13, 20, 23, 27, 38	3, 6, 8, 12, 21, 27, 29, 32, 35, 38								
No Consensus	6, 7, 10, 15, 26	14, 25, 26	19, 34								

Consensus indices help contrast and compare international opinions. Table 3 provides a summary of propositions distribution by consensus index across the three groups.

Nominally, based on the consensus index, the total Belarusian group demonstrated the least consensus and highest dissension about economic issues. The results of the NCEE trained sub-sample appeared to be closer to the surveyed American economists based on the number of propositions in most CI categories. A similar conclusion can be drawn applying the most conservative consensus measure (ε). The total group has consensus only on 7 propositions, the NCEE trained group agreed on 15, and the American AKV-92 group on 21 (as seen in Tables 1 and 2).

As seen in Table 3, the dispersion of propositions across CI categories is not always similar across the countries and it means that opinions do not coincide and often times are quite opposite. Propositions 19 and 26 are good examples of cross-country opinion dissimilarity. In order to further examine similarities or differences in opinions across countries, two additional approaches were used: rankings by relative entropy and by weight of opinions (Ricketts & Shoesmith, 1992).

Figure 1(a) presents the correlation of entropy rankings for NCEE trained and American groups for all 40 propositions. The weak correlation (r = .1, *p-value* = 0.530) indicates a great difference between the opinions on proposition by proposition comparisons, which is not surprising. Early research studies yielded similar results (Block &Walker, 1988; Frey *et al.*, 1992). However, there were 8 outliers indicating contrasting degrees of consensus. There was consensus among American economists, but no consensus among Belarusian on propositions 5, 16, 25, and 26, which are positive statements. On the contrary, there was agreement among Belarusian economic educators, but no agreement among American economists on the following normative propositions: 10, 12, 19, and 31. Unlike the results from previous findings (Kearl *et al.*, 1979; Frey *et al.*, 1984; Block & Walker, 1988), Belarusians tend to have consensus on normative but dissent on positive "textbook" statements. Closer analysis of the propositions on which the Belarusian consensus contrasted with the American consensus suggests that the questions on which Belarusians disagree are less relevant to the country's reality or economic

history. After removing the propositions with polar consensus results (the outliers), the correlation of relative entropy ranking becomes stronger and statistically significant (r = .57, *p*-value = 0.001).

Figure 1 Correlation of Relative Entropy Rankings AKV-92 and Belarusian NCEE Trained Sub-sample, 40 propositions (a) and 32 propositions (b)



Figure 2 illustrates the correlation of mean value rankings between the analyzed American and Belarusian groups.





For all 40 questions (Figure 2a) the rank correlation coefficient was low but significant (r = .33, *p-value* = 0.037) while again showing opposite opinions on 8 propositions. These results do not support British economists Ricketts and Shoesmith's (1992) claim of an "international consistency" of opinions on economic matters. It is likely the case when an international comparison is drawn on the countries with similar economic systems. American economists mostly disagree with propositions 33, 35, 39, while Belarusian agree. These results are not surprising since the tax burden is very heavy while incomes are low in Belarus and it is likely

Journal of Economics and Economic Education Research, Volume 11, Number 2, 2010

that respondents agreed with statements 35 and 39 based on personal experiences rather than supporting a particular school of thought. The picture looks different for propositions 5, 10, 14, 22, and 26 on which Belarusians tend to disagree but Americans agree. One possible explanation for this international discrepancy could be the irrelevancy of these statements to the Belarusian reality. After removing these 8 outliers the correlation of mean value ranking for the remaining 32 propositions increases significantly (r = .72, *p-value* < 0.001). Figure 2b shows that cross-countries opinions are consistent for at least 17 propositions.

Hence, the cross-country comparison showed that the views of Belarusian economic educators who received NCEE training in market economic principles are somewhat similar to the opinions of American economists when the propositions irrelevant to the Belarusian economic actuality are removed.

CONCLUDING REMARKS

The analysis presented in this paper suggests that Belarusian economic educators have mixed opinions on important economic issues since they expressed strong consensus on only five out of forty propositions. Thus, there is much more disagreement within the economic profession in Belarus than in the U.S., where economists demonstrated strong consensus on thirteen propositions (AKV, 1992). Even when there is consensus among Belarusian and American economists on some economic propositions, the views are opposite in many cases. One possible explanation could be the fact that economists from the two countries have different points of reference and therefore their dissimilarity in thinking may be explained by differences in political and economic conditions.

Even though Belarusian economic educators exhibit a wide array of opinions on the market system and market forces, the educators who received NCEE training in market economic principles have shifted their opinions towards the mainstream economics framework and demonstrate a stronger consensus within the group. This partially could be a result of a self-selection bias as those who went through the training could have already had more market oriented views or have been more open to learning about market economies. However, we believe that the comparison with the total sample and the sub-sample still fairly depicts the differences in opinions of the educators from those groups.

We conclude that participation in retraining programs and access to quality instructional materials influence the thinking of economic educators and improve economics teaching in this country in transition.

NOTES

¹ Relative entropy ε is equal to the entropy $(-\Sigma p_i \log_2 p_i)$ divided by the maximum possible entropy, which would reflect a uniform distribution among all the answers. In our case, $\varepsilon = (p_1 \log p_1 + p_2 \log p_2 + p_3 \log p_3)/\log(1/3)$. 2.

 $\chi^2 = (O_1 - E_1)^2 / E_1 + (O_2 - E_2)^2 / E_2 + (O_3 - E_3)^2 / E_3$ where O_k (k = 1, 2, 3) represent the observed frequencies for three different categories. E_k (k = 1, 2, 3) represent the expected frequencies for each category, i.e. one third the sample size.

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