

# Government And The Economy: Student Perspectives From South Africa

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## ABSTRACT

*The economic role of the state is in the forefront of international news, following the collapse of major financial groups in some countries, and ballooning government deficits and debt in others. While the extent of government intervention, such as bailouts and takeovers, has been unprecedented elsewhere, political interference in the economy is nothing new in South Africa. This research investigates student opinions about state intervention vis á vis individual freedom and the operation of market forces in the South African economy. A fourteen-item Likert scale measuring student opinion was developed based on the Economic Attitudes Survey (Soper & Walstad, 1983). Interrelationships between economic opinion and student gender, prior economics knowledge, field of study and socio-economic background are explored.*

**Keywords:** Economic Opinions; Government Intervention; Economic Attitudes

## INTRODUCTION

Political intervention in the economy characterizes most countries. What does the ordinary citizen think about such government intervention in the economy? Attitude and opinions are important because they influence human behavior. In the arena of politics, opinion polls receive much attention in the run-up to elections. A popular phrase during Bill Clinton's successful 1992 presidential campaign, "It's the economy, stupid", served to remind the presidential nominees that jobs, a roof over one's head and food on the table are important issues for the 'thinking' voter. Since students are the voters of the future, this paper explores the opinions held by students at a Durban university regarding state intervention vis á vis free enterprise in the South African economy.

## LITERATURE REVIEW

Research on attitudes and opinions about the economy has taken various directions. These include the interplay amongst political loyalties, Economics knowledge and economic opinions, and the "public poll" type of investigation into peoples' opinions on economic performance and policy. There is also a large body of scholarly research into people's opinions of the economic transformation in the former Soviet states.

Much of the public-choice research seeks to investigate the interrelationships between political affiliations and views on the economy (Evans and Anderson 2006; Blinder and Krueger 2004; Niemi, Bremer and Heel 1999). Blinder and Krueger (2004) hypothesize that opinion is a function of self-interest, political ideology, knowledge about the economy and demographic characteristics. In general they find that ideology shapes opinion about economic policy to a larger degree than self-interest or economic knowledge. Niemi et al. (1999) analyze the determinants of opinion about state economic performance in a study of 23 U.S. states. They find that state economic perceptions are influenced by perceptions of national economic performance, individual economic circumstances, political affiliation and selected demographic characteristics.

Another popular research area is the changes in citizens' attitudes towards political democracy and the 'marketisation' of former Communist economies (Hraba et al. 2001; Gibson 1996). Using data for Russia and the Ukraine, Gibson (1996) concludes that political views impact more on economic opinions rather than the converse. These political attitudes remained fairly stable although economic attitudes changed over time. Hraba et al. (2001)

found that older respondents in the post-communist Czech Republic were less supportive of market reforms and were more likely to prefer socialism. The authors suggest non-economic factors (such as no longer being part of the "socialist dream") as a likely explanation for these results.

A third strand of research examines the public's views on the economy and economic policy in general. Several researchers have examined the congruence between public perceptions of how the economy is performing and the views of professional economists. Blendon et al. (1997) surveyed the general public and economists holding doctorate degrees to obtain feedback on public perception of past and current economic performance. They found a substantial gap between the public's and economists' perceptions. However, college graduates were more likely to hold opinions similar to those of professional economists. Blinder and Krueger (2004) found that ideology is the primary determinant of economic opinion, followed by Economics knowledge. They also found that more educated people, those who were employed, and the higher income groups were more interested in obtaining economic information to guide their decisions. Television was the most frequently used source for economic information, followed by local newspapers. Non-experts' beliefs about the workings of the macro-economy are compared to those of economists in Roos (2007). The author found that men were much better than women in distinguishing economic from non-economic events. Those respondents reporting frequent newspaper reading of national newspapers were more likely to think like economists. This study supports the conclusions in Blinder and Krueger (2004) that newspapers are a better source of economic information than television.

Within the economic education field, researchers began in the 1970s to investigate the relationship between economic knowledge and economic opinions (Weidenaar and Dodson 1972; Rothman and Scott 1973; Riddle 1978; McWilliams and Pinney 1978). Rothman and Scott (1973) consider whether university student scores on the Test of Understanding College Economics (TUCE) also reflect their political attitudes. The authors hypothesize that the greater one's economic knowledge, the more likely one is to hold opinions consistent with mainstream economic theory. Using a small sample of 49 students, the authors found that students holding conservative political opinions did better on the TUCE pre-test. Those questions dealing with the individual's preferences for a capitalist market system were the most significant. However, there was no statistically significant relationship between opinion scores and TUCE scores on the post-test. The authors conclude that socio-economic opinions are not independent of economic knowledge. The latter was also found to lead to a more positive attitude to free enterprise in a study of 380 high school students in the U.S. (McWilliams and Pinney 1978).

Riddle (1978) ascertains the effects of an introductory Economics course on student opinions of economic issues including labor unions, market structure, socialism, economic freedom and macroeconomic problems. The author found strong evidence supporting the hypothesis that taking Economics influences economic opinions. In general, students became more conservative in their economic opinions after studying introductory Economics. Metzner and Sims (1978), in their study of over 700 students at Western Illinois University, found that students in general were not supportive of big business nor did they hold favorable attitudes towards the free enterprise system. Rural students, those majoring in the business sciences, math and engineering and those who worked more than 30 hours a week held favorable opinions about the free enterprise system. Females had less favorable opinions. None of the students who described themselves as far left showed a pro-business attitude, whereas higher family income was associated with a more pro-business attitude. Finally, the authors argue that students with pro-business attitudes may self-select into the discipline, thus questioning previous research conclusions that Economics courses inculcate a pro-market attitude in students.

The present research seeks to obtain student opinions about the economy, government intervention in the economy, and the free enterprise system. It is exploratory in nature and is intended to guide a larger future study on economic opinions held by the wider public. Data was not available for testing the relationship between economic knowledge and opinions held. The relationships between student characteristics (such as age, gender, field of study etc.) and opinions expressed regarding the economy and the economic role of government are explored.

## **THE RESEARCH INSTRUMENT**

A 14 item questionnaire was developed based on the Economic Attitude Sophistication (EAS) survey described in Walstad (1987) and Soper and Walstad (1983). The EAS requires students to indicate the extent to

which they agree or disagree with a given statement and are assigned scores on a Likert scale of 1 to 5, where 1 indicates strong agreement, 3 indicates neutral and 5 indicates strong disagreement. The total scores therefore range from 14 to 70 with higher scores indicating stronger agreement with economists.

Certain items on the EAS required rephrasing or replacing entirely for the South African situation. For example, the first opinion statement on the EAS reads “The government should control the price of gasoline.” Some South African students may not know that “gasoline” is referred to as “petrol” in that country. Moreover, in South Africa there is a long history of government control of the petrol price, i.e. it is a so-called "administered price". It was decided that “gasoline” would be replaced by “basic foodstuffs” as this was a more relevant concern for South Africans in general, and students in particular. Table 1 below gives the original 14 item EAS (column 1) and the revised EAS used in this study (column 2).

**Table 1: The Economic Opinion Survey**

<b>Column 1: Economic Attitude Survey</b>	<b>Column 2: Revised Economic Attitude Survey</b>
1. Government should control the price of gasoline. (-)	1. The government should control the price of basic foodstuff in South Africa. (-)
2. Inflation is caused by greedy business and union leaders. (-)	2. Inflation in South Africa is caused by greedy businesses. (-)
3. Business makes too much profit. (-)	3. Businesses in South Africa make too much profit. (-)
4. People should not have to pay taxes. (-)	4. The government should protect South African firms from foreign competition. (-)
5. Free medical care should be provided for all Americans. (-)	5. Free health care should be provided to all South Africans. (-)
6. Banks should not charge interest on loans to customers. (-)	6. Banks in this country charge too high interest rates on loans. (-)
7. Most people who don't have jobs are too lazy to work. (-)	7. Most people who don't have jobs are too lazy to work. (-)
8. When a business gets big, it should be controlled by government. (-)	8. When a business gets too big, it should be controlled by government. (-)
9. New factories are not needed. (-)	9. South Africans pay too much tax. (+)
10. People should not be told how to spend their money. (+)	10. Inflation in this country is caused by greedy union leaders. (-)
11. If everybody had more money, we'd all be better off. (-)	11. There should be less government involvement in the economy in South Africa. (+)
12. Profits should not be regulated by government. (+)	12. Employment policies of private businesses should not be controlled by government. (+)
13. Most unemployed people are lazy. (-)	13. Foreign competition is good for the South African economy. (+)
14. When a strike occurs, government should step in and settle the dispute.(-)	14. When a strike occurs, government should step in and settle the dispute. (-)

In Table 1, a (+) indicates the sophisticated response (i.e. expressing an opinion similar to the consensus opinion of economists) is to agree strongly. A (-) indicates the sophisticated response is to disagree strongly. These so-called consensus opinions are somewhat biased in favor of the free enterprise system, and may not entirely be appropriate for the South African situation, but are adopted for consistency. This method of scoring produces a high total score if the student is pro free-enterprise and believes there should be less government intervention in the economy, even if this results in some degree of inequality and hardship.

The questionnaire used in this study requested certain biographical information such as gender and previous exposure to Economics. The age and race group to which the student belonged were obtained from the University database according to the student number provided. If students did not provide their student number, if an incorrect student number was given or if the student was not officially registered for the 2009 academic year, then it was not possible to obtain age and race data. Socio-economic background was reflected by total monthly household income. Students had to indicate their field of study (e.g. Marketing, Accounting, Engineering etc.), whether they were studying full-time or part-time and the campus at which they were based (Durban or Pietermaritzburg). Finally, students were asked to rank their most important source of economic information from six sources provided, including television, radio, newspaper etc.

## **METHODOLOGY AND DATA**

At the start of the first semester in 2009, students at the Durban University of Technology (DUT)<sup>1</sup> were asked to participate in the research voluntarily by completing the 14 item economic opinion questionnaire. Given that previous research had identified certain student characteristics as possible predictors of economic opinions, an attempt was made to obtain a cross-section of students from different study fields, geographic location, age and gender. At the time the research was conducted, Business students had not received any substantive Economics instruction, and certainly no Macroeconomics. Since the majority of economic issues referred to in the opinion survey were macroeconomic in nature, opinions expressed should therefore not be influenced by current Economics instruction.

The research was conducted at the Durban and Pietermaritzburg campuses. The latter city is about 50 miles away from Durban, and the campus location could be described as “less urban” than the larger campus which is based a few miles outside the central business district of the city of Durban. A convenience sampling approach was used whereby the researcher contacted colleagues who were willing to allow students time to complete the questionnaire during their allotted lecture period. A combined sample of 695 students at both campuses participated in the study.<sup>2</sup> Analysis of variance (ANOVA) and interrelationships between the variables are described, given the exploratory nature of the study. We report on statistically significant (at the 95% level) results only. Since the focus of this study is on student opinion, we report all responses on the survey, even if other demographic data was not available.

Three faculties are represented in the sample, viz. Business Sciences, Engineering Sciences and a very small sample of Health Sciences students. Almost 60% of the Business Sciences students were taking Introductory Microeconomics, and the rest were not required to take Economics, viz. those studying Public Relations, Human Resources Management and Public Management. Females were slightly over-represented at approximately 56% of the sample, but this is not uncommon in South Africa where females constitute a small majority in tertiary education. The overwhelming majority of the sample is Black, representative of the wider population demographics. Over 93% of the combined sample is younger than 25 years. It was to be expected that students with prior Economics are older, that part-time students are older since many of them are employed full-time, and consequently a larger percentage of older students are paying for their studies themselves.

Almost 41% of the sample had studied Economics at high school, as the subject is popular in the predominantly Black schools. Surprisingly, to the extent that Economics is considered a male-dominated discipline, 45% of females had taken high-school Economics compared to 36% of males. The 5% of the sample with prior University-level Economics were probably repeating Microeconomics. Self-reported total monthly household income comprised the student’s own income (if working), and the income of all people in the immediate household, who support the student financially. Of the 641 students who reported income, over 56% reported monthly household income as less than R5000 (i.e. about \$714 at the average May 2011 rand-dollar exchange rate). There were significant differences in reported income across gender, race and campus. Almost 78% of White students (and no Black students) stated monthly household income in the highest category (over \$2142), reflecting the (still) racially-skewed national income distribution. Compared to Durban students (52%), about 67% of students on the Pietermaritzburg campus reported income in the lowest category which is to be expected given the generally lower average incomes in more rural locations.

## **RESULTS**

The primary research objective of this study was to explore student opinion on economic issues, and the degree of government intervention in the economy. We also examine whether these opinions are influenced by certain student demographics, prior high school economics and the source of current economic information (e.g. television, radio, newspaper etc.). Table 2 gives the results of the opinion survey based on the Likert scale (1 =

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<sup>1</sup> The Durban University of Technology provides comprehensive career-based education and is located across several campuses in the province of KwaZulu-Natal, on the east coast of South Africa.

<sup>2</sup> Detailed sample descriptive statistics are available from the author on request.

strongly agree to 5 = strongly disagree).<sup>3</sup>

The results in Table 2 suggest that students expressed the most uncertainty for statements that required factual knowledge e.g. on the causes of inflation (No. 2 and No. 10) or the magnitude of the profits earned by businesses (No. 3). Statements about strikes, cost of living, debt and interest rates, and health care elicited strong opinions, which were not unexpected, since such issues impact directly on students and their families. For example, almost 90% of students believed that there should be free health care, not surprising given the incidence of HIV/Aids in South Africa.

Almost 78% of the sample strongly agree/agree that the government should protect local firms from foreign competition, but at the same time 42% felt that competition was good for the economy. Nearly half the sample thought that private firms should be free to decide their own employment policies, which was surprising given the strong affirmative action (Black Economic Empowerment) policies that have been implemented by the government. Over 81% of the sample believed in government mediation in strikes. Students were affected by a variety of labor disputes in 2009, e.g. within education, public health, and public transport. In general, the majority of students tended to favor more government intervention in the economy.

**Table 2: Results Of The Economic Opinion Survey**

Economic Attitude Survey	Percentage				
	Strongly Agree	Agree	Undecided /Neutral	Disagree	Strongly Disagree
1. The government should control the price of basic foodstuff in South Africa. (N = 689)	54.6	31.1	6.0	5.8	2.6
2. Inflation in South Africa is caused by greedy businesses. (N = 680)	13.2	23.1	36.8	23.1	3.8
3. Businesses in South Africa make too much profit. (N = 687)	13.4	30.7	32.0	21.4	2.5
4. The government should protect South African firms from foreign competition. (N = 689)	40.8	37.4	10.2	9.4	2.2
5. Free health care should be provided to all South Africans. (N = 691)	64.8	24.6	4.9	4.2	1.4
6. Banks in this country charge too high interest rates on loans. (N = 692)	39.3	38.6	14.5	6.4	1.3
7. Most people who don't have jobs are too lazy to work. (N = 691)	12.2	18.1	11.0	33.3	25.5
8. When a business gets too big, it should be controlled by government. (N = 690)	6.5	11.7	13.5	38.7	29.6
9. South Africans pay too much tax. (N = 685)	28.0	36.2	22.6	10.9	2.2
10. Inflation in this country is caused by greedy union leaders. (N = 685)	10.9	18.4	41.9	21.3	7.4
11. There should be less government involvement in the economy in South Africa. (N = 687)	6.4	11.1	20.8	36.5	25.2
12. Employment policies of private businesses should not be controlled by government. (N = 684)	16.4	32.6	18.4	22.5	10.1
13. Foreign competition is good for the South African economy. (N = 685)	13.3	29.3	21.9	21.0	14.5
14. When a strike occurs, government should step in and settle the dispute. (N = 690)	46.4	35.4	10.1	5.8	2.3

As noted earlier, other studies have found that certain demographic variables, prior economics knowledge and source of economic information *inter alia* influenced economic opinions. We will now examine whether this study found similar results. Gender had a significant effect on economic opinion for statement 13 only about the

<sup>3</sup> The Cronbach reliability measure for all 14 survey items was a fairly low 0.4 but this is not unusual due to problems measuring changeable opinions and the short length of the instrument (Walstad and Soper 1983).

effect of foreign competition. About 48% of males agree/strongly agree with this statement compared to 38% of females. Prior research suggests that males are more likely to hold consensus opinions with mainstream economics, and this study seems to support this finding. Race played a dominant role in opinions expressed on 10 of the 14 statements.<sup>4</sup> We posit explanations for some of these findings. For example, while all race groups tended to support government control over the prices of basic foodstuff, more than 30% of Indian students disagree/strongly disagree with this idea. Indians are traditionally considered the small-scale entrepreneurs or “shop-keepers” within South Africa, and could hence possibly be pro-business. The majority of White students were undecided or disagreed with the idea that local firms should be protected from foreign competition.<sup>5</sup> The latter two results tend to suggest a pro-market stance held by non-Black students.

A pro-labor position, which is more likely to be associated with Blacks (given South Africa's history of White Apartheid bosses exploiting Black labor), is reflected in the results for statement 10. Relative to the other race groups, Black students were far less likely to agree that inflation was caused by unions. However, similar to the results for statement 2 (“inflation is caused by greedy businesses.”), a significant proportion of the overall sample were undecided suggesting that students simply did not have enough economics knowledge on which to base an opinion. That the majority of Black South Africans see a definite role for government to redress previous inequalities and imbalances, is borne out by the results for statement 11. Over 65% of Black students compared to less than a third on average of the other race groups, disagree/strongly disagree with the idea of less government intervention in the economy.

The opinions expressed by students were influenced by their socio-economic background for six of the 14 statements.<sup>6</sup> The higher the income group to which a student belonged, the more likely was the student to disagree with the view that South African businesses make too much profit. Although the majority of students supported the notion of free health care, those in the highest income category expressed the most uncertainty, possibly because these individuals had access to private health insurance. Although most students did not support government control of big business (No. 8), wealthier students expressed the most disagreement. Whereas 70% of the top income group believes that the government should not interfere in employment policies of private firms, less than half of those in the lowest income group feel the same. Finally, a relatively higher percentage of the poorest students disagree/strongly disagree with the notion of less government intervention in the economy. Hence the results of this study tend to replicate previous research that higher income groups are pro-market oriented.

Previous research finds a positive relationship between Economics knowledge and a pro-business attitude. In this research, studying Economics in grade 12 at high school is a proxy for Economics learning. While statistically significant differences were found for those with prior high school Economics compared to those students without, underlying explanations were not always obvious.<sup>7</sup> To the extent that knowledge informs opinion, there was more uncertainty expressed by the group without high school economics on the two statements about inflation in South Africa (about 7% on average). Students with high school Economics tended to attribute inflation more to unions and labor rather than big business. This could be interpreted as a pro-market (business) stance and thus in line with previous research. However, more rigorous analysis is needed for definitive conclusions.

There were significant differences in opinion based on rural location of the students for statements 2, 4 and 6. A higher percentage of the Pietermaritzburg (more rural) students strongly agree/agree (39%) that inflation is caused by business greed compared to Durban students (32%). This difference may be attributable to the smaller number of firms, and hence less competition in rural areas. A higher percentage of Durban students were more protective of local firms (88%) compared to rural students (75%), which is reasonable to the extent that rural students may feel exploited by local businesses. Finally, a higher percentage of urban students believe that banks charge too high interest (84%) compared to rural students (74%). This difference may be attributable to less knowledge about and access to credit in rural areas relative to the urban areas.

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<sup>4</sup> These are statements 1, 2, 3, 4, 5, 7, 8, 10, 11 and 12.

<sup>5</sup> Although no significant differences in opinion based on race were found for statement 13, it is worth noting that half of the Colored students and over 60% of the White students believed that foreign competition is good for the South African economy.

<sup>6</sup> These are statements 3, 5, 7, 8, 11 and 12.

<sup>7</sup> These are statements 2, 4, 6, 9, 10 and 11.

Does a student's field of study bear any relationship to economic opinions? This study found statistically significant results for statements 2, 4 and 10. Students were divided into three groups viz. Business<sup>8</sup>, Health Sciences and Engineering but a limitation of the study is the small size of the Health Sciences sample relative to the other groups. Non-business students expressed greater agreement with the view that inflation is caused by both greedy businesses (No. 2) and unions (No. 10) compared to the business students. Business students may have more knowledge about inflation, and are able to make a more informed opinion. About 71% of the Engineering students strongly agree/agree that South African businesses should be protected from foreign competition compared to over 90% of the Health Sciences, and just over 80% of the Business students. While we have no clear explanation for this, Metzner and Sims (1978) likewise found that Engineering students were less supportive of state intervention in the economy.

Finally, previous research found that the source of Economic information may influence economic opinions. In this study, students were asked to report the single most important source of information about the economy, viz. television, radio, newspaper, internet and lecturer.<sup>9</sup> The majority of the sample report obtaining information from television broadcasts (63%), followed by newspapers (11%), radio (9%) and the internet (2%). No statistically significant results were found, however.

## CONCLUSION

The results of this study on economic opinions indicate some similarity with previous research findings: male students, those from higher socio-economic backgrounds, and those with greater prior economics knowledge hold similar views as mainstream Western economists, viz. a pro-market bias implying limited government intervention. Race was a new variable that was not specifically discussed in previous research, and the results in this study indicate that Black students in South Africa support an interventionist stance and populist economic policies. This is to be expected as there are huge expectations on the part of the Black population about redressing the economic imbalances of the Apartheid system.

A criticism of this research is that it reveals relationships but does not interrogate the nature or reasons for these relationships. Further research should focus on a delimited set of reliable opinion statements and qualitative feedback should be sought on the reasons for the opinions expressed. A criticism of opinion-type studies is that they really test and depend on knowledge. In the current study, prior high-school Economics is a very crude measure of knowledge. Ideally, a separate test of basic economic concepts should be used together with the survey. Regarding the nature of the relationships suggested in this research, several studies, notably an early study by Metzner and Simms (1978), use a regression framework in which causal relationships may be identified. Likewise in Walstad (1987), opinion responses can be used to obtain an economic opinion score which can then be regressed on a vector of explanatory variables. A similar approach could be adopted in this study, using linear or probit type models. Finally, future research on economic opinion in South Africa will benefit by expanding the sample to the wider public.

## AUTHOR INFORMATION

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<sup>8</sup> Public Management, Human Resources Management and Public Relations students were included in this category. Although not ideal, it is likely that these students would take some Business subjects and were more likely to fraternise with Business students.

<sup>9</sup> Due to a printing error, this question was omitted from the survey for the Engineering students. This omission together with other missing data reduces the sample to 508 responses

**REFERENCES**

1. Blendon, R.J., J.M. Benson, M. Brodie, R. Morin, D.E. Altman, D. Gitterman, M. Brossard, and M. James. 1997. Bridging the Gap Between the Public's and Economists' Views of the Economy. *The Journal of Economic Perspectives* 11 (3): 105 – 118.
2. Blinder, A.S., and A.B. Krueger. 2004. What Does the Public Know about Economic Policy, and How Does It Know It? *Brookings Papers on Economic Activity* 2004 (1): 327 -387.
3. Evans, G., and R. Andersen. 2006. The Political Conditioning of Economic Perceptions. *The Journal of Politics* 68 (1): 194-207.
4. Gibson, J.L. 1996. Political and Economic Markets: Changes in the Connections between Attitudes towards Political Democracy and a Market Economy within the Mass Culture of Russia and Ukraine. *Journal of Politics* 58(4): 954-84.
5. Hraba, J., R. Mullick, F.O. Lorenz, and J. Večerník. 2001. Age and Czechs' Attitudes toward the Postcommunist Economic Reforms. *The Sociological Quarterly* 42 (3): 421-435.
6. McWilliams, D.B., and W.E. Pinney. 1978. Economic Education and Attitudes toward the Free Enterprise System. *The Journal of Economic Education* 9 (2): 126 - 128.
7. Metzner, H.E., and E.C. Sims. 1978. Student Attitudes towards the Free Enterprise System. *The Journal of Economic Education* 10(1): 46-50.
8. Niemi, R.G., J. Bremer, and M. Heel. 1999. Determinants of State Economic Perceptions. *Political Behavior*, 21(2): 175-193.
9. Riddle, T. 1978. Student Opinions on Economic Issues: The Effects of an Introductory Economics Course. *The Journal of Economic Education* 9 (2): 111-114.
10. Roos, M.W. 2007. Nonexpert beliefs about the macroeconomic consequences of economic and noneconomic events. *Public Choice* 132: 291-304.
11. Rothman, M.P., and J.H. Scott. 1973. Political Opinions and the TUCE. *The Journal of Economic Education* 4(2): 116-124.
12. Soper, J.C., and W. B. Walstad. 1983. On Measuring Economic Attitudes. *The Journal of Economic Education* 14(4): 4 – 17.
13. Walstad, W.B. 1987. Attitudes, Opinions and Economic Understanding. *Theory into Practice* 26 (3): 223-230.
14. Weidenaar, D.J., and J.A. Dodson. 1972. The Effectiveness of Economic Instruction in Two-Year Colleges. *The Journal of Economic Education* 4 (1): 5-12.