

# TOO FAST AND TOO FURIOUS?

## Increasing the Breadth and Depth of Teaching Introductory Economics Courses

Steven Lim<sup>1</sup>  
Michael P. Cameron<sup>1,2</sup>

<sup>1</sup>Department of Economics, University of Waikato

<sup>2</sup>Population Studies Centre, University of Waikato

Paper presented at the New Zealand Association of Economists Conference, Wellington,  
1-3 July 2009.

### ABSTRACT

*Students come to their first economics course from a wide variety of backgrounds. Some may have had at least three years of high school economics study, yet others may have had no prior training at all. In the past we assumed that all freshman students came in with zero economics education. Accordingly, our classes tended to start from first principles, imposing severe constraints on how far our students could progress by the end of the semester.*

*The results of economics pre-tests at the Waikato Management School suggest that students have much more prior economics knowledge than we give them credit for. Thus we have recently been able to boost our lecture material with much more advanced content. Students seem able to cope with both increased quantity and complexity of lecture material relative to standard introductory economics courses, overturning the tradeoff between breadth and depth that we had earlier supposed. Our paper examines the sources of incoming students' prior economics knowledge and highlights, with examples, some of the changes we have made to learning content.*

## INTRODUCTION

Teachers of economics at university level are often caught between competing goals. We recognize that, to train students to eventually become professional economists, we must prepare them with a solid background in economic theory. Yet focusing on theory can turn many students off further study of economics, compromising student retention at higher levels of undergraduate study. To help make our classes more interesting and attractive, we often present more examples from the real world, particularly current economic issues. But given the limited time allocated to teach an introductory course, we run the risk that too many examples crowd out necessary theory. Topical illustrations, being idiosyncratic and narrow in focus, can struggle to relate tightly to the wider theoretical point.

Surprisingly, our recent solution to these tradeoffs has been to increase both the depth and breadth of our course content. That is, we have deepened the theoretical complexity, while including even more examples and real-world applications to increase the breadth of each topic taught. The results have been very positive, with students reporting greater overall enjoyment and relevance of the course. This is supported by anecdotal evidence of top students switching to economics as their major (for a full discussion of the course changes and their evaluation, see Lim and Tan, 2009).

The aim in this paper is to explain the changes in our assumptions of prior student knowledge that prompted us to increase learning depth and breadth. We will emphasize the key role of knowledge pre-tests in giving us the confidence to proceed with our changes. Second, we will analyze the sources of students' prior economics knowledge. Lastly we will offer brief examples of new course content that relates theory with illustrations from students' daily lives or future investment decisions. By tightening the link between economic theory and the exigencies of daily life we hope to show the relevance of theory to students and ultimately encourage them to take more economics courses in their degree.

## BACKGROUND TO THE PROBLEM<sup>1</sup>

Our traditional approach to 100-level teaching was to assume that students came to the course with zero knowledge of economics. This was clearly not the case for much of the class, but was deemed to be an appropriate starting point so as not to disadvantage the students who were new to economics. Due to both a basic starting point and a fairly slow progression through the material, again to not disadvantage students new to economics, the course typically finished at a slightly higher level than that of final year high school economics. This is a relatively common end point in both New Zealand and overseas, as indicated by the content of well-known principles textbooks in common use (e.g., Mankiw, 2007; Stewart and Rankin, 2008). The drawback, however, was that students with prior study of economics complained that they learned little from the course.

The lack of depth within topics was a fairly serious problem, since it tended to limit our ability to undertake a thorough treatment of business applications. In a business school, this constituted a major weakness of the course. There was little room for learning innovations that were becoming more common in university courses, such as complex real-world applications

---

<sup>1</sup> This section is adapted from Lim and Tan (2009).

(Smith 2007), or for new material highly relevant to business students, such as path dependence and sustainability (e.g., Colander, 2005).

In evaluating the traditional approach, it was apparent that any course would have to assess the abilities of its students and their motivations to continue with economics. From focus group sessions with teaching assistants, there was a concern that the department would lose bright students, our target market, to other departments if the introductory economics course was insufficiently challenging or failed to extend them enough. Thus, the issue of insufficient depth (or complexity) became significant as one of the major problems of the traditional course.

In training students to cope with a complex business and government policy environment, depth in the learning material is needed. The depth requires an increase in the level of difficulty of both theory and applications. In this the aim is to enhance students' abilities to think like an economist; i.e., to apply a chain of deductive reasoning to solve economic problems. With greater depth, students develop an appreciation of the complexity of business decision-making and access more tools with which to solve business problems. The aim is not to memorise facts, but to understand business and policy issues and to predict outcomes of actions. It is prediction and the application of knowledge to new situations that are particularly important.

But the emphasis on depth has implications for other objectives of the course, namely increasing both its attractiveness and subsequent enrolments in economics. An apparent tension arises between meeting the needs of students who have done economics before, and who are therefore keen for more advanced material, and students new to economics, who might be discouraged if the material progresses too quickly. Traditionally, the solution has been to stake out the middle ground, an approach that we followed for many years. But with hindsight this may have been a mistake, particularly since students who had studied economics before quickly lost interest.

What we had failed to do was to test our assumptions regarding students with no prior experience in studying economics. We had assumed that the course would have to start from the most basic level to accommodate them. Here we were wrong. Pre-testing the students at the start of the course was instructive in revising our assumptions, and thus in accelerating the subsequent pace and content of the course. The pre-test employed was the *Test of Economic Literacy, Third Edition* (TEL3). TEL3 contains 40 multiple-choice questions in four content categories: fundamental economic concepts, microeconomic concepts, macroeconomic concepts, and international economics concepts. The concept questions can be categorized by cognitive character into three levels: knowledge (recognition and recall, remembering information close to the way it was first presented), comprehension, understanding the meaning and intent of information, and application, applying learning to new situations (Yamaoka & Asano 2003).

Knowledge questions are essentially definitional - e.g., 'Profits are equal to total:' *answer* - 'revenue minus total cost'; 'When workers join unions to elect representatives to negotiate with their employers, this is referred to as:' *answer* - 'collective bargaining'. Comprehension questions test understanding of concepts at a basic level (e.g., 'The specialization of labour usually results in: an increase in output per hour worked'; 'what is most essential for an efficient market economy?: Active competition in the marketplace'). Application questions relate to specific illustrations of concepts (e.g., 'a high school student buys a dinner at a restaurant. The restaurant offers a special price which takes 20 percent off the regular price of the dinner. In this exchange: the student and the restaurant benefit').

The test contained 6 knowledge, 12 comprehension and 22 application questions. Note that the distinction between comprehension and application questions can sometimes be blurred (e.g.,

compare questions 6 and 7 in the appended *TEL3, Form B*). Similarly, an application question may contain definitional elements (e.g., ‘the opportunity cost of a new city park is the: best alternative use of resources given up for the park’).

### TEST RESULTS

At the beginning of the 2009 introductory economics course (ECON100-09A), two hundred and fifty-five students sat the pre-test. The overall standard of the test might be considered ‘easy-to-average’ for students who have completed a 100-level economics course, but might be expected to offer more challenges for students who had never formally studied economics before. Nevertheless, the overall results for the class were encouraging, as Table 1 and Table 2 suggest.

**Table 1**  
**Frequency Distribution of Grouped Scores**

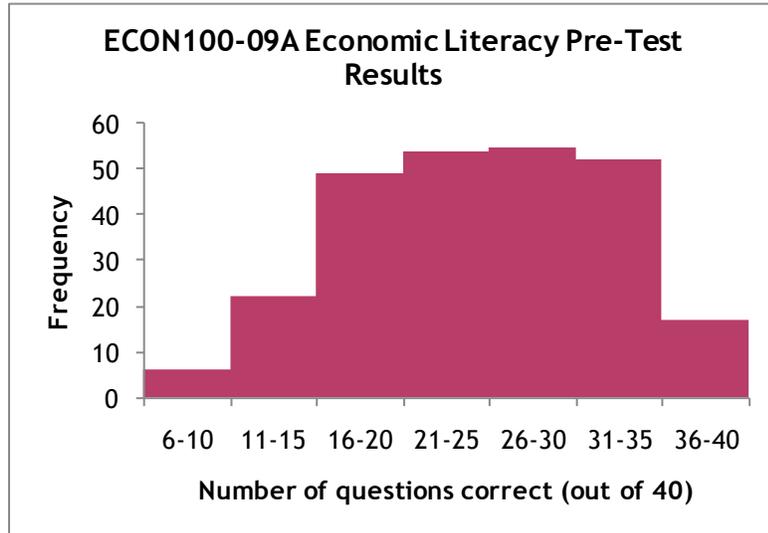
<b>Number of questions correct (out of 40)</b>	<b>Frequency (%)</b>
36-40	17 (6.7%)
31-35	52 (20.4%)
26-30	55 (21.6%)
21-25	54 (21.2%)
16-20	49 (19.2%)
15 or fewer	28 (11.0%)

**Table 2**  
**Summary Statistics**

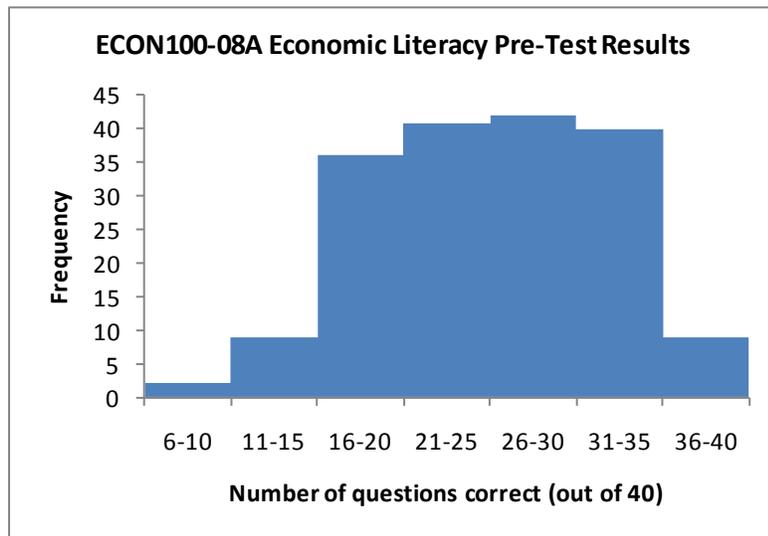
<b>Statistic</b>	<b>Value</b>
Total questions	40
Maximum	39
Minimum	6
Median	25
Mean	24.9
Standard deviation	7.3

Figure 1, below, is reassuring, since it suggests the absence of a strong left-hand tail. Such a tail could raise problems in accelerating the pace of the teaching, if it reflected a significant number of weak students (i.e., weak relative to others in the class). For comparison, the results for the same class in 2008 are presented in Figure 2, showing that the absence of a strong left-hand tail is probably a consistent feature of students enrolling in this course.

**Figure 1**  
**Frequency Distribution (2009)**



**Figure 2**  
**Frequency Distribution (2008)**



### **SOURCES OF ECONOMICS KNOWLEDGE**

Why should students have done so well, even when so many of them had no formal training in economics before? One explanation is that economics is so central to students' daily lives that they practice economic principles almost every day, even without being conscious of it. Concepts such as opportunity cost become internalised in the day-to-day choices that people make. The centrality of economics also translates into news media reports that reinforce economic concepts and the occasional definition.

To gain a deeper understanding of such issues, we administered a student characteristics survey to accompany the pre-test (see Appendices). The characteristics included demographic details as well as questions relating student interest in economics, their sources of economics knowledge, whether they have studied economics before, English language ability, and so on. Preliminary univariate analyses (not shown) suggested that boys have higher economic literacy than girls; younger students have higher economic literacy than older students; those who have studied economics at high school have higher economic literacy; and those for whom English is their first language have higher economic literacy. Reading the newspaper and watching television news more often increases students' pre-test scores, as do reading books that relate to business and/or economics and the number of such books read in the last two years. Reading websites that students think relate to business has no significant effect on pre-test scores, while students who report they are interested in economics have significantly higher pre-test scores.

Econometric analysis was performed using poisson regression (as the dependent variable, number of questions correct, is count data) and the results of the final model are presented in Table 3 below. Holding other variables constant, male students have 8 percent higher economic literacy than female students. Students who have studied economics at high school have 29 percent higher economic literacy than those who haven't, and students with English as their first language have 21 percent higher economic literacy than those for whom English is a second language. Reading newspapers more often than weekly increases economic literacy by almost 9 percent, supporting the contention that frequent engagement with economic concepts in real-world situations will raise a student's underlying understanding of economics.

**Table 3**  
**Poisson regression results**

<b>Variable</b>	<b>Coefficient</b>	<b>Incidence-rate ratio</b>	<b>p-value</b>
Gender (1=male)	0.0792	1.0824	0.007***
Studied economics before (1=yes)	0.2557	1.2913	<0.001***
English as first language (1=yes)	0.1903	1.2096	<0.001***
Read newspapers more often than weekly (1=yes)	0.0850	1.0887	0.010**
Constant term	3.0988	-	<0.001***

N=255, Pseudo R<sup>2</sup>=0.1190

Age has no significant effect on economic literacy, after accounting for other variables. Neither do watching television news, reading books or the number of books read, or interest in economics. There is significant multicollinearity if these variables are included in the model. For instance, those students who report an interest in economics are mainly those students who have studied economics before.

## ILLUSTRATION OF CHANGES TO LECTURE CONTENT

The course seeks to impart a sharper focus to each topic and to teach a more limited range of topic components well. One area that separates our course from 100-level economics courses taught at other universities is the greater emphasis on game theory. Game theory is often not taught at 100-level in New Zealand universities or, if it is, it is taught at a very basic level. The teachers in ECON100 decided to extend the game theory lectures extensively. This was in part to increase the attractiveness of the course, especially for the brighter students, who we were in danger of losing if the course was insufficiently challenging for them.

Game theory is a very useful vehicle for demonstrating and illustrating business strategy across a range of market structures. Traditional insights from imperfect competition are readily developed in game theory, including the product differentiation and advertising typically introduced in monopolistic competition, and the price wars, collusion, and credible threats developed in oligopoly. As an illustration of the way in which we integrate theory with examples for students' daily lives is given in the following assignment question.

*You are required to do a group assignment. The group comprises you and Bob. You are a conscientious student, only interested in getting excellent grades. Bob would much prefer to play sports, even if he doesn't get such good grades. Your decisions are either to study hard or to be lazy. But whatever the grade for the assignment is, you both get the same grade.*

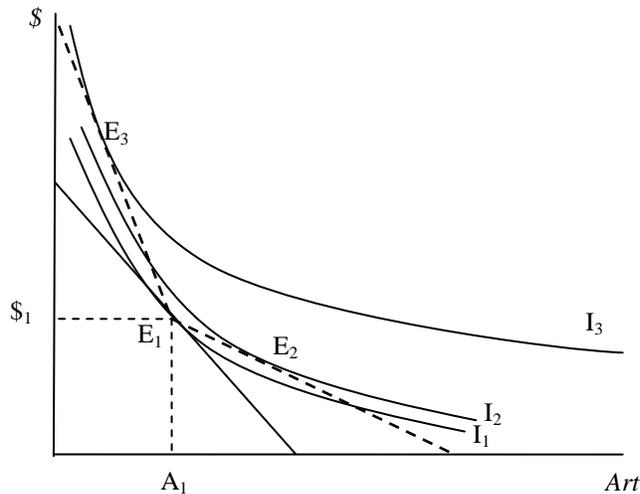
*If you and Bob both choose to study hard the assignment will score an A. The payoffs: you will be 'very happy', but Bob will only be 'semi-happy' (since he has to give up sports). If both of you are lazy and get an E, you will be 'very sad', but Bob will only be 'semi-sad' (he fails, but has been able to play sports). If you study hard and Bob is lazy, you both get a C. You will be 'sad' (since you value excellent grades), but Bob will be 'very happy' (he passes and has sports). If you are lazy and Bob studies hard, again you both get a C. But you are 'sad' and Bob is 'very sad' (he passes, but has no sports). Based on this scenario:*

- (a) Explain if there is a dominant strategy for each player. (Hint: Start with a 2x2 matrix.)*
- (b) Briefly explain the equilibrium outcome of the game in terms of your welfare (ie, whether you are 'very happy', 'sad', ...).*
- (c) To alter this outcome, you threaten Bob with reciprocal laziness (ie, if he's lazy, then you will be too). If both players know the payoffs to one another, is your threat credible?*

Another major topic that receives extensive treatment relates to indifference curves and budget lines. The following is another illustration of the type of question that students might expect in an assignment or in lectures.

*Suppose Jane values both income (\$) and art. She invests in art, following the dictum 'only buy art that you like.' She is in equilibrium with an initial art-income endowment at  $E_1$ . As someone who is prepared to collect (buy) art or sell it, explain why it makes sense for Jane to follow the dictum.*

*Ans: Any price change for art will increase Jane's welfare. If price rises, she becomes a net seller, moving from  $E_1$  to  $E_3$ . If price falls, she becomes a net buyer, moving from  $E_1$  to  $E_2$ . In either case her welfare improves – she is insulated from welfare losses associated with art price changes, as long as she buys art that she likes (i.e., yields utility).*



Material of this type would normally be reserved for 200-level microeconomics classes. Nevertheless, such material is well-received by students, despite its relatively advanced nature.

## CONCLUSION

Students come to their first economics course from a wide variety of backgrounds. Some may have had at least three years of high school economics study, yet others may have had no prior training at all. In the past we assumed that all first year students came in with zero economics education. Accordingly, our classes tended to start from first principles, imposing severe constraints on how far our students could progress by the end of the semester.

This paper has shown that students come to their first economics course with significant prior knowledge of economics, as demonstrated by relatively high scores in a pre-test of economic literacy given to students at the start of the course. Higher economic literacy is related to past engagement with economics, whether through prior study or through reading newspapers, watching television news, or reading books related to business and/or economics.

Recognising the importance of these encouraging results, the course has been adapted to increase both the depth and breadth of content covered, including material that would not typically be covered until 200-level microeconomics classes. Such material is well-received by students at all levels of ability as it highlights the real-world applications of economics. Furthermore it provides the lecturer with additional opportunities for extending the most able students and encouraging them to continue with their studies in economics.

We believe that the approach that we have outlined is generalizable to other universities teaching a similar class, and possibly to classes other than economics where students have prior engagement with real-world applications of the discipline. As emphasized above, the key to

introducing more advanced material is to teach it methodically, support it with ample real-life illustrations, and seek constant feedback from students regarding their comfort with the pace of the learning. These are general teaching principles that transcend class size, student background and academic discipline. The main point is to apply the principles in a sensible, practical way.

### **Acknowledgements:**

The authors acknowledge the encouragement and the financial support provided by Professor Michio Yamaoka, the insightful comments made by Anna Strutt.

### **REFERENCES**

- Colander, D. (2005). What economists teach and what economists do. *Journal of Economic Education* 36(3), 249-260.
- Lim, S., and Tan, C. (2009 in press). Do we underestimate students' prior economics knowledge? *International Journal of Education Research*.
- Mankiw, N. G. (2007). *Principles of Economics, 4<sup>th</sup> ed.*, Mason, Oh.: Thomson South-Western.
- Smith, M. (2007). Case studies on location: taking to the field in economics. *Journal of Economic Education* 38(3), 308-317.
- Stewart, J., and Rankin, K. (2008). *Economic Concepts and Applications – The Contemporary New Zealand Environment, 4<sup>th</sup> ed.* Auckland: Pearson Prentice Hall.
- Yamaoka, M., and Asano, T. (2003). Economic literacy of Japanese high school and university students based on TEL3, paper presented at the *New Zealand Association of Economists Annual Conference*, Auckland, New Zealand.

### **About the Authors:**

**Steven Lim** is a senior lecturer in economics at the Waikato Management School, University of Waikato, New Zealand. His research interests include methods to improve teaching effectiveness and international comparisons of university student economics knowledge. For his teaching work over the years, he has been received university and national teaching awards.

**Michael Cameron** is a lecturer in economics at the Waikato Management School, University of Waikato, New Zealand, and a research associate in the Population Studies Centre, University of Waikato, New Zealand. His research interests include the adoption and evaluation of innovative methods of teaching and assessment in undergraduate and graduate economics.

# APPENDICES

## QUESTIONNAIRE SURVEY ON STUDENT ATTRIBUTES -09

The following information is requested so that the researchers can compare the background of different groups in the class and their prior knowledge of economics. It will also allow us to correlate prior knowledge with overall performance in the final exam. Some of the results may be incorporated into a research report.

Once the research is completed, no record will be kept of any individual results, and the researchers will not publish anything that would identify individual results. This quiz does **not** play any role in the assessment for ECON100.

Participation in the quiz is entirely voluntary, and students are free to leave at any time.

1. Student ID Number

--	--	--	--	--	--	--

2. Which is your main area of study at Waikato University?  
(You may select more than one answer)

- BMS
- Social Sciences
- Science
- Law
- Other

Please specify:

3. Have you studied economics before at Secondary School?

- No
- Yes

3a. If yes, up to what level have you studied:

- Year 11 (5th Form)
- Year 12 (6th Form)
- Year 13 (7th Form)

4. Have you studied ECON100 before?

- Yes
- No

4a. If no, have you studied any economics before at University?

- Yes
- No

5. What is your gender?

- Female
- Male

6. What is your age?

- Less than 20 years
- 20-24 years
- 25 years or higher

7. Is English your first language?

- Yes
- No

8. Are you interested in Economics?
- Yes, very much
  - Yes, a little
  - No, not very much
  - No, not at all
9. Do you think learning Economics is useful?
- Yes, very much
  - Yes, a little
  - No, not very much
  - No, not at all
10. How often do you read the newspaper sections that you think relate to business and/or economics?
- Every day
  - 2-3 times per week
  - Once a week
  - Once a month
  - Less often
11. How often do you read websites that you think relate to business and/or economics?
- Every day
  - 2-3 times per week
  - Once a week
  - Once a month
  - Less often
12. How often do you watch television news programs that you think relate to business and/or economics?
- Every day
  - 2-3 times per week
  - Once a week
  - Once a month
  - Less often
13. In the last two years, have you read any books (other than textbooks) that you think relate to business and/or economics?
- No
  - Yes
- 13a. If yes, how many books:
- 1
  - 2
  - More than 2
14. Where do you think you have learned the most about economics?
- Studying at school
  - Studying at university
  - From newspapers/TV
  - From books
  - Daily experience
  - Other

Please specify:

# TEST OF ECONOMIC LITERACY

THIRD EDITION

## Directions

1. This test is designed to measure your understanding of economics. Not all students will have taken a separate course in economics, but most have learned something about the subject in their other courses, through reading newspapers, listening to the radio, watching television, or from some other source. These questions will measure how well you understand the principles of economics and the way our economy works.
2. Please fill out the information requested on the “questionnaire survey on student attributes” before beginning your test.
3. For each question, please circle the answer you think is *best*.
4. If you want to change your answer, please cross out the answer that you wish to change, and circle the answer you think is *best*.
5. You should try to answer *every* question by marking what you think is the best choice. You might not know the answers to some questions, but use the information you *do* have to eliminate those you think are incorrect and select your best answer. Work at a comfortable speed, but do not spend too much time on any one item. The test consists of forty questions or incomplete statements, for which you should choose the **one best answer**. With some items more than one answer may appear to be correct, but your task is to choose the *best* answer.

**DO NOT TURN THE PAGE AND BEGIN THE TEST UNTIL YOU ARE TOLD TO DO SO.**

Adapted for New Zealand by P. Dalziel from a Questionnaire  
prepared by William B. Walstad and Ken Rebeck  
for the National Council on Economic Education, U.S.A.

## TEST OF ECONOMIC LITERACY, Form B

1. What is meant by the statement that every economic system faces the problem of scarcity?
  - A. The additional benefits of goods and services are greater than their additional costs.
  - B. There are times when some products can be purchased only at high prices.
  - C. There are never enough productive resources to satisfy all human wants.
  - D. All economies have depressions during which scarcities exist.
  
2. Which do economists consider to be a productive resource (factor of production)?
  - A. Interest.
  - B. Money.
  - C. Profit.
  - D. Labour.
  
3. People who take the risks of organizing productive resources to produce goods and services in the expectation of making profits are
  - A. business managers.
  - B. entrepreneurs.
  - C. stockbrokers.

D. economists.
  
4. The opportunity cost of a new city park is the
  - A. cost of staff and maintenance for the park.
  - B. increased congestion from traffic around the park.
  - C. best alternative use of resources given up for the park.
  - D. negative effects on people and neighbourhoods around the park.
  
5. A city council operating on a fixed budget makes more resources available for its public library to spend on books, but cuts back on road maintenance. One can conclude from this decision that
  - A. there is no cost to buying more books for the city library.
  - B. there is no benefit from road maintenance for the city.
  - C. there is a trade-off between spending by the city library and other public services.
  - D. the only way to get more resources for the city library is to raise local rates.
  
6. The specialization of labour usually results in
  - A. a decrease in economic interdependence.
  - B. an increase in output per hour worked.
  - C. a more equal distribution of income.
  - D. an increase in inflation.

7. Which would most likely decrease the productivity of labour?
- A. An increase in the pay of workers.
  - B. An increase in capital investment.
  - C. A decrease in job training.
  - D. A decrease in taxes.
8. Which question must be answered by people in all economic systems?
- A. What form of central planning will the government use?
  - B. What goods and services will be produced?
  - C. How can markets be kept competitive?
  - D. How will corporations be organised?
9. Which is most essential for an efficient market economy?
- A. Effective labour trade unions.
  - B. Strong government regulation.
  - C. Active competition in the marketplace.
  - D. Responsible decisions by business leaders.
10. Profits are equal to total
- A. revenue minus total cost.
  - B. assets minus total liabilities.
  - C. sales minus wages and salaries.
  - D. sales minus taxes and depreciation.
11. When workers join unions and elect representatives to negotiate with their employers, this is referred to as
- A. a closed shop.
  - B. the seniority system.
  - C. collective bargaining.
  - D. right to work legislation.
12. An increase in real interest rates provides an incentive for people to save
- A. less and borrow less.
  - B. more and borrow less.
  - C. less and borrow more.
  - D. more and borrow more.
13. A high school student buys a dinner at a restaurant. The restaurant offers a special price which takes 20 percent off the regular price of the dinner. In this exchange,
- A. the student and the restaurant benefit.
  - B. the student benefits, but the restaurant does not.
  - C. the restaurant benefits but the student does not.
  - D. neither the student nor the restaurant benefits.
14. Which makes up the major portion of the broad money supply (M3) in New Zealand?

- A. Gold.
  - B. Currency and coins.
  - C. Reserve Bank of New Zealand notes.
  - D. Deposits in bank accounts.
15. Business firms wish to sell their products at high prices. Households wish to buy products at low prices. In a market economy this conflict of interest usually is resolved by
- A. lawsuits.
  - B. government.
  - C. competition.
  - D. collective bargaining.
16. Which would most likely decrease the quantity of corn sold in a competitive market?
- A. An increase in the price of fertiliser.
  - B. An increase in the incomes of consumers.
  - C. A decrease in the price of farm equipment.
  - D. An improvement in the technology of growing corn.
17. A newspaper reports that the price of petrol increased and the quantity sold decreased. In a competitive market, this situation would most likely be the result of
- A. an increase in demand.
  - B. an increase in supply.
  - C. a decrease in demand.
  - D. a decrease in supply.
18. Why do medical doctors generally earn more than farmers?
- A. Medical doctors are more efficient than farmers.
  - B. Medical doctors provide a service rather than make a product.
  - C. There are fewer medical doctors than farmers in our economy.
  - D. Medical doctors are more scarce, given the demand for their services.
19. In a competitive market, the price of a product is \$5.00. If the government passes a law that sets a minimum price of the product at \$6.00, this change will result in
- A. a surplus of the product.
  - B. a shortage of the product.
  - C. a decrease in the supply of the product.
  - D. an increase in the demand for the product.

20. A newspaper reports, "COFFEE GROWERS' MONOPOLY BROKEN INTO SEVERAL COMPETING FIRMS." If this is true, we would expect the coffee-growing industry to
- A. increase output and decrease prices.
  - B. decrease output and increase prices.
  - C. increase output and increase prices.
  - D. decrease output and decrease prices.
21. Most of the revenue that New Zealand business receives by selling products or services is paid out as
- A. taxes.
  - B. profits.
  - C. rent and interest.
  - D. wages and salaries.
22. From an economic point of view, which approach to controlling pollution is most efficient?
- A. Abolish the use of toxic chemicals.
  - B. Use economic resources to eliminate all pollution.
  - C. Reduce pollution as long as the additional benefits are greater than the additional costs.
  - D. Adopt laws and regulations that prohibit economic activities that cause pollution problems.
23. Government rather than private business provides a public good such as flood control because
- A. private businesses do not like to produce services for the government.
  - B. those who do not pay for a public good still receive the benefits.
  - C. when a person uses a public good, less is available for others.
  - D. a public good does not benefit individuals.

Question 24 refers to the following tax table:

<b>INCOME TAX TABLE</b>	
<b>Income</b>	<b>Percentage Tax Rate</b>
\$0 – \$10,000	0
\$10,001 – \$30,000	10
\$30,001 – \$60,000	20
\$60,001 and above	30

24. The tax described in the table above is a
- A. value added tax on income.
  - B. proportional income tax.
  - C. progressive income tax.
  - D. flat tax on income.

25. Gross domestic product (GDP) is a measure of
- A. the price level of goods and services sold.
  - B. total spending by the government.
  - C. the quantity of goods and services produced by private businesses.
  - D. the market value of the nation's output of final goods and services.
26. The maximum output a nation could possibly produce in any one year is limited by its
- A. productive resources.
  - B. business investment.
  - C. unemployment rate.
  - D. consumer income.
27. An increase in aggregate demand would tend to result from
- A. an increase in tax rates.
  - B. a decrease in consumer spending.
  - C. a decrease in net export spending.
  - D. an increase in business investment.
28. During a recession in an economy, there will be an increase in
- A. imports.
  - B. unemployment.
  - C. economic growth.
  - D. business spending.
29. Inflation is a
- A. sharp rise in the price of a major product.
  - B. substantial decline in the consumer price index.
  - C. sustained increase in the general level of prices.
  - D. rapid movement of the economy toward full-employment.
30. Unexpected inflation is most likely to *benefit* people
- A. saving money in accounts at financial institutions.
  - B. owing money on loans at fixed interest rates.
  - C. living on fixed incomes and pensions.
  - D. holding life insurance policies.
31. When commercial banks increase their loans to businesses and consumers, this usually results in
- A. a decrease in the spending power of consumers and businesses.
  - B. an increase in government control over the economy.
  - C. an increase in the banks' excess reserves.
  - D. an increase in the nation's money supply.

32. Which monetary policy by the Reserve Bank of New Zealand would be most effective in fighting high inflation?
- A. Selling government bonds on the open market.
  - B. Reducing its official cash rate.
  - C. Reducing the discount rate.
  - D. Reducing income tax rates.
33. A government budget surplus exists when
- A. tax revenues are greater than government spending.
  - B. government spending is decreased.
  - C. the national debt is increasing.
  - D. taxes are increased.
34. One reason the government might reduce taxes is to
- A. slow down the rate of inflation.
  - B. slow down a rapid rise in interest rates.
  - C. decrease business spending on plant and equipment.
  - D. increase consumer spending and stimulate the economy.
35. Specialisation and division of labour by nations followed by increasing international trade probably would
- A. increase the level of worldwide unemployment.
  - B. increase total world production of goods and services.
  - C. lower living standards in the poor nations of the world.
  - D. eliminate differences in standards of living among nations.
36. Which best describes what the law of comparative advantage means for trading nations? Each trading nation can benefit by exporting goods that
- A. it produces at low opportunity costs and importing goods it produces at high opportunity costs.
  - B. it produces at high opportunity costs and importing goods it produces at low opportunity costs.
  - C. people enjoy least and importing goods that they enjoy most.
  - D. people enjoy most and importing goods that they enjoy least.
37. Some manufacturers in New Zealand want to increase the general level of tariffs. If this increase occurs, then we should expect
- A. a decrease in New Zealand inflation.
  - B. a decrease in New Zealand import quotas.
  - C. a decrease in imports into New Zealand.
  - D. an increase in New Zealand exports to other nations.

38. A nation has a surplus in its international balance of trade when the value of its
- A. government expenditures is more than the value of its tax revenues.
  - B. exports of goods is greater than the value of its imports.
  - C. imports of goods is greater than the value of its exports.
  - D. gold reserves is more than the value of the gold reserves of its trading partners.
39. The exchange rate between the U.S. dollar and the Japanese yen changes from \$1=100 yen to \$1=125 yen. This change means that
- A. there will be a decrease in U.S. exports to Japan.
  - B. there will be an increase in U.S. exports to Japan.
  - C. Japanese goods will be more expensive for Americans.
  - D. U.S. goods will be less expensive for Japanese.
40. Economies that grow rapidly over time usually have a high rate of
- A. growth in gold reserves.
  - B. capital investment.
  - C. unemployment.
  - D. tariffs.

**STOP**

IF YOU FINISH BEFORE TIME IS CALLED,  
YOU SHOULD CHECK YOUR WORK ON THIS TEST.

