DIRECTIONS: This exam has two (2) sections; be sure to follow the directions for each section. Allocate your time carefully.

1. Short Essay Questions (15 points each)

DIRECTIONS: Every student must do a total of two (2) short answer questions. If a question has multiple parts, indicate exactly where you answer each part.

1. A firm faces the real wage ω in competitive factor and product markets, and it wants to choose its single variable input (L) so as to maximize its profits (π). The firm has production technology

$$Y = 2L - L^2 \qquad L \leq 1$$

Here Y is real income, L is the labor input into production, and ω is the real wage. Analyze the behavior of a profit maximizing firm. Illustrate your solution graphically, explaining *fully*.

2. Panel 1 provides data on (constant quality) output for a 2 good economy. Copy Panel 2 an Panel 3 into your bluebook. First, *show in detail* how to find the missing numbers. Be sure to provide a *detailed* explanation of your computations. Then fill in the numbers (in your bluebook). Produce complete versions of the panels, paying attention to the units. (For ease of computation, annual growth rates are absurdly large.) Finally, *discuss* the completed table. Explain what lessons emerge from this table and why this can be important for public policy. Be detailed and specific.

Alternative Computations of Real GDP Growth

Panel 1: Potato Chip and Computer Production and Prices

	Potato Chips (by Bag)		Computers (by Unit)	
Year	Number Produced	Price	Number Produced	Price
1987	10,000	\$2.00	1	\$10,000
1988	11,000	2.50	2	5,000
1989	12,000	3.00	4	2,500
1990	13,000	3.50	8	1,250

Panel 2: Real GDP Measured by the Fixed-Base-Year Method (Thousands of Dollars)

Year	1987 Prices	1988 Prices	1989 Prices	1990 Prices
1987	—	—	—	—
1988	—	—	—	—
1989	—	—	—	—
1990	—	—	—	—

Panel 3: Measured Growth of Real GDP (Percentage Change)

	Fixed-Base-Year Measures				Simplified
Period	1987 Prices	1988 Prices	1989 Prices	1990 Prices	Chain-weighted Measure
1987-88	—	—	—	—	—
1988-89	—	—	—	—	—
1989-90	—	—	—	—	—
1987-90	—	—	—	—	—

Source: Steindel (1995)

3. Use graphs to illustrate the difference between stable and unstable debt dynamics. Give a detailed verbal interpretation of your graphs. What is the public policy significance of unstable debt dynamics? Do such debt dynamics every occur historically? Be detailed and specific.

2. Multiple Choice Questions (1 point each)

DIRECTIONS: Answer all multiple choice questions. Pick a single answer for each question: there is one best answer.

1. When discussing the demand for labor when only labor is a variable input, we characterize the firm's output as
   (a) increasing as the labor input increases
   (b) increasing in proportion to an increased labor input
   (c) increasing less than proportionately with an increased labor input
   (d) a. and b.
   (e) a. and c.
2. Which of the following are true statements about consumption behavior?
   (a) consumption is procyclical
   (b) consumption behavior clearly matches the predictions of the life-cycle hypothesis
   (c) consumption behavior clearly matches the predictions of the permanent-income hypothesis
   (d) a. and b.
   (e) all of the above
3. Which of the following will be determinants of next periods federal debt?
   (a) the interest rate.
   (b) this period's deficit.
   (c) this period's debt.
   (d) a. and b.
   (e) all of the above.
4. According to the permanent income hypothesis, the level of current consumption depends on
   (a) anticipated future income
   (b) current income
   (c) previous peak income
   (d) b. and c.
   (e) all of the above
5. The increased budget deficits of the U.S. federal government in the 1980's were financed mainly by
   (a) increases in investment.
   (b) increases in domestic consumption.
   (c) increased borrowing from abroad.
   (d) increases in domestic savings.
   (e) none of the above