

# Economics 4351: Labor Economics

Southern Methodist University

Department of Economics

Final

The exam is worth 100 points. Each question (six questions on two pages) is of equal value. There will be no communication with the exam proctors; if you believe a question contains an error or ambiguity, say so on your written examination, make an assumption to correct the alleged error or to resolve the ambiguity, and answer the question as well as you can.

1. Consider the model of welfare discussed in class, where individuals are guaranteed at least a minimum income of  $G$  and there is an implicit tax,  $t$ , applied to earnings.
  - (a) Graph an individual's budget constraint under the welfare program, assuming the individual has no other non-labor income and could potentially earn a wage,  $w$ , if he/she chooses to work. Be sure to label all aspects of the graph, including the slopes of the budget line segments, the axes, and the levels of consumption at the various 'kink' point(s) on the budget line.
  - (b) If the lump sum component of welfare is reduced (from  $G \rightarrow G'$ ) and the implicit tax is also reduced (from  $t \rightarrow t'$ ) such that the breakeven level of consumption remains unchanged, what is the effect on the time allocation of an individual initially working only a few hours? Be sure to discuss the income and substitution effects.
2. In light of the recent economic slump, suppose the U.S. federal government comes to the rescue of the airline industry by subsidizing the purchase of new capital. Thus, the price of capital paid by airline companies falls from  $r$  to  $r'$  (where  $r > r'$ ). Describe and show graphically the impact of this policy on the airline industry's demand for capital and labor in the *short-run* and *long-run*.
3. Use the dual sector model to analyze the effects of repealing immigration laws. Assume the US labor market is divided into two sectors: skilled jobs ( $s$ ) and unskilled jobs ( $u$ ). As a result of the new immigrants, two things happen: (i) there is an increase in demand for *all* goods produced in the US; this leads to an increase in  $p_s$  and  $p_u$ , the prices of the goods produced in the two sectors; and, (2) all immigrants are channeled into the unskilled labor market. Additionally, assume labor and firms are immobile across the two markets, wages are perfectly flexible in each sector, and  $w_s^* > w_u^*$  prior to repealing the laws:
  - (a) What is the effect on  $w_s^*$  and  $w_u^*$ ? Does the wage gap between skilled and unskilled workers increase, decrease, or remain unchanged?
  - (b) Is there any unemployment generated in this model?

4. Suppose that graduates from Stanford Law School typically earn \$10,000 more per year their first year out of law school than graduates from SMU Law School, *after* controlling for any differences in pay due to location choice (e.g., graduates from Stanford may tend to stay in California, where wages are higher reflecting the higher cost-of-living), the types of jobs that students choose (e.g., students from one school may be more likely to choose lower paying public interest jobs), etc. Is this evidence that Stanford offers a better education to its students? Be sure to justify your answer.
5. Evaluate the following statement (specifically, the last sentence): “In recent years, the wage gap has grown in the United States between skilled and unskilled workers. If a higher percentage of white Americans as compared with Mexican immigrants are high skilled workers, then this means that the wage gap between white Americans and Mexican immigrants has also increased. As a result, there is greater labor market discrimination today against Mexican immigrants.”
6. Consider the following matrix of transitional probabilities:

		Quintile $t'$				
		0.20	0.40	0.60	0.80	1.00
Quintile $t$	0.20	0.20	0.10	0.05	0.00	0.00
	0.40	0.00	0.10	0.05	0.05	0.00
	0.60	0.00	0.00	0.05	0.00	0.00
	0.80	0.00	0.00	0.00	0.15	0.05
	1.00	0.00	0.00	0.00	0.00	0.20

- (a) What is the chance that a person in the 20th quintile in period  $t$ , will be in the 40th quintile in period  $t'$ ? What about the 60th and 80th quintile?
- (b) What is the chance that a person is the 80th quintile in period  $t$ , will be in the 40th quintile in period  $t'$ ? What about the 60th and 80th quintile?
- (c) What do you think the distribution of income looks like both in period  $t$  and period  $t'$ ? Use a graph.