

考試科目	財政理論	所別	財政學系	考試時間	5月28日(六)下午第一節
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國立政治大學圖書館

1. 最適商品稅文獻中有所謂 "production efficiency" 的重要結果，請證明此一結果，並說明它的意義。另此一結果何時會不成立？(25分)

2. 假設有一<sup>競爭</sup>勞動市場，沒有租稅時的均衡條件為  $L^d(w) = L^s(w)$ ，其中  $L^d(\cdot)$  代表勞動需求， $L^s(\cdot)$  代表勞動供給， $w$  則是工資率。現政府對勞工薪資課徵 payroll tax，其稅率為  $t$ 。

請以數學式推導出此一租稅課徵如何影響淨工資率  $w$ ，毛工資率  $w(1+t)$ ，和就業率  $L$ ，並以勞動供需彈性作說明。(25分)

3. 試建構一模型，討論 Uncertainty of club goods 間之關係，並比較 Certainty and uncertainty conditions 的差異。(25分)

4. 試建構一模型，討論 non-convexity of externalities 間之關係，並解釋 fundamental non-convexity 的特殊意義。(25分)

考試科目	經濟理論	所別	財政學系	考試時間	5月28日上午第二節 星期六
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- 一、請說明為什麼貨幣需求是利率的函數？(20%)
- 二、公共投資與經濟成長有何關係？(15%)
- 三、請閱讀以下短文後，述其要旨並評論之。(15%)

**Capital Accumulation and Growth in France in the Aftermath of World War II**

When World War II ended in 1945, France had suffered some of the heaviest losses of all European countries. The losses in lives were large; more than 550,000 people had died, out of a population of 42 million. The losses in capital were much larger. Estimates are that the French capital stock in 1945 was about 30% below its prewar value. A more vivid picture of the destruction of capital is provided by the numbers in Table 1.

The model of growth we have just seen makes a clear prediction about what will happen to a country that loses a large part of its capital stock: The country will experience fast capital accumulation and output growth for some time. In terms of Figure 11-2, a country with capital per worker initially far below  $K^*/N$  will grow rapidly as it converges to  $K^*/N$  and output converges to  $Y^*/N$ .

This prediction fares well in the case of postwar France. There is plenty of anecdotal evidence that small increases in capital led to large increases in output. Minor repairs to a major bridge would lead to the reopening of a bridge. Reopening the bridge would lead, in turn, to large reductions in the travel time between two cities, leading to a large reduction in transport costs. A large reduction in

transport costs would then allow a plant to receive much needed inputs and increase production and so on.

The more convincing evidence, however, comes directly from the numbers on growth of aggregate output itself. From 1946 to 1950, the annual growth rate of French real GDP was a very high 9.6% per year, leading to an increase in real GDP of about 60% over five years.

Was all the increase in French GDP due to capital accumulation? The answer is no. There were other forces in addition to the mechanism in our model. Much of the remaining capital stock in 1945 was old. Investment had been low in the 1930s (a decade dominated by the Great Depression), and nearly nonexistent during the war. Much of the postwar capital accumulation was associated with the introduction of more modern capital and the use of more modern production techniques. This was another reason for the high growth rates of the postwar period.

Source: Gilles Saint-Paul, "Economic Reconstruction in France, 1945-1958," in Rudiger Dornbusch, Willem Nolling, and Richard Layard, eds., *Postwar Economic Reconstruction and Lessons for the East Today* (Cambridge, MA: MIT Press, 1993), 83-114.

**TABLE 1** Proportion of the french capital stock destroyed at the end of World War II

Railways		Rivers	
Tracks	6%	Waterways	86%
Stations	38%	Canal locks	11%
Engines	21%	Barges	80%
Hardware	60%	Buildings	
Roads		Dwellings	1,229,000
Cars	31%	Industrial	246,000
Trucks	40%		

Source: See source note for this box.

- 四、Prove the Slutsky Equation in consumer behaviour by at least four different methods. Discuss the relevance of this theorem to market demand behaviour. (25 points)
- 五、Explain the following observation by Hal Varian as rigorous as possible: *The cost function of a firm summarizes all of the economically relevant aspects of its technology.* (25 points)

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