

Chapter 5

보건의료의 생산과 의사 및
간호사인력

A. 의사인력의 공급

독점적 지위: 의학교육 및 면허제도

1. The supply of physicians depends on both individual decisions to undertake medical training and on available places in medical schools and hospitals for students to pursue medical training, internships and residencies.
2. It also depends on policies with respect to immigration and licensing of internationally trained physicians.

A. 의사인력의 공급

3. 인적 자본에의 투자(의학교육 및 의사직의 선택)

Schooling: a form of *human capital investment* that results in a set of skills (stock of human capital) that yields a stream of returns overtime. Individuals undertake schooling in a particular field when the expected return over the lifetime is greater than the cost of training.

The choice of profession is at least in part determined by relative rates of return, compared with costs, in different professions. These can be compared using the internal rate of return, which is the discount rate that equates the PV of the returns with the PV of the cost of training.

B. 전문분야별 의사인력의 분포

The United States has the highest proportion of specialists to general practitioners of any advanced economy.

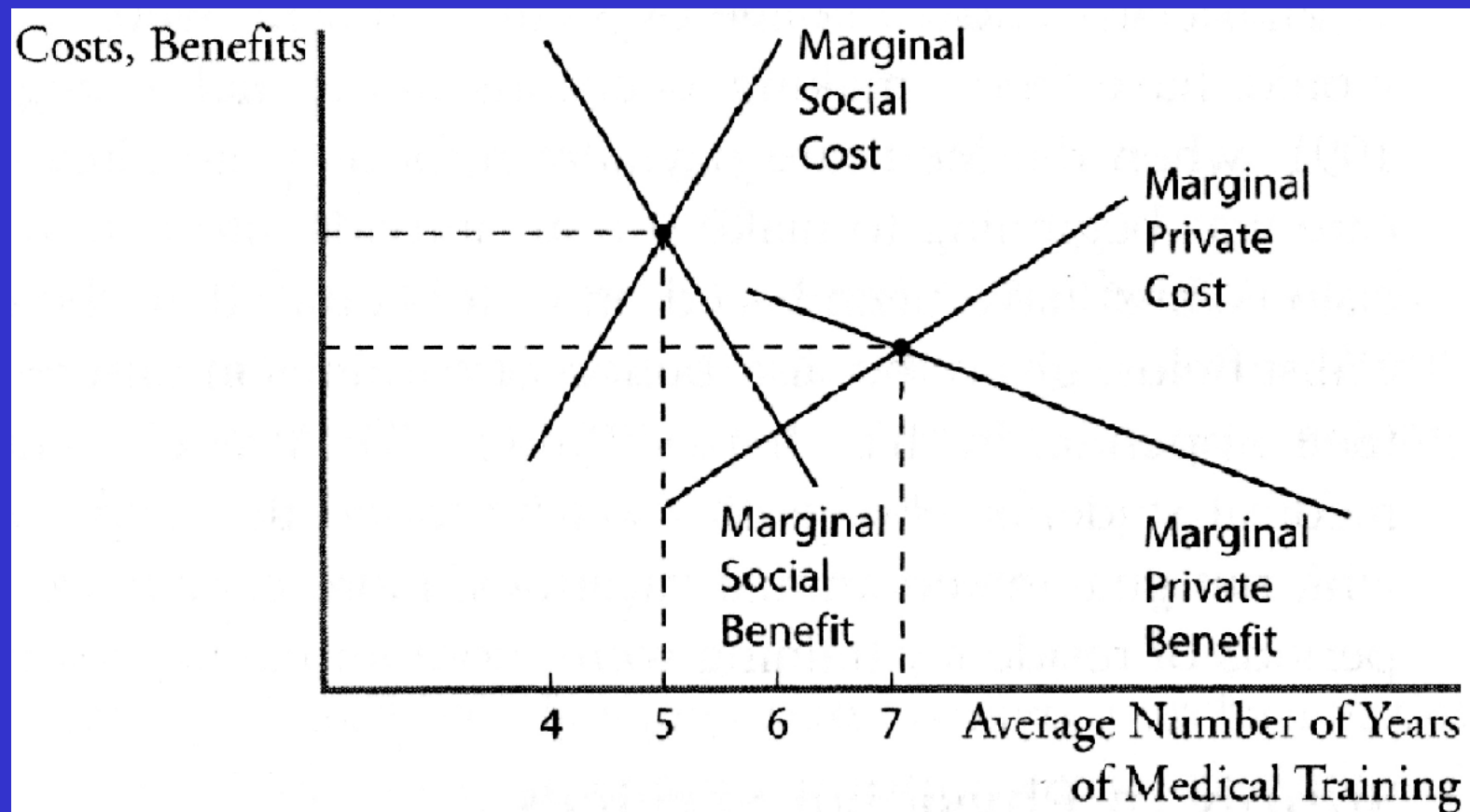
- This may not be socially optimal if the marginal private rate of return to more years of specialization is higher than the marginal social benefit. This disparity is illustrated (next slide).

Public policy to alter this can take the form of providing more loans and scholarships to students who undertake the practice of primary care general practice and by providing scholarships or loan relief to those willing to practice in underserved areas.

It can also take the form of altered rates of reimbursement to physicians in different specialties by Medicare and Medicaid.

B. 전문분야별 의사인력의 분포

Diverging Private and Social Optima



C. 의사서비스의 공급

The supply of **physician services** is more important to the community's needs than the supply of physicians.

The supply of physician services is determined not only by the number of licensed physicians, but by:

- (a) the number of hours they choose to work
- (b) the number of non-physician assistants they choose to employ

It is often alleged that the supply of physician services is subject to a backward bending supply curve.

C. 의사서비스의 공급

To understand the backward bending supply curve, we need to analyze what determines the hours worked and the practice style of physicians.

1. Utility functions of physicians:

Like other workers, physicians desire both income and leisure.

A standard utility function takes the general form

$$U = U(I, N, L)$$

where I is income from the practice of medicine, N is non-labor income, and L is leisure.

C. 의사서비스의 공급

2. Production functions

Physicians also have choices about how to practice medicine, including whether to go into a large practice with other physicians and how many aides (nurses, physicians' assistants, office staff, etc.) to employ.

$$\text{Output} = (X_1, \dots, X_t)$$

where the X_i s are the different inputs that can be used in a physician office practice.

Output is often measured in number of patients seen per day or per week.

C. 의사서비스의 공급

Using utility functions and production functions, studies show that as incomes increase, physicians tend to work fewer hours and hire more aides as substitutes and complements. This phenomenon appears to apply only at higher levels of income.

Studies also show that physicians in residency programs work more hours (often moonlighting in second jobs) when the hourly wage or salary increases. This is because only at higher levels of income does the income effect dominate the substitution effect, hence the backward bending supply curve.

C. 의사인력의 부족?!

Is there a physician shortage?

Definition of “shortage”

(a) The economic definition: at the prevailing price level, there is an excess of demand over supply.

How can this occur? --if administered prices prevent the price from adjusting to an equilibrium level or if there are barriers to entry that prevent supply (quantity) from expanding to an equilibrium level.

How do we measure a shortage of physicians? There may be high vacancy rates in residency programs and/or long waits to have appointments with physicians.

C. 의사서비스의 공급

(b) The public health policy planner definition: the supply of physicians is less than that required to satisfy the medical needs of the community. Need may be defined in reference to past level of physician supply (assuming this to be optimal) or with reference to incidence of disease in the community.

- Shortages may exist for particular types of physicians (primary care, geriatricians, obstetricians, etc.) and/or particular communities (areas with low population density, areas with high incidence of elderly low-income individuals, Native American reservations, urban low-income or minority neighborhoods)

C. 의사서비스의 공급

- Shortages may be temporary disequilibria or chronic (long-term). Short-run disequilibria may result from a lengthy adjustment process since the length of training of physicians is so long.

Is there currently a shortage? This is a complicated question. There have been past shortages that led to publicly subsidized expansion of medical schools and changes in immigration policy. Today there is a consensus that there are regional shortages and shortages of physicians for certain populations (Medicaid recipients, minorities, low-income elderly in rural regions, etc.). Expectations are that the shifting age distribution of the population will be likely to lead to shortages, at least in some specializations.

D. 간호사 시장

The supply of nurses (RNs) also requires investments in human capital, although the training period is shorter than for MDs. It is also affected both by individual decisions and public policy.

Two-, three-, and four-year undergraduate programs are common. Graduate programs in nursing and are also available, as are special programs to train nurse practitioners.

The market power of nurses is considerably less than that of physicians, who are often self-employed in solo private practices or partners in group-practice firms.

D. 간호사 시장

There is much more agreement that there has been a shortage of RNs (than of MDs).

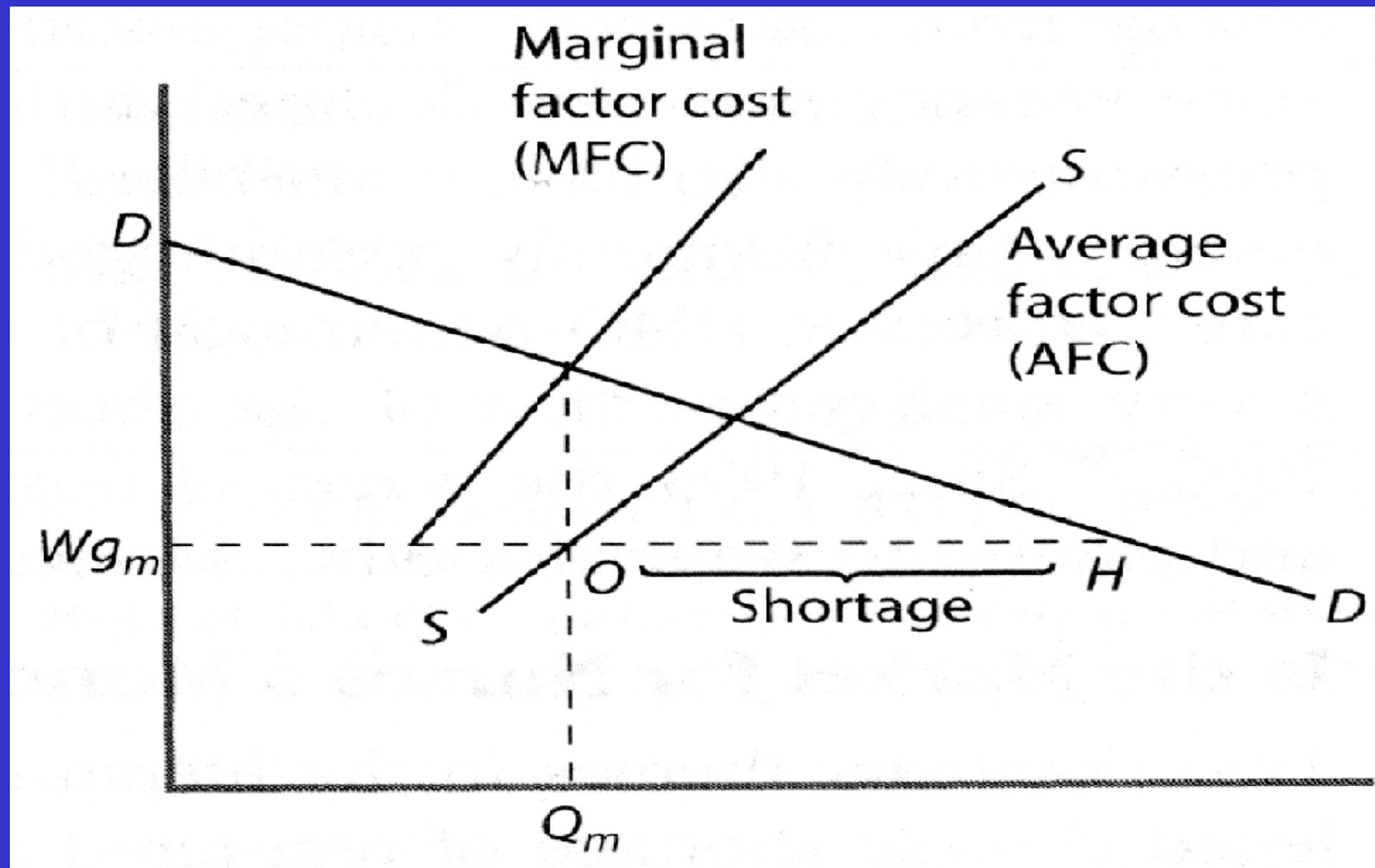
Nursing shortages are often measured by RN vacancy rates in hospitals.

Nursing shortages are usually explained by the existence of monopsony. In this situation, shortages and lower-than-equilibrium wages can coexist.

The necessary conditions for monopsony are:

- (a) an upward sloping supply curve of labor (also known as the average factor cost curve, AFC)
- (b) monopoly buying power of employers, reflected in a downward sloping demand curve

D. 간호사 시장



D. 간호사 시장(간호사 인력의 부족)

Public policy for eliminating nursing shortages that focuses on increasing RN supply may not be effective under monopsony.

Alternative ways of eliminating shortages include:

- (a) direct wage subsidies to nurses
- (b) promoting unionization of nurses
- (c) increasing the skill level of nurses, which promotes their market power, especially when combined with (d)
- (d) altering legislation that restricts tasks that RNs can perform

There is less agreement that today's RN market is monopsonistic, although strong evidence supports its existence from about 1940 to 1965.

D. 간호사 시장(간호사 인력의 부족)

Effects of Labor Supply Increase under Monopsony

