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7. THE HEALTH INSURANCE SECTOR: MARKET SEGMENTATION AND INTERNATIONAL TRADE IN HEALTH SERVICES

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INTRODUCTION

Insurance against the risks of accident or illness is offered either by publicly regulated private insurers or by State-run social security systems. This is only one area of social security in its broader sense, which encompasses old-age insurance (the pension system), health, unemployment and work-related accident insurance. Health insurance schemes are being dragged into increasing expenditure by demographic changes and improvements in medical treatment. A growing interest in the problem of long-term care is parallelled by a desire to arrive at an acceptable compromise between equity and efficiency, between meeting individual needs and controlling collective expenditure[1]. The European social philosophy of each contributing according to his means is radically opposed to the individualistic North American arrangement whereby everyone takes out insurance according to his needs.

The advantages and costs of having an insurance scheme are well documented in the case of health insurance. Information asymmetries are a feature of the imperfect market in health-related activities. In insurance, they give rise to moral hazard, anti-selection and system-induced costs. Among these imperfections, selection and externalities are the ones most susceptible to State intervention.

Controlling health costs is currently a major concern of all governments and all private insurers. "Managed care" has led, in the United States and, since recently, in Europe, to the development of health networks that seek to limit

[1] B. C. Vladek, N. A. Miller, and S.B. Clauser, The Changing Face of Long-Term Care. *Health Care Financing Review*, vol. 14, No. 14, Summer 1993.

system-induced costs by bringing together service providers, policyholders and insurers[2].

Competition on price and quality of service may over the medium term help to open up the market for health care to services beyond a country's borders. At present, the localization of risk is an important factor in the insurance business that limits "transborder" services. The "nonportable" nature of insurance is said to be a barrier to trade in health services.

This article sets out to examine the status of and possible developments in the health insurance market. A brief initial overview shows how health insurance operates. The following section details the functioning of the health-care market. Section III explores the possible consequences for trade in services of segmenting or opening up markets. The limits of this analysis are spelt out at the end.

I HEALTH INSURANCE EXTERNALITIES

Membership of most health insurance schemes is compulsory, to avoid the problems of anti-selection familiar to insurers. Insurers cannot discriminate between high and low risks and if premiums are set at the average for a group, in the absence of statistical homogeneity, more individuals at high than at low risk will take out insurance. In the extreme case, the market will disappear if the insurer cannot propose differentiated contracts. In equilibrium, when risk exposure is not observable by insurers, high-probability individuals purchase complete coverage at a high premium rate, while low-probability individuals purchase partial coverage at a low premium rate[3].

The use of annual or case-by-case deductibles often gives insurers an opportunity to categorize risks better[4]. Unfortunately, deductibles are calculated less to reflect individuals' behaviour than administrative running costs, and to reduce the price of insurance[5].

Tracking changes in health costs reveals that steady and rapid rises increase the risk of budgetary imbalance in health insurance schemes and may damage their very underpinnings. The most commonly quoted example is

[2] For example, Swiss Health Insurance Act of 1 January 1996. Article 41: "The insured may, by agreement with the insurer, limit his choice to service-providers designated by the insurer on the strength of their more advantageous services".

[3] For a survey of the analytical literature, see G. Dionne, and N.A. Doherty, Adverse Selection in Insurance Markets: A Selective Survey: In G. Dionne (Ed.), *Contributions to Insurance Economics* Boston, MA., Kluwer Academic Pub., 1992.

[4] E.B. Keeler, J.P. Newhouse, and C.E. Phelps, Deductibles and the Demand for Medical Care Services: The Theory of a Consumer Facing a Variable Price Schedule under Uncertainty. *Econometrica*, vol. 45, April 1977. pp. 641-655.

[5] S. Shavell, Theoretical Issues in Medical Malpractice. In R. Helms (ed.), *The Economics of Medical Malpractice.* Washington, D.C., American Enterprise Institute, 1977.

overconsumption of medical care, especially pharmaceutical products. In fact, one of the main reasons for rising costs is the increasing expense of diagnostic procedures and treatments due to highly specialized exploratory techniques.

When insurance covers costs in the health sector, new, alternative therapies can be developed. Hence insurance helps to boost health-care costs. Besides, since the marginal costs of more expensive treatment will be borne not by the individual policyholder but by policyholders at large, the health-care provider will tend to increase the number of services performed and propose the most expensive treatment, in a process known as supply-led demand[6].

As confidence in the medical profession's ability to deal with health problems grows, people's individual sense of responsibility diminishes. In other words, beneficial though it may be to have diagnostic and therapeutic opportunities available, they come at a cost that requires appropriate self-restraint, close monitoring and fund-raising efforts. The simple notion of making the consumer aware of costs cannot be applied at the macroeconomic level.

There is a radical difference in outlook between the economist, who looks at the overall balance of the system, and the health-care professional concerned only with the individual relationship between himself and the patient.

II INSURANCE AND THE HEALTH-CARE MARKET

To slow the upward spiral in expenditure and contributions, managers increasingly try to find ways of bringing the medical services available on the health-care market into line with what insurance schemes can afford. All too often, the action taken is piecemeal instead of forming part of an overall plan that makes allowance for all the parties involved: (a) health-care purchasers (policyholders); (b) health-care providers; and (c) the entities that finance all or part of the care, the insurance schemes.

Diagram 1: The health-care market

[6] K.J. Arrow, Uncertainty and the Welfare Economics of Medical Care. *American Economic Review*, vol. 53, 1963. pp. 941-973.

The insurer/policyholder relationship

If an insurance scheme meets all the costs of health care, care is perceived as a free resource and there is a tendency to over-consume. Over-consumption of medical care in itself leads to increased dependence on the health-care system, and hence a diminution in personal responsibility.

The simple idea of making the consumer aware of costs, or of making those who incur avoidable costs bear the consequences of their behaviour, is hard to put into practice. The "bonus-malus" systems being tested in some countries where policyholders wish to pay in accordance with their needs represent a retreat from the principle of solidarity. Besides, a progressive reduction in premium (bonus) provided no claim is submitted probably has a pernicious effect on health over the longer term, since people will wait longer before seeking treatment.

Co-insurance, whereby the policyholder has to pay a certain percentage of the costs (an arrangement known as the *ticket modérateur* in some countries), has proved universally ineffective as a means of controlling health expenditure. Still, making the policyholder pay a real percentage of the costs is customarily regarded as more effective than applying a deductible. [7] On the other hand, a high co-insurance factor is inimical to social justice for people on low incomes, the elderly and the chronically ill.

Ceilings (annual, per service, per type of care) betoken a desire not to mutualize certain kinds of expenditure, whether considered too trivial or, on the contrary, too extravagant or unnecessary. They also serve to restrict the range of spending that is subject to slippage. The kind of ceiling imposed often depends on the degree of mutuality or solidarity accepted by the insurance scheme. A yearly ceiling for each beneficiary, for instance, discriminates against the elderly.

Supplementary insurance at the policyholder's option is becoming the accepted way of making the insured aware of the costs of certain services. Experience shows that raising the ceilings for coverage by insurance schemes

[7] W.G. Manning et al., Health Insurance and the Demand for Health Care: Evidence from a Randomised Experiment. *American Economic Review*, vol. 77, 1987. pp. 251-277.

induces an immediate rise in the cost of the services offered by service providers - a phenomenon very similar to what economists refer to as the "liquidity trap".

The policyholder/service provider relationship

Holding down costs on the supply side begins with price regulation. The perverse incentives that payment-per-service creates are well known. The service provider has an incentive to increase the number of services performed. Competition and the market economy may help to boost some service providers' turnover, but this is not necessarily desirable or helpful in the health field.

Consumers do not generally have the means to influence supply. Their power lies in the quality and quantity of information at their disposal on the health-care system, since service providers operate on the premise that patients do not have perfect information. The relationship of personal trust between the consumer and the service provider skews too simplistic an economic analysis.

The insurer/service provider relationship

It seems to be increasingly accepted that costs are controlled more effectively by influencing supply than demand[8]. Paying service providers per service is generally associated with rising costs. Abel-Smith (1992) has shown that health expenditure can be kept down by regulating the supply of services rather than demand for them[9]. This has led some health insurance schemes to ask not only how much they pay but also why, and to whom.

Categorizing diagnoses by groups (diagnosis-related groups, DRG) in order to finance hospitals according to the kind of medical care they offer has been practised in the United States since 1984. It encourages hospitals to choose the most efficient method of treatment, to reduce the length of hospital stays and to make maximum use of health-care personnel other than doctors. If there is a choice between two therapeutic methods, both of which would suit the patient's requirements, the insurance scheme can limit coverage to the costs of the less expensive one. There are, however, some unintended effects such as encouraging hospitals to refuse admission to patients they regard *a priori* as poor commercial prospects.

Experiments in cooperation between hospitals and insurance schemes are under way in Austria and Canada . The potential importance of prevention should also be considered, and it is now recognized that research into anticipated costs would help to increase the effectiveness of preventive measures[10].

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[8] R.P. Ellis and T.G. McGuire, Supply-Side and Demand-Side Cost Sharing in Health Care. *Journal of Economic Perspectives*, vol. 7, Fall 1993. pp. 135-151.

[9] B. Abel-Smith, Cost Containment and New Priorities in the European Community. *The Milbank Quarterly*, vol. 70, 1992. pp. 393-416.

[10] R.C. Van Vliet, Predictability of Individual Health Care Expenditures. *Journal of Risk and Insurance*, vol. 59, September 1992. pp. 443-461.

Health-care networks

The upshot of these relationships between the players in the health sector is that insurance schemes are anxious to play a leading role in guaranteeing high-quality care at a cost that all policyholders can afford, while keeping check of where the payments for services go.

Networks of health maintenance organizations (HMOs) seek to bring together service providers, policyholders and insurers, thereby stifling service-provider-led demand while guaranteeing a viable volume of business and turnover.

The two main types of HMO draw on service providers as a group or individually. In the former case, a group of service providers operate at a specific location. In the latter type, a policyholder chooses a general practitioner belonging to the organization who then provides services at his own surgery/office, referring the patient to another provider within the organization when necessary. Treatment by providers which do not belong to the network is not covered by the insurance.

Networks of preferred provider organizations (PPOs) are less rigid, allowing policyholders a greater choice of doctor. The insurer negotiates preferential contracts with a group of service providers (hospitals, laboratories, paramedics). More generous coverage gives policyholders an incentive to use providers within the system.

Other forms of managed care organizations have developed in the recent past such as physician-hospital organizations and point-of-service plans, which combine HMO-like systems with indemnity systems, allowing individual members to choose which systems they wish to access at the time they need medical service[11].

III MARKET SEGMENTATION AND TRADE IN HEALTH SERVICES

It is widely agreed that a health care system left to function according to market forces alone will not result in a socially optimal quantity or quality of health care or cost.[12] However, policies to encourage the development of expanded insurance options for the population are an important component of most national schemes efficiency efforts.

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[11] E. R. Wagner, Types of Managed Care Organizations. In P. Kongstvedt (Ed.), *The Managed HealthCare Handbook*, 3rd ed. Borth, Aspen Pub., 1996.

[12] W. Hsiao, Abnormal Economics in the Health Sector. In P. Berman (Ed.), *Health Sector Reform in Developing Countries: Making Health Development Sustainable.* Cambridge, MA, Harvard University Press, 1995. See also G. Rosenthal and W. Newbrander, Public Policy and Private Sector Provision of Health Services. In W. Newbrander (Ed.), *Private Health Sector Growth in Asia.* New York, J. Wiley, 1997.

A simplified graphical analysis can be used to compare the current situation in a number of countries where the insurance system may segment the market to a situation in which open markets, competition and "portable" insurance bring the market into overall balance. [13] The main results presented in the Appendix are summarized below.

Non-optimality of price controls

In a "regulated" market, service providers and insured households have access to a controlled price below the market price. Demand not met on the regulated market moves out on to the free (nonregulated) market.

As the number of service providers unwilling to accept the regulated price grows, demand on the free market rises and the clearing price remains above the normal market price. Price controls are not, therefore, the most efficient way of cutting costs as long as insurance cover at a higher price is available to permit the free market to function. This is the case in markets where a national scheme is more and more often supplemented by private or mutual insurers responding to the population's willingness to pay for health care. The result being increased inequality in access and use of health care.

Non-optimality of cartel-like markets

In a segmented market but equally where there is a cartel of service providers, the supply of services is cleared at a higher price than the normal market. Opening up the market for services implies that some insurers and policyholders will leave the "official" market and set up a parallel market.

Insurers who have set up HMO- or PPO-type health-care networks are in a parallel-market situation where the supply of services outside the official market allows potential demand to be met at low cost. The current situation, where only free movement of patients/policyholders is permitted, should encourage the development of parallel markets.

Reasons for insignificant trade and competition

Regional and international trade and competition for professional services in the health care business are extremely limited, and mainly confined to services related to tourism or cross-border services. Moreover, there is no evidence that barriers to trade are any different in developing countries than in any other country (except perhaps in emphasis) when considering the following list:

- immigration-related restrictions are a barrier for the movement of service suppliers as well as professional regulation based on academic qualification,

[13] See J.F. Outreville, "Price Regulation and Segmented Insurance Markets. In H. Loubergé (Ed.), *Risk, Information and Insurance*. Boston, MA, Kluwer Academic Publishers, 1990.

experience, nationality, residency, membership to a professional association (cartel)

- lack of insurance coverage (non-portability or limited portability) is a desincentive for the movement of patients as well as emotional barriers such as language, local knowledge and cultural differences which inevitably reduce competition even within the territories of a country
- the business behavior of health practioners including corporatist practices also tend to perpetuate the segmented market structure. It is exacerbated by the lack of proper information on health services available in other regions or even in other territories of a country. The location of a service can sometimes seriously affect its competitiveness and its ability to attract patients or providers.

Increasing market access

The interlinkages among service sectors have been recognized as playing an important role in the development process. The strategic importance of insurance services in the development of health services and competition is quite obvious and follow the development of managed care activities in this sector. Health financing through insurance is not a goal; it is a means to an end: facilitating the provision of the types, quantities, and qualities of health services that are consistent with managed care activities.

The importance of the access to information networks to expand services is also recognized here. The expectation that a general process of trade liberalization will provide benefits for all participants is based on the view that some countries will be able to offer services in which they possess a comparative advantage. Information is a key factor and the development of trade points in health services is a practical support to the actors in the health care market: insurers, providers and consumers.

IV CONCLUSION

Controlling health-care expenditure is nowadays a major concern of all governments and all private insurers. Cooperation between the health-care sector and the insurance sector is crucial to the provision of high-quality services at a cost that reflects the conditions obtaining on a competitive market with perfect information.

The development of health-care networks bringing together insurers and service providers serves to limit market imperfections due to information asymmetries among the various players on the market. This kind of contractual relationship should also encourage the growth of parallel health-care markets.In actual fact, insurance companies themselves do not seem to wish to develop this

kind of operation and position themselves as supplementary participants whose intervention is implicitly shaped by what the basic welfare system covers[14].

If the price of health care is a major determinant of the demand for health care and the consumer's choice of provider, then insurance may promote a better allocation of resources by monitoring the services purchased for their clients. On the other hand, the quality of care delivered lies at the heart of the effectiveness of the provision of services. Regardless of the segmentation of the market, both public and private sectors must work together to deliver a level of quality that is acceptable to consumers[15].

APPENDIX

A Simple analysis of segmented markets

In a "regulated" market, service providers and insured households have access to a controlled price below the market price (P1 and P0 in diagram 2, below). At the controlled price, the supply of health care available Qs1 is less than demand Qs2. Demand not met on the regulated market moves out onto the free (nonregulated) market, represented by quadrant B in diagram 2.

On the simplified assumption that the households with satisfied needs are represented by the section DA of the straight line representing demand in quadrant A, excess demand on the free market is represented by the straight line d1d1 in quadrant B. Service providers accepting the controlled price P1 represent only a small proportion of the supply of services, which is transferred to the free market as shown by line s1s1. This market clears at market price Po.

If households with insurance cover at the regulated price are represented by the section CB of the demand curve in quadrant A (i.e. these are households that accept minimum insurance cover at the lowest price), unmet demand is represented by the straight line d2d2, above line d1d1, yielding a clearing price, P2, higher than the market price. In reality, households probably lie evenly along the entire line DD, and the clearing price on the free market will be between Po and P2.

As the number of service providers unwilling to accept the regulated price grows, demand on the free market rises and the clearing price remains above the normal price Po.

B A case for liberalization

In a segmented market but equally where there is a cartel of service providers, the supply of services in diagram 3 corresponds to line S'S' in

[14] H. Lewalle, L'assurance maladie privée, perspectives couvertes par la nouvelle réglementation européenne. *Solidarité Santé*, No. 2, April-June 1993. pp. 39-43.

[15] Rosenthal and Newbrander, op. cit.

quadrant A, such that the asking price is above the clearing price. Opening up the market for services implies that some insurers and policyholders will leave the approved or "official" market and set up a parallel market, shown in quadrant B of diagram 3. The cost of services and thus of insurance will match the competitive price Po, below that of the approved market.

The lines representing supply and demand, soso and dodo, in quadrant B correspond to segments AB and CB in quadrant A, and the quantity of services qo corresponds to the quantity that has left the official market. This may seem like an oversimplification, for setting up a parallel market may entail production costs for insurers that will need to be reflected in the prices of policies. There is also a possibility that only the supply s1s1 will be available, but given the opening up of the market and increased competition, the price of services should gradually fall from P1 to the clearing price, Po.

Diagram 2:

A segmented health-care sector

A: Regulated market **B: Free market**

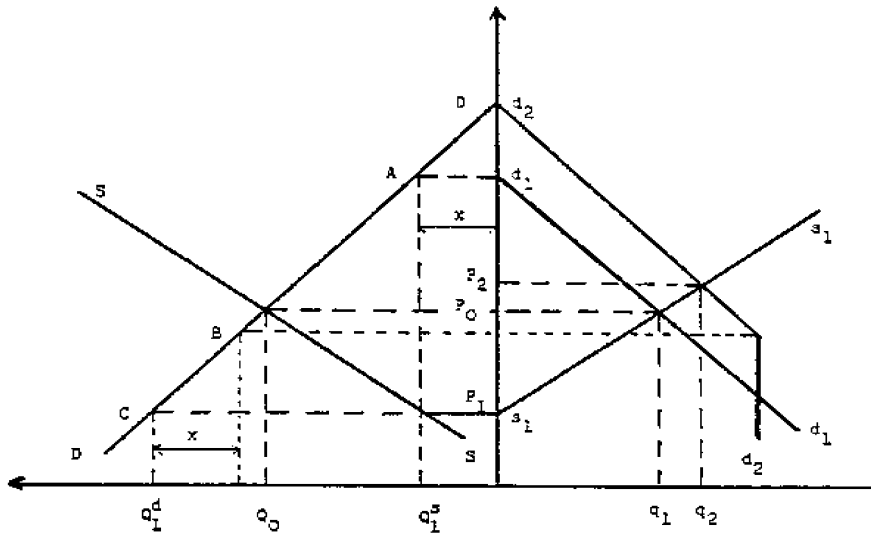
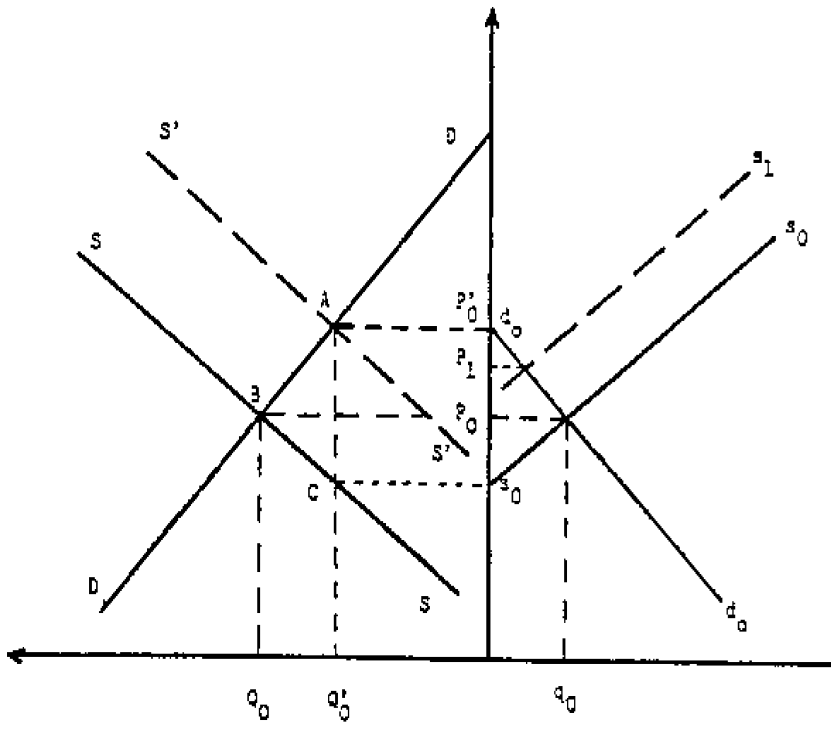


Diagram 3:

Consequences of opening up the market

A: Official market **B: Parallel market**

Pr ice



Quantity