Regulation Policy and Economics of Regulation Class No. 14 (file 11): Regulation in Transportation Industry

Objectives of Today's Class

(1) To understand the theory behind the regulation in the taxi market

(2) To understand the basic way of thinking regarding the regulation in the marine transportation and aviation markets

(3) To understand the line of thinking as to a congestion charge

Transportation Market

Market of restricted capacity to supply

→ Aviation market exemplified by arrivals to and departures from Haneda and Narita airports (cf. restricted radio waves)

Market with network-type bottleneck facilities

→ Railway, aviation, overnight delivery (cf. communications, electric power, gas)

Traditional cartel markets → Marine transportation, international aviation

Competitive market → Taxi, trucking (cf. LP gas)

Competitive relationship between each pattern → Freight, passenger; cf. the energy-market entities and their privatization → Nippon Express, Japan Airlines, National Railways, the postal service, subway, streetcar, bus (cf. Japan Electric Generation and Transmission Co., Electric Power Development Co., publicly-run gas)

Regulation for Competitive Market

Market considered to become sufficiently competitive without any regulation

Taxi, trucking, marine transportation

→ Why impose regulations?

(1) Are the regulatory authorities in conspiracy with industrial circles? ← file 4

(2) Regulations concerning quality preservation and safety ← Adverse selection

(3) Excessive competition ← file 9

(4) Guarantee of security (marine transportation) ← Able to respond with a contract requisitioned in an emergency (the U.S. and others)

Adverse Selection

Adverse selection: Stuffs of inferior quality survive in markets.

Consumers cannot make a distinction on quality

→ Pricing is unrelated to quality.

Which is to say that a high-quality stuff is undervalued, and that a low-quality one is overvalued.

If the supply cost of a high-quality stuff is higher, then, the supplier of this high-quality stuff is more likely to withdraw from the market.

→ The market is left with a stuff of inferior quality.

Example: Taxi Market

A superior driver (being good at geography, safe driving, polite) is high in an opportunity cost. ← Easy to enter into an exclusive contract

Passengers, particularly ones of cruising taxies, are not to know drivers' quality, and it is difficult for them to wait for taxies of cheaper fares.

⇒ Without the pricing regulation and the entry regulation, the problem of adverse selection is to occur.

Response to Adverse Selection by Regulation

(1) Pricing regulation ~ Regulation to avoid the leaving of superior drivers which is to result from excessive depreciation of the price

→ Without severe competition, entry advances inevitably.

→ The rate of operation declines. ~ The same problem eventually comes into existence.

(2) Entry regulation

(a) Entry license system

(b) License system ~ If tradable, adverse selection cannot be fundamentally prevented.

(3) Sorting by a qualifying examination

Reform of Entry Regulation and Total Volume Control

Relaxation of the entry regulations for taxi, costal-line marine transportation, land transportation

→ Development of new services

Last fortress

Correspondence ~ Strict entry regulation; the practical monopoly of Japan Post

Cartels Exempted from Antimonopoly Law

Overseas-voyage marine transportation, international aviation

→ Existence of international—not covered by the Antimonopoly Law, and legal— cartels

Shipping Conference, EITA, a civil aviation agreement

Why are cartels officially approved?

International aviation ~ Political reason, a transit freight convention

Overseas-voyage marine transportation ~ Traditional custom (the shipping conference) continued from the time (1875) before the Antimonopoly Law was established: cf. the Sherman Act enacted in 1875

Freedom of marine transportation ~ Battles against the discrimination (the preferential treatments of shipping companies of one's own country)

It’s free to fix up a cartel, too!! (?)

Shipping Conference

1875 Calcutta Alliance ~ Cartel for the route between UK and India ⇒ Expanded to courses throughout the world

Japan's scheme:

Shipping Conference → Advance notification to Ministry of Land, Infrastructure and Transport → To Fair Trade Commission

Conditions: freedom of joining (leaving), a ban on discriminatory retaliation

In EU, the application of the Antimonopoly Law was decided after a grace period of 2 years.

Also in Japan, FTC offered a similar opinion to Ministry of Land, Infrastructure and Transport

Congestion

Airport landing slot: Haneda, Narita, (Itami)

Railways ~ Rush hours

Roads

Outside of transportation:

Power transmission cable, conduit, LNG facilities, facilities for communication (the discussion on the neutrality of a network), medical and nursing services

Congestion Charge

Congested expressways and airports

Ways to reduce congestion:

(1) Congestion charge

(2) Increase of capacity

Congestion ~ A. Marshall's typical external diseconomies

Optimum congestion charge → Charge to respond to external diseconomies

Peak Load Pricing

Congestion time zone and time of the year are fixed.

Things are not congested during other time zone and time of the year.

→ Capacity gets determined in accordance with a peak.

~ To collect facility expenditures from the charge for peak time and variable costs from the one for off-peak times

⇒ In some cases, a charge differential with an order of magnitude of 1000 times may be necessary. (A current level of the discounted off-peak tickets falls far short of an efficient peak load pricing.)

~ Nontheless, now that an IC card is widespread, it is technically possible to set up charges in a manner much more diversified and detailed.

Congestion Charge and Investment

Optimum volume of investment → Revenues from congestion chares to be invested in the capacity (the case of constant returns) ~ Self-supporting accounting system

Optimum volume of investment > Congestion charge revenues (the case of increasing returns)

Optimum volume of investment < Congestion charge revenues (the case of diminishing returns)

Example of increasing returns

- Number of traffic lane from 1 to 2 → Capacity up twice/more: a domain of an integer question

Example of diminishing returns

- The 2nd route to be in a worse condition (with the higher construction costs) ~ The 2nd Tomei Expressway

Congestion Charge for Expressway

(1) To be compelled to drive at a slow speed in congestion

→ Argument that expressway toll fees ought to be refunded

⇒From a perspective of the congestion charge, toll fees should be set up in accordance with a time zone, a season, and a road that compel a slow-speed drive; the slower a compelled drive speed, the higher a toll fee.

(2) To impose congestion charges on expressways responding to external diseconomies

→ To worsen congestion of ordinary roads

No problem if a congestion charge could be imposed on ordinary roads. If that's not possible, a congestion charge for an expressway should be less than Pigovian tax on the one as a single body.

Congestion Charge and Price Elasticity of Demand

- Because the price elasticity of demand for railways and electric power is low, it is difficult to shift their demand with a congestion charge?

⇒ Price elasticity of demand varies totally by the length of a term: In many cases, the price elasticity of demand is high over a long term.

E.g., adoption of energy-saving equipment, popularization of electric cars, adjustment of the starting time of work, adjustment of a class schedule

Congested Slot Allocation

Slot at congested airports, congested power transmission cables and radio waves

(1) On a first-come, first-served basis; an equal allocation when simultaneous (the rule for power transmission in Japan)

(2) Turned into vested rights ~ Priority for existing business entities that have secured the allocation when not congested

(3) Allocation by the regulatory authorities based on the rules

(4) Bidding

To charge a rental fee in the above cases of (1)-(3), which does not necessarily constitute a congestion charge nonetheless

Bidding

Problem regarding bidding

- Pricing only after combination

→ Difficult to bid independently by each airport

The same tendency occurs in a radio wave and such.

- Incentive for a monopoly

→ By the setup of the maximum number of bidding, a certain quota to be given to newly entering firms

- Incentive for disuse ← Aimed at competitive exclusion

Problem to often occur pertaining to a license to use a patented invention

Double Taxation? Double Burden?

Rental fee being charged while not joined the bidding

Radio waves, slots, airport facilities…

Isn’t it a double burden to adopt the bidding while maintaining a rental fee?

And which is inappropriate for reason of economics.

Double Taxation? Double Burden?

Price tendered in an equilibrium: to reflect the discount cash flow of earnings to be gained by the possession of that right → With a rental fee, the earnings go down that much and so does an equilibrium bidding price. ~ The final burden has no bearing on with or without a rental fee.

With an irrational rental fee structure, bidding becomes distorted. → Not an issue related to a double burden This should be improved independently of with/without bidding.

In a similar manner, it is inappropriate to consider that putting both emissions trading and an environment tax together constitutes a double taxation.