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A theoretical analysis of business models for urban public transport systems, with comparative reference to a Community Franchise involving Individual Line Ownership☆

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A B S T R A C T

This paper reviews existing business regimes in public transport in the broad areas of economic theory of competition, ownership and regulation. It then contrasts those existing regimes with the specific case of a Community Franchise (CF) business regime with Individual Line Ownership (ILO), as currently exists in the ski lifting industry and as it may potentially be transferred to an urban public transport context. Traditional economic theory is supplemented by considering theories from human psychology, complexity theory and the evolutionary effects from more traditional theoretical understandings of equilibrium economics. This theoretical review highlights the idiosyncrasies of the CF/ILO business regime. Existing regimes are shown to have incentives that do not necessarily benefit consumers of transport services, but are conducive to unintended outcomes shaped by political and commercial forces. The CF/ILO regime, because of its particular structure, is shown to be less prone to these same forces and more responsive to consumer demands with potential benefits for passengers and government transport objectives. As well there is shown to be more incentive in the CF/ILO to manage capital expenditure in a prudent fashion.

1. Introduction

An unusual business regime in Public Transport (PT) has been observed operating in the ski fields of the Italian Dolomites and a case study of this regime has been presented on this topic (Emerson, Mulley, & Bliemer, 2015). This regime has been shown to be different from what is 'normal' in most PT regimes and also from what has been 'normal' in previous ages and currently in less developed economies. It involves a Community Franchise organisation with an umbrella marketing/ticketing role. This controlling organisation franchises individual transport lines to commercial organisations and these franchisees operate within the framework that the franchisor imposes. This paper examines this franchised business model from a theoretical standpoint, comparing it with traditional business regimes, so as to understand its functioning and to assess its potential for application to urban PT.

For the last half century Governments around the world have attempted to increase efficiencies in service provision by both privatising certain activities and by the introduction of competition for the provision of retained government activities. The ownership structures and performance of the PT natural monopoly have been closely monitored over this period whilst being systematically deregulated, corporatized and privatised in most jurisdictions (Glaister & Beesley, 1991; Hensher, 2007; Keasey & Mulley, 1986; Mackie, Preston, & Nash, 1995; van de Velde, 2013; White, 1997).

Where PT has been retained as a government operation, this has been achieved largely by two methods: first, by first defining the service required and then sub-contracting out that services, e.g. bus services in a particular area for a set period, also referred to as the

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'Scandinavian model' (van de Velde & Wallis, 2013), and second, by deregulation of transport services (long distance as well as urban bus services in regional UK) with the right of different services to compete on the same infrastructure (intercity rail services UK). The business regimes in Australia, which is a particular focus of this study, are decidedly planned regimes of the first type (New South Wales Ministry of Transport, 2014). For this paper, the first regime is to be referred to as a Government Enterprise (GE) regime and the second as an Open Competition (OC) regime. With the possible exception of Japan (although this could be viewed as an example of an OC model), there are only these two major regime types that have emerged following the withdrawal of direct government involvement in service provision.

Although the financial cost of operations tends now to be lower in real terms than that under monopoly government operation (Boitani, Nicolini, & Scarpa, 2013; Kennedy, 1995), White (2013) argues that there has not been a generalised systematic improvement in the PT product such that PT has been able to gain meaningful patronage from other modes (with the possible exception of London and some other large dense cities). White (2013) also shows that there has been a lack of clear social benefit in the new arrangements. This is despite the economic and social objectives of most governments identifying the increased use of PT as a prime objective of sustainable transport policy. There has been ongoing debate about the merits of the existing regimes (Hensher & Stanley, 2003; Mellish, Macdonald, & Dwyer, 2008; van de Velde & Preston, 2013) over the decades and there are obvious differences in system performance that suggests that there is one regime that is clearly superior.

In this paper, the two predominant business models will be contrasted with the alternative CF/ILO business model. The focus will be on how various aspects of economic theory are understood to operate in these existing regimes, (the GE and the OC) and how they differ from the way they operate in the alternative regime (the CF/ILO). It is organised as follows. Next, we describe the CF/ILO business regime as it may apply to an urban transport system, based on the original observations of ski lifting in the Italian Alps. Specific aspects of economic theory relevant to urban transport are then reviewed. With each strand of theory the effect on behaviour will be noted and the effect on the performance of the three different regimes compared, with evidence of recorded or anticipated behaviour identified. Then, the types of markets and incentives that emerge from consideration of the three regimes are analysed to establish how provision of services to the public are effected. In conclusion a comparison of the three regimes are made and the prospects for the application of the ILO to urban public transport are identified.

2. An outline of the Community Franchise/Individual Line Ownership (CF/ILO) regime

The origins of this regime are described elsewhere (Emerson et al., 2015), but it is relevant to explain that it is a regime based on the observation of fixed line ski lifting in the Dolomites in Italy. The essence of the regime is that there is a central marketing authority (the community franchisor) that is responsible for the overall system, with specific responsibility for the setting of fares and for all ticketing. This entity does not undertake any service provision itself, but is responsible for ensuring that it happens, an objective it achieves by franchising the business opportunities of particular lines of transport to others. In translation to an urban transport context, this entity could be the government department that currently has responsibility for PT services, but could just as easily be a commercial entity that is fully owned by the government similar to many government commercial ventures. However, to be a "Community Franchise" it would need to be owned by government and not by a private commercial entity. This community ownership provides a setting for reciprocal behaviour, as defined by Frijters and Foster (2013).

This controlling organisation sets all the rules by which franchisees are to operate, e.g. the times for operations, minimum headways, minimum standards, safety, etc. One of the most important tasks of the CF is to set the rate at which the franchisees are recompensed for the carriage of a passenger. This rate is based on the reasonable cost of providing this service, taking into account the distance and the mode of transport employed. The income of the CF is a percentage of the turnover and thus there is an incentive for the CF to maximise its income through the maximisation of patronage. In the case of Dolomiti SuperSki operating the ski fields in the Dolomites, this is 3% of fare turnover and this allows them to operate a viable commercial entity able to market, undertake ticket sales and maintain a sophisticated computer system for the tracking of sales, usage and the distribution of income to individual line owning franchisees.

The independent commercial franchising entities have title, i.e. ownership, of the individual lines and have the exclusive right to operate the lines on the infrastructure that the line owner develops, in perpetuity. They are free to own as many individual lines as they can productively use. The line owner franchisee has both the right and the obligation to operate the line in accordance with the minimum standards set out by the CF. The distribution of income from the central marketing authority to individual line owners is on the basis only of passengers carried: this is the only payment to line owners who must run their own lines profitably with this income. The rate per passenger to be paid is publically available, reviewed on a regular basis and differs as to the mode of transport, the distance and any other peculiarity of the line.

In transferring this to an urban transport context, a line would be defined as a single non-branching connection of two points on a map. It can be indicated as joining a series of points along existing roads or other rights of ways and, when approved, it becomes a legal entity with property rights. Proposed lines would be approved at the local government/municipal level in the same way as real property development, i.e. by entrepreneur proposal, local government assessment, approval with conditions of operation, appeal through formal legal structures, etc. Generally, only a single line can exist on a particular part of any geography (as can be envisaged with a ski lift). In essence lines do not share carriageways or roads with other lines and it is axiomatic that there is the exclusive right to provide the public transport service on any approved line that is enforceable at law. Lines will cross each other, typically at locations where stops are in close proximity that enables transfers of passengers. Where two lines need access to the same infrastructure at the local level, mechanisms as operate in real property, such as easements, rights of way and even schemes of common ownership such as strata and company title (operating in Australia), could be expected to allow for these situations in an urban setting, to preserve exclusive property rights of individual owners with all the incentives of ownership that title brings. Lines are like real property and can be bought, sold, mortgaged, bequeathed, willed, subdivided and amalgamated, like any other piece of property and as happens today in the ski lifting in the Dolomites. Each line would be a stand-alone business and the responsibility of each owner (and their bankers), to run the business efficiently and profitably.

In the projected CF/ILO regime for an urban transport context, the owners of the line would have the exclusive right and the obligation to provide the public transport service on that line and would be paid by the franchisor to do so, with an agreed payment for each passenger carried. This payment is the only payment to line owners; there is no other form of recompense. The only way that a line owner can get income is to attract passengers. And the

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