Bundling in General Markets and in Health Care Systems

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Abstract. This paper provides an overview of bundling, by explaining, in general, the different forms that this practice can take in selling, buying or exchanging goods. We then proceed with a linear programming formulation in health care, to explain how the price of a bundle of resources can be calculated. We follow this by looking at the specific case of the practice of bundling by Medicare, the social insurance system for health care in the United States. We consider its advantages, disadvantages, and various recommendations.

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1. Introduction

The purpose of this paper is first to provide an overview of the theory, practice, and policy implications of the bundling of transactions in goods and services as an instrument of price setting and discrimination, as discussed within a recent set of papers.[2] We look at some specific economic policy examples of bundling directly applicable to this theory. Second, we are interested in explaining through a simple mathematical model how the price of a bundle of resources of a hospital can be formed. We also discuss specific examples of bundling in the health care market which is of wide interest and importance.

The practice of bundling has increased rapidly, especially since the advent of e-commerce that has lead into an explosion of trade in information goods and services. This has created the need for controlling the activity within a clearly defined legal and regulatory system.

The marked increase in bundling has lead to intensive research activity in the context of the theory of the firm. A number of models attempting to explain the economic principles involved and to predict the effects of bundling on profitability and the degree of competition has been set up. At the same time significant, from the point of view of their impact on the economy, real life applications of bundling have been considered by looking at the legal, regulatory, and competition framework within which this practice operates.

An early theoretical investigation of bundling was done by Adams and Yellen (1976) in which, as we repeat in some detail below, they also compare pure with mixed bundling from the point of view of extracting consumer surplus.

Bundling appears in many market forms. The practice of contract bundling by the U.S. government agencies is a good example of purchase bundling by a monopsonist. The Department of Defence in particular is the biggest bundler; it accounted for more than 65 percent of all bundling during the nineties.

The paper on monopsonistic mixed bundling by Dassiou and Glycopantis (2008) helps to explain why this may have been trade enhancing for the suppliers as well as profit enhancing for the government. In fact, this becomes increasingly more beneficial for the trade volumes enjoyed by the former if it is not easy to ascertain the quality of the all the goods involved in the bundle. We refer to this issue again later in this section.

We would like to explain that it falls outside the scope of this paper to review all the different proposed economic theories of bundling. This has been done by other authors, as for example by Kuhn (2004), who also discusses the role of bundling as an instrument of entry deterrence or product differentiation in the presence of competition. Rather, we use the papers by Dassiou et al. (2004) in which aspects of mixed bundling are discussed. In these papers bundling is seen as an

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[2] Dassiou and Glycopantis (2005, 2006, 2008) and Dassiou et al. (2004).