Strategic outsourcing and optimal procurement

Frank Rosar

Department of Economics, University of Bonn, Lennéstr. 37, Bonn 53113, Germany

Article history:
Received 12 May 2015
Revised 7 November 2016
Accepted 21 November 2016
Available online 23 November 2016

JEL Classification:
D44
D47
D82
L23
C72

Keywords:
Procurement
Outsourcing
Subcontracting
Auction
Mechanism design
Asymmetric information

1. Introduction

When a buyer wants to procure a specialized product, the sellers are typically better informed about their respective production cost, but the buyer can affect how the sellers compete through her procurement mechanism choice. The design of the optimal
procurement mechanism for given, commonly known cost distributions is a standard exercise in Bayesian mechanism design (Myerson, 1981).

Yet in many applications, a seller can affect his cost distribution through some publicly observable long-term decision before the procurement mechanism is designed. I will focus in the main part of this article on an important example for such a decision: outsourcing of production to a subcontractor. Outsourcing often affects a seller’s cost of providing the product to the buyer through two channels. On one hand, it typically leads to a loss of information and thus to an information rent that has to be left to the subcontractor. On the other hand, outsourcing might imply cost savings. My aim is to understand the sellers’ outsourcing incentives prior to competing in a subsequently designed procurement mechanism.

In the absence of cost savings, outsourcing transforms a seller’s cost distribution in two ways. First, it increases his cost because of the information rent he has to leave to his subcontractor. Second, it makes his cost distribution more dispersed. A rough intuition for the second effect is that the subcontractor’s information rent is small (large) if the subcontractor has to produce only (also) when its production cost is small (large).

Even though outsourcing appears to be purely wasteful for a seller, it can be beneficial for strategic reasons. Responsible for this is the dispersion effect. To get an intuition for why the dispersion effect can render outsourcing beneficial, consider the hypothetical case where the buyer does always want to procure from a specific seller. This seller’s rent corresponds then to the difference between his highest possible provision cost realization (which is what the buyer will pay him) and his expected actual provision cost. Under a regularity assumption, a more dispersed cost distribution increases the rent that the seller earns. On the other hand, when a seller’s provision cost and the rent that he can earn increases, it becomes more attractive for the buyer to procure from a different source; that is, when the buyer is not predisposed to procure from any specific seller, outsourcing is associated with a trade-off. A seller’s incentive to engage in outsourcing depends on the relative strength of the “higher rent from winning effect” and the “lower winning probability effect” for given outsourcing decisions of the other sellers.

After introducing the model in Section 2 and deriving the implications of optimal sub-contracting and optimal procurement in Section 3, I investigate the sellers’ outsourcing incentives in the absence of cost savings in Section 4. I establish the sellers’ trade-off and I derive conditions under which outsourcing arises in equilibrium for strategic reasons. As outsourcing implies in many important applications cost savings, I explain in Section 5.1 how the strategic effects associated with outsourcing interact with cost savings. The more general framework with cost savings enables me also to discuss different extensions. In Section 5.2 I discuss how my analysis extends to problems where each seller can

---

2 I will discuss how my analysis extends to problems with other instruments than outsourcing in Section 5.2.

3 How the “higher rent from winning effect” arises depends on how the optimal procurement mechanism is implemented. If it is implemented indirectly through an auction, the effect can arise because outsourcing induces less intense competition. If it is implemented directly, it arises because a higher dispersion leads to a higher information rent by making lying more attractive.
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات