

## A Review of “The New Drug Reimbursement Game: A Regulator’s Guide to Playing and Winning”

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To cut to the chase; I like this book [1] and would recommend it to anyone who wishes to understand the negotiations between health-care payers and biopharmaceutical companies. In describing a formal game theoretic account of the negotiations between manufacturers and reimbursement authorities, Pekarsky has given concrete form to a number of intuitions that have been argued by other authors, and highlighted the key role of the lobbying by manufacturers in achieving reimbursement for new therapies at prices that are difficult to justify from an efficiency or even equity perspective.

The book covers a lot of ground, not a surprising characteristic for one that is based upon a PhD thesis. Pekarsky provides useful overviews of the many academic fields that contribute to debates on the appropriate price to pay for new drugs including the social investment in pharmaceutical innovation, the value of clinical innovation, and the shadow price of the health-care budget. Each of these fields is covered from quite a critical perspective, but the material is no less useful for that. The meat of the book is found in Chapters 8–10, which apply Game Theory to consider reimbursement decision making in the contexts of (a) Drug Reimbursement Decisions, (b) Pharmaceutical R&D Financing and (c) Pharmaco-therapy Price Premia.

The book is rich in insights and repays careful reading. At the risk of over-simplifying Pekarsky’s work, I would argue that the following are her key observations:

Firms engage with reimbursement authorities in a strategic manner aimed at maximizing the rent that they

can extract from the sale of their products. All actions and information should be interpreted in this framework.

Much of industry’s success in achieving premium prices for new drugs can be attributed to the successful application of the dual threat that (a) lower prices will mean that future new drugs will not be produced because capital markets will not invest in pharmaceutical R&D; and (b) the failure to produce these drugs will mean that the health of the future population will be harmed to a greater degree than the harm to the health of the current population from paying premium prices.

A rigorous analysis of these threats establishes that it is not rational for the reimbursement authorities to accept these threats; fundamentally because the price paid for current drugs is neither a necessary nor sufficient condition for a firm to invest in the development of another drug and the reimbursement authorities have no mechanism for guaranteeing a portion of the health returns from the new drug even if it is developed. An appropriate assessment of the value to the reimbursement authority of investing in the development of new drugs via price premia requires information that is not typically available to decision makers, including the production function faced by the firm, the availability of financing from the capital markets and the efficiency of the current health-care system.

The lessons for reimbursement authorities are clear—and Pekarsky sets them out on page 239: “(1) Drug pricing is a game where Regulators make and enforce the rules; (2) Resources are constrained. If a new drug is reimbursed at an additional financial cost to the health budget, something somewhere will need to be displaced to finance it... (3) ... A firm will employ strategies to maximise their economic rent and the higher the potential rent the more a firm will invest into protecting or attracting that rent. (4) Never

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accept a price above the health shadow price without a contract that specifies the investment and return to the health budget”.

All of Pekarsky’s analysis hangs together in a world in which we are confident that the objective of the reimbursement authority is to maximize the population health, or some related outcome such as the value of the population health, from the expenditure of that budget over a given time period. The real-world implications of Pekarsky’s findings become considerably less clear cut when the objective of the reimbursement authority moves from maximizing the objective of the health system to a more disparate set of outcomes, which we might think of as a social welfare function. For example, because health systems account for a substantial proportion of most developed economies, they are inevitably levers of economic and industrial policy. The manner in which public health-care payers engage with the health-care industries signals the degree to which a jurisdiction is ‘pro-business’. This broader perspective on the policy functions of drug price agreements helps observers to understand pricing decisions that are in obvious conflict with the population health maximization objective assumed by Pekarsky’s analysis.

In an attempt to make some highly technical material accessible to non-specialist readers, Pekarsky has adopted the conceit that she is acting as a health economic advisor providing advice to a reimbursement authority. She steadily works through a long list of questions—questions that will be familiar to anyone who has worked in that advisor role—in order to build her argument. Whilst the conceit works, I have to confess that it started to grate on this reader by the time I was half way through the book. However, given that that is probably my strongest criticism, people shouldn’t be surprised that I am recommending it to anyone who is interested in the reimbursement of new drugs.

#### **Compliance with Ethical Standards**

**Conflict of interest** None.

#### **References**

1. Pekarsky BAK. The new drug reimbursement game: a regulator’s guide to playing and winning. Springer: Berlin; 2014.