1 INTRODUCTION

Alan M. Rugman and Lorraine Eden

What is Transfer Pricing?

A 'transfer price' can be defined as the price used for internal sales of goods and services between the divisions of a business enterprise. When some of the divisions are located in different countries this type of firm is called a multinational enterprise (MNE). The intra-firm sales which take place between the branches of such an MNE create the need for internal prices to value the exchange of these divisions. Transfer prices are necessary to manage efficiently the internal markets of the MNE, and keep track of the performance of the divisions.

From the viewpoint of the MNE transfer prices are a means to an end; they are used to facilitate decisions about the organization of the firm's internal markets. Yet from the viewpoint of nation states transfer prices themselves are a potential problem, especially if governments believe that the transfer prices set by the MNE do not reflect open market values. For example, the ability of MNEs to set their own internal prices is often perceived by nation states as a mechanism to avoid payment of taxes. A division located in a high-tax area can reduce its profits (and taxes) if other divisions overcharge it for supplies and underpay it for purchases of its output. (Indeed, the MNE would not be operating in a profit-maximizing manner if it failed to take advantage of whatever market power it had to improve its global performance.)

For these, and related, reasons the interests of MNEs and nation states are often in conflict. These conflicts arise from a fundamental difference in the roles of business and government: business enterprises are responsible for the efficient management of their operations while governments have a wider mandate than efficiency. Political responsibilities of governments lead them to introduce taxes, tariffs and other regulations designed to increase the welfare of certain groups in the nation state. Multinationals must live within this environment of national controls and

respond as best they can. Many writers have argued that transfer prices are often used as a method of evading such government controls.

When governments impose various tax, commercial and regulatory policies on their citizens, the MNE by using transfer prices can (to a degree) reallocate resources and redistribute profits between countries. This not only weakens these regulations and thus national sovereignty, but is often perceived to have undesirable effects on variables such as national output and employment levels, consumer prices, factor incomes and the balance of payments. Whether the MNE actually has the power to do this is an unresolved matter, yet it is the perception that it has the power that matters. As a result governments view transfer pricing with suspicion and attempt to prevent such transfer price 'manipulation' (note the pejorative sound of this expression). In many nations, transfer prices are regulated to conform with an idealized 'arm's-length standard', i.e. the market price that would have been negotiated by unrelated parties bargaining at arm's length. The best known of these regulations is Section 482 of the United States Internal Revenue Code which offers three ways to measure an arm's-length price: the comparable uncontrolled price, resale value and cost-plus methods.

To these considerations must be added the problem of natural market imperfections. Whenever external markets are missing (e.g. as in intermediate products such as knowledge) or function poorly (e.g. where transactions and information costs are high) MNEs can create internal markets which are more efficient than these external ones. The problem of pricing knowledge generated by the MNE and the costs of information and transacting in regular markets can be reduced or eliminated by the use of internal markets.

To the extent that the MNE is an internalizer of exogenous imperfections, both natural and government induced, it is in a special position *vis-à-vis* national firms operating at arm's length in regular markets. This has implications for transfer pricing. If MNE internal markets exist because they are more efficient than regular markets, does this mean that transfer prices must also be more efficient than regular market prices? If the answer to this question is 'yes', clearly government regulation of transfer prices on *efficiency grounds* is unnecessary (although there may still be

distributional reasons for such regulation). Even if the answer is 'no', on many occasions transfer prices cannot be compared to arm's-length market prices, since the latter simply may not exist.

In this book these paradoxes are examined in detail. Our knowledge of transfer pricing is enhanced by a series of analytical, empirical and policy papers which explore the depths of the transfer pricing controversy. We argue that the conflict between multinationals and national governments over transfer pricing can best be analyzed by separating the controversy into three questions: first, does transfer pricing by MNEs in a world of government regulations improve or worsen global welfare, i.e. are transfer prices efficient? Second, do arm's-length prices exist for purposes of comparison with transfer prices? And third, is regulation of transfer pricing necessary on efficiency and/or distributional grounds?

This book is organized around these three themes. In it, blame is not pointed at either multinationals or at national governments. The book aims for a better understanding of the economic reality of intra-firm trade and of ways to increase the benefits, both to MNEs and to governments, from this trade. By adopting a non-partisan stance, this book should help to defuse some of the 'we' against 'they' attitude towards transfer pricing. Hopefully, it will lead to more efficient and/or equitable methods of operating and regulating multinational enterprises.

Structure of the Book

This book arose out of papers invited for the conference on 'Multinationals and Transfer Pricing'. Yet it is much more than the proceedings of a conference. The editors went to great lengths to ensure that all the contributors prepared papers both at the frontiers of knowledge in the area and related to other papers in the book. It is organized to reveal a development of thought as the papers are read in sequence.

(i) Theory

First, several papers examine the theory of transfer pricing in MNEs from the viewpoint of economic theory, especially neoclassical microeconomic analysis. They start from elementary principles illustrated verbally and in geometric presentations,

then move to mathematically more demanding partial and general equilibrium models using calculus and duality theory. The first two papers by Eden and Diewert lay the foundation for critical understanding of the several key postulates made in this book.

Eden reviews most of the existing theoretical literature on transfer pricing, and then synthesizes and extends it in one model of transfer pricing by horizontally and vertically integrated multinationals. She argues that transfer pricing in response to tariff barriers is welfare increasing, but that welfare is reduced when the MNE uses transfer prices in response to corporate profit tax differentials. The powerful paper by Diewert is a major development since duality theory allows him to advance significantly upon the work of previous theorists in the area. The paper identifies and relates five different types of transfer prices: efficient, profit-maximizing, decentralized, arm's-length and optimal regulated. His proofs of the conditions under which these various transfer prices are efficient or inefficient are major innovations as are his deadweight loss measures for these conditions.

The controversy over the efficiency of transfer pricing is clearly brought out by comparing the Eden and Diewert papers with that by Aliber. Aliber shows that attempts by governments to segment markets and assert national sovereignty create market imperfections that reduce global welfare. By using transfer prices to arbitrage these government-induced market imperfections, he argues that multinationals can improve efficiency and raise world welfare.

The theory of transfer pricing is next addressed in papers by Samuelson on multinationals and exhaustible natural resources, and by Itagaki on the equivalence of tariffs and quotas on intra-firm trade. The book then switches from economic theory to a more business school emphasis on transfer pricing from the viewpoints of accountants and those in financial management. Papers by Quirin and Brean deal with real world accounting and taxation aspects of transfer pricing and with the ways in which manoeuvring of liquid assets by the MNE are alternative techniques to transfer pricing. Lastly, Grubert comments on some unresolved issues in the theoretical work on transfer pricing.

(ii) Evidence

Second, there follows a series of empirically based papers which examine the evidence on transfer pricing by MNEs. The first paper by Rugman interprets the results of the Bertrand Report on transfer pricing in the Canadian petroleum industry. Benvignati reports on a major study of transfer pricing practices in US corporations. Then two papers examine transfer pricing in lower income nations: Natke, on Brazil, and Lecraw, on South-East Asia. Helleiner shifts the focus to the distributional implications of transfer pricing and its importance to lower income nations. It is difficult to generalize the findings of this disparate group of case studies, but some of their implications for arm's-length prices and the use of data on transfer prices are discussed later in this Introduction.

(iii) Policy and Regulation

Finally, public policy implications of transfer pricing are examined in papers by Plasschaert, Chudson and Shoup. Plasschaert relates the theoretical work on the efficiency of transfer pricing to the actual practices of multinationals in lower income nations. Chudson summarizes the conflicting positions of those in favour of either more or less regulation of transfer prices by developing countries together with an analysis of various direct and indirect methods of regulation. In an ambitious paper, Shoup calls for an international agency to be used for the voluntary arbitration of transfer pricing disputes. This is a clearly articulated call for action and it merits serious consideration by those concerned with the alleged abuse of transfer pricing policy by multinationals. Lastly, McGuinness comments on the distortionary effects transfer price regulations can have on multinationals.

Themes in the Book

While there exists a wealth of other ideas that only a careful reading of the papers will suggest to the reader, we believe that the three key themes emphasized in the book are on the leading edge of thought in this field.

(i) Are Transfer Prices Efficient?

First is the debate about the extent to which transfer prices are

efficient. Some authors, such as Aliber and Rugman, argue that the MNE uses 'shadow' transfer prices to clear transactions among its divisions. The reason for transfer pricing is the existence of trade between separate divisions, and the MNE uses shadow transfer prices at marginal cost to clear these internal markets. Such transfer pricing is efficient, i.e. it raises global welfare. More specifically, transfer prices are efficient under two conditions. First, they are efficient when used to price intangibles such as knowledge which are intermediate products to the MNE (and for which regular markets do not exist). Second, transfer prices are also efficient when the MNE responds to government imposed market imperfections such as taxes and tariffs. In response to both types of market imperfections the MNE creates internal markets and uses shadow transfer prices to clear them. Since these transfer prices are chosen by the MNE, and set at marginal cost, they are efficient by definition.

While authors such as Eden and Diewert accept that the shadow transfer price is generally efficient, they argue that in a world with tariffs and corporate profit taxes the MNE would not set a marginal cost transfer price. A global profit-maximizing multinational chooses a transfer price that trades the gain from minimizing tax and tariff costs against the loss in misallocated resources (from not using the marginal cost price). This 'profit-maximizing' transfer price can be above or below the shadow price. Similarly, Diewert shows that the transfer price chosen by a decentralized MNE generally also differs from the shadow price. As a result, transfer pricing may or may not improve global welfare in a world of government imposed trade barriers. One of the main contributions of this book is the precise specification of conditions under which these apparently paradoxical results hold.

There are also contributors, including Quirin, Brean and Helleiner, who argue that tax laws allow and even encourage multinationals to 'keep two sets of books', i.e. to use shadow transfer prices to allocate resources within the MNE, and use 'accounting/money' transfer prices for tax purposes to determine the location of profits. For this group, efficiency is not of paramount interest; the equity implications of money transfer prices is the important issue, particularly with respect to the distribution of MNE income and profits between developed and lower income nations. For example, tax regulations such as accelerated depreciation encourage the use of two

sets of books: the MNE uses the shadow transfer price to value true depreciation of its capital stock, and the accounting transfer price for tax purposes. Also, where the multinational runs a division at an overall loss for strategic reasons, a separate set of books based on money transfer prices can be used to evaluate management performance.

The business school literature on transfer pricing has extensively analyzed the use of money transfer prices for management evaluation. While these prices can be used to redistribute revenue and thereby profits between divisions of the MNE, they should not be confused with the transfer prices used to value intra-firm trade flows and clear the MNE's internal markets. However, an unanswered question is the extent to which money transfer prices can also affect allocative efficiency of both the MNE and the nation states involved. This is not an easy problem to resolve, and the answers seem to depend critically upon the precise manner in which the models of the MNE are specified.

In evaluating the efficiency of transfer pricing it does not seem particularly helpful to contrast these prices with arm's-length competitive prices which may or may not exist. When regular markets are absent, or constrained due to information and transaction costs, it is necessary to model the MNE in its own right as a special institutional response to market imperfections and to analyze transfer prices accordingly.

(ii) Do Arm's-length Prices Exist as a Basis for Comparison with Transfer Prices?

The second major theme of this book is also of a theoretical nature, but it arises as a particular problem in the case studies and empirical papers. Data on transfer prices are hard to come by. This provides a great obstacle to objective empirical work conducted by researchers and, to some extent, it constrains the analysis undertaken in this book. For example, the empirical results of both Natke and Lecraw are weakened by the lack of hard data. Benvignati has access to a large survey, but again much of the data available to her does not lend itself to rigorous econometric testing of the transfer pricing controvery.

Not only is there an empirical problem in finding (often unobservable) transfer pricing data, but there is also a theoretical problem in using arm's-length data which also may not be reliable. For example, Rugman finds that the Bertrand Report

falls into this trap. While Rugman acknowledges that data on transfer prices used by multinational oil firms are available in the Canadian case for the 1958 to 1973 period studied, he discovers that there is no single arm's-length price, even for a tangible good such as crude oil, in this period. Instead, there is a wide range of estimates for such market prices which appear to exceed the differential between the observed transfer prices and the arm's-length price chosen in the Bertrand Report.

This leads to a fundamental conceptual problem in the treatment of transfer pricing by MNEs, one which is identified but not resolved here. Many tax authorities and economists, concerned about the abusive nature of transfer price manipulation by multinationals, especially in lower income nations, use the arm's-length standard to value intra-firm transfers. However, arm's-length tests implicitly assume that the divisions of the MNE operate as independent profit centres, and that market prices exist somewhere as a standard of comparison for inter-divisional transactions. Neither of these two assumptions is generally true.

Although multinationals are often organized into divisions along profit centre lines, the autonomy of the divisions is more apparent than real. MNEs are structured as integrated units to reduce the transaction costs which would otherwise prevent the organization of a market. In addition, MNEs sometimes operate an affiliate at a loss in order to retain market share in a region or for other strategic reasons. Within the integrated internal markets of MNEs there are frequently transfers of intangible knowledge and management know-how for which no market prices can be observed. This hinders the attempts of tax authorities to assign arm's-length prices for inter-affiliate transactions on the assumption that the divisions are separate entities. As a result, imposition of the arm's-length standard can cause serious distortions to the internal systems of MNEs.

If comparable arm's-length prices do not generally exist, there is no clear rationale on efficiency grounds for using the arm's-length standard to regulate transfer prices. As an alternative, Diewert shows that it is possible to calculate an 'optimal regulated' transfer price which is globally efficient. However, the informational requirements are so steep that he is, justifiably, pessimistic as to any government's ability to find such a regulatory standard. Even if the arm's-length principle is not unambiguously more efficient than unregulated transfer prices, it

may be possible to justify the standard as the 'least inefficient' standard, or on distributional grounds. Economists, such as Shoup, argue that, putting the question of efficiency aside, the arm's-length principle is still necessary to ensure a fair international distribution of the MNE's world-wide income.

(iii) Is Regulation of Transfer Pricing Necessary?

The final key theme debated in this book is the perceived need for regulation of multinationals on efficiency and/or distributional grounds. It arises because there is more than one viewpoint about transfer pricing. One group feels that the use of transfer pricing by the MNE is efficient; another group believes that transfer pricing can be inefficient. The concern of both home and host governments with distributional aspects of transfer price manipulation inevitably conflicts with those who see the MNE as an efficient business organization. The MNE itself regards international tax rate differentials and exchange controls imposed by nation states as exogenous market imperfections to which transfer pricing is a legitimate internal response. On the other hand, nation states view the power to manipulate transfer prices as a method of evading legal obligations, thus eroding national sovereignty.

It is clear that most of the contributors to this volume would agree that, in the *presence* of natural market imperfections but in the *absence* of government induced market imperfections, transfer pricing is efficient, and therefore regulation, on efficiency grounds, is unnecessary. Similarly, most authors would agree that if all government tax, commercial and regulatory policies were harmonized internationally, regulation of transfer pricing on efficiency grounds would again be unnecessary. However, a consensus emerging from this volume is that the nation state is not dead. Governments retain sovereign powers of taxation, regulation and ultimate banishment of multinationals. This power leaves the state with the residual authority to change and control the environment within which MNEs operate. Therefore, international harmonization of national policies is not a practical solution to the transfer pricing problem. As a result, the view of several authors is that regulation of transfer prices is necessary on efficiency grounds.

One of the contributions of this book is the demonstration that unregulated transfer prices may be either more or less efficient

than regulated ones. Even though it cannot be demonstrated that there is a clear efficiency rationale for such regulation, some contributors argue that regulation is still necessary on distributional grounds. In future years, these authors expect international intra-firm trade to be more closely managed by governments as they adopt mercantilist policies in an attempt to appropriate larger rents from MNEs. As a result they argue that the distributional effects of transfer pricing on the allocation of the MNE's world-wide income between shareholders, factor owners, home and host governments will become increasingly important, and more closely managed through transfer pricing regulations.

Since it appears that such controls are here to stay, it is crucial that there be more open discussions between the regulators, government and multinational business. In this regard, the call by Professor Shoup for voluntary international arbitration of transfer pricing disputes is probably a necessary intermediate step towards a deeper understanding of the causes and effects of transfer pricing. An awareness of the complexities and roles of the respective bureaucracies and organizations of multinationals and governments would eliminate much of the controversy over transfer pricing, based as it is on misconceptions of the constraints imposed on either side.

In conclusion, we hope that this book will provide challenges (and perhaps some answers) to the issue of transfer pricing by multinationals, and that greater understanding will result from the clearer analytical framework, more detailed empirical knowledge and sharper policy analysis which the papers in this book provide.