Richard Friberg (1999) – Exchange rates and the firm, Macmillan

1. Introduction and scope of the book

Exchange rates are often mentioned as a crucially important factor driving the profitability of corporations. They are not seldom at the very top of the list when discussing past or future business performance. Examples of corporations having gone bankrupt due to large exchange rate changes, of firms losing market shares on a grand scale or running into bad profitability in general abound. This is true also in relatively closed countries such as the United States. Recent events such as the EMU, the strength of the pound and the currency crisis in many East Asian countries have also put the spot light on how firms can deal with exchange rate changes.

A quick reading of Financial Times for the last couple of months is just one way to get some views on the impact of exchange rates on the profits and stock market valuation of firms. On 7 November 1997 one could read that 'Mitsubishi Motors warned yesterday it would fall into loss this year because of foreign exchange losses related to its Thai manufacturing joint venture. The Japanese company said it was now forecasting a consolidated net loss of Y40bn (Dollars 326m), instead of a net profit of Y11.6bn which it had expected.'[1] On 10 December 1997, one could discover that 'Kraft has been struggling for most of this year. In the third quarter it reported an 11 per cent fall in operating profits to Dollars 260m, blaming lower coffee volumes, higher commodity costs and unfavourable exchange rates…The day before, shares in Coca-Cola tumbled by nearly 4 per cent after some Wall Street analysts trimmed their 1998 earnings forecasts, citing the strong dollar.'[2] On

29 January 1998 'The firmer dollar … sent ZURICH into record territory…PARIS…there were solid gains among dollar stocks'.[3] In the same vein on could read that 3M claimed that the stronger dollar had knocked 12 per cent off earnings[4] and that operating profit growth at Reed Elsevier had come to a halt because of the strong pound.[5] The list could have been made much longer.

In the present book we will assemble and assess the lessons that economics has to offer for how a firm should deal with exchange rate variability. What strategies can be employed to limit, or even benefit from, the variability of exchange rates? We will draw on theory as well as empirical evidence. Let us discuss the relationship to previous work before returning to what we will do in this book.

Given the potential importance of exchange rates for firm performance, one would believe that the present book would be only one among literally billions of articles and text books dealing with the issue of how firms can, and should, deal with variable exchange rates. In one way a belief that this book was only one among many would certainly be correct, the amount of research and teaching done on how to protect earnings and the value of a firm from the effects of exchange rate variability with the aid of financial instruments is enormous. Since the issue of how firms (should) deal with exchange rate variability has mainly been a concern of economists specializing in financial economics, the focus of this work has been on financial hedging rather than on operating strategies. The typical article or textbook in this field concludes by noting that the important issue is that of Economic Exposure, a concept that we will define later but that is more encompassing than what is often considered to be at risk. Economic exposure of a firm will depend on how customers, competitors and the firm itself behave in response to exchange rate changes. These are issues that go outside the scope of what is usually studied in financial economics. A good example of a textbook in international finance is Sercu and Uppal (1995). They state in the introduction (p. vi) 'This book is a text on international *finance*. Thus it does not address issues of multinational corporate strategy, and the discussion of international macroeconomics is kept to a minimum'. The financial literature covers the ground that it has decided to cover very well. There are vast tracts of land that it does not cover however. Say you were a British executive concerned with the strength of the pound. You wonder what strategies that you should pursue to deal with the issue. Other examples are how you should adapt strategy to EMU, should you segment national markets, how should prices change when exchange rates change? There is little or no help coming from the financial literature. Some articles[6] and a few text books, most notably Shapiro (1992), do discuss strategies. They do so in a brief manner however and essentially without spelling out connections to either empirical results or theory.

How about the people coming from another relevant field within economics, Industrial Organization? Industrial Organization, or its synonym Industrial Economics, is the name given to the study of firms and markets *as we depart* from the assumption of perfect competition. Remember that perfect competition is concerned with the case where each firm takes the prices it faces as given. For the assumptions of perfect competition to hold we require that all firms on the relevant market produce identical products, that resources are perfectly mobile and that there are no informational asymmetries – that we can hide no secrets from each other. Clearly Industrial Organization should contain some lessons for what strategies that firms faced with exchange rate variability should pursue. Look in a textbook on Industrial Organization and you will find that someone intelligent (usually) has given some thought to just about any imaginable issue. The role of advertising, how to prevent entry of competitors onto your market, competition when there are fixed costs, competition when there is this and competition when there is that. The word exchange rates makes very few appearances however. Nevertheless, many of the tools and results have bearing on the issues that we are interested in.

In their 1977 article entitled 'The Microeconomics of the Firm in an Open Economy' Michael Adler and Bernard Dumas commence with the statement that 'This paper undertakes to survey a largely nonexistent literature.' A lot has happened since 1977 and the focus in that article is not in perfect correspondence with the focus of this book. Nevertheless their statement is not an inaccurate description of what the present book tries to accomplish. Industrial Organization and other fields of economics contain many important lessons for how a firm should and can deal with exchange rate variability. Lessons that in many cases have not been spelled out or integrated previously.

From our perspective, the perhaps biggest change relative to 1977 is the development of the analysis of how exchange rate changes affect prices in a world of imperfect competition. This large body of research originated in trying to explain the slow adjustment of the US current account and trade balance to the large swings of the dollar in the 1980s. The issue of to what extent that exchange rate changes are reflected in prices has become known as the study of exchange rate pass-through. This line of research has rarely analyzed out the implications of price adjustment for firm value. In joint work from 1998 two of the grand old men in the study of exchange rates and their impact on the performance of firms (Bernard Dumas and Richard Marston), and one of the rising stars (Gordon Bodnar), claim to be the first to integrate the issue of how sensitive a firm's value is to exchange rate surprises with the issue of exchange rate pass-through, how prices respond to exchange rate changes.[7]

This book draws on what we know from different fields within economics and analyzes and synthesizes the lessons contained for how a firm should deal with variable exchange rates. I wish to present a structure for coherent thought on strategies to deal with exchange rate variability and present the theoretical ideas and empirical studies that help us understand the issues. We then apply what we have learnt to an analysis of the impact of the Economic and Monetary Union (EMU) on foreign exchange exposure and how strategy should be adopted. What the book tries to do is integrate a number of separate fields – present the evidence and bring out the intuition. We paint the broad picture with a specific focus on operating strategies. That is, we focus on the real side of decisions, such as production location, price setting strategy and market segmentation, rather than on the financial side of decisions, such as how to hedge. It will be valuable as an additional text book in an International Finance course at the upper under-graduate, or MBA, level or as a textbook in a course in multinational strategy. Practitioners, consultants, economic journalists and financial analysts should also find the book of value. Hopefully it will also be valuable to fellow researchers who want a non-technical and broad survey of the issues. At least I know that I would have wanted one when I started working in the field. The target group defines what ground that we will cover in this book and in which way that we will cover it. The presentation is non-technical even though much of the work that I survey does demand quite a background in economics. Extensive references are given for those who want to go back to the sources.

An important aspect of the book is that I try to cover not only theory but also the practical experience. Where I am aware of serious empirical work dealing with an issue I will present those results. I will also use specific examples from firms or specific markets. Those examples will often be from Swedish firms. Sweden provides an excellent case if one is interested in exchange rate variability and firms. Like the UK it is part of EU but will not be part of EMU from its start. Thus issues of how the "outs" will be affected by the introduction of the euro are relevant. Sweden does have a floating and volatile exchange rate, is a small and very open country. Multinationals occupy a larger share of the economy than in any other country and there are also many smaller firms that trade intensively. Experiences from the last few years include both major devaluations of the Swedish krona, having a fixed exchange rate to a basket of currencies of Sweden's major trade partners and later a fixed exchange rate against the ecu. 1992 saw 500 per cent overnight interest rates to defend the fixed exchange rate. Sweden now has a floating exchange rate and an independent central bank with a price stability target. As opposed to for instance the British pound and the Swiss franc the krona is a "small" currency, something that might increasingly be the case also for the pound and the Swiss franc post-EMU. Sweden has thus provided an excellent laboratory to learn about exchange rate variability and its impact on firms.

The focus in the book is on a firm that produces goods or services, the focus is not on portfolio management. Also for a portfolio manager it will be crucial to understand the mechanisms behind the exposure of individual assets however. How a firm is affected by exchange rates depends not only in which industry(ies) it is active but also on its main role – exporters, importers, subsidiaries will each have their specific issues. In this book I will typically focus on the case of an exporter of goods, this is mainly for ease of exposition and the same analytical tools are applicable to the case of an importer. We should note that the book is brief on a number of more technical issues such as the pricing of options. There is an abundance of good textbooks spelling out the foundations of international financial management.[8]

More specifically we will proceed as follows. We start by a review of exchange rate determination, real exchange rates and of the relation between the exchange rate and other macroeconomic variables (Chapter 2). Chapter 3 introduces the categorization of exchange rate exposure, the sensitivity in the value of the firm and its assets to exchange rate surprises. Should a firm manage this exposure? We study that issue in Chapter 4. Chapter 5 gives a concise overview of the instruments available on the financial markets for hedging purposes. Part II (Chapters 6-9) provides an analysis of the sensitivity of cash flows and the value of the firm to exchange rate surprises (so called Economic exposure). This is the central part of the book. Part III (Chapter 10) analyzes the issue of the exposure of accounting statements to exchange rates. Part IV (Chapters 11-14) discusses the impact of EMU on exchange rate exposure and how strategy could be adjusted to meet the new institutional framework.

Chapter 1

[1] Financial Times, 7 November 1997 'Companies and Finance: Asia-Pacific: Mitsubishi Motors Forecast Full-year Loss.'

[2] Financial Times, 10 December 1997 'Companies & Markets: Philip Morris to Restructure Kraft Foods.'

[3] Financial Times, 29 January 1998, 'World Stock Markets: Swiss Shares Extend Record Run.'

[4] Financial Times, 28 January 1998, 'Companies and Finance: The Americas: 3M Earnings Hit by Strong Dollar.'

[5] Financial Times, 8 August 8 1997, 'Companies and Finance: UK: Strong Pound Hits UK Side of Reed Elsevier.'

[6] For instance Aggarwal and Soenen (1989), George and Sroth (1991), Glaum (1990) and Lessard and Lightstone (1986).

[7] Bodnar, Dumas and Marston (1998).

[8] Levi (1990), Sercu and Uppal (1995) and Shapiro (1992) are some examples. A technical overview, good but somewhat old is Adler and Dumas (1983).