



UNIVERSITY OF INDONESIA
FACULTY OF SOCIAL AND POLITICAL SCIENCES
DEPARTMENT OF ADMINISTRATIVE SCIENCE
POSTGRADUATE PROGRAM

THESIS

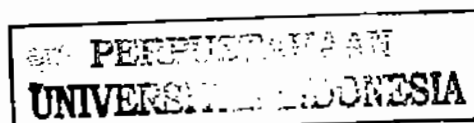
ANALYSIS ON MANAGING OPERATING EXPOSURE VIA HEDGING
INSTRUMENTS
A CASE STUDY OF AMCOR LIMITED

This thesis is presented as a prerequisite to acquire Master of Science (M.Si.)
degree in International Business Administration

by:

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JAKARTA
December 2008



STATEMENT OF ORIGINAL AUTHORSHIP

This Thesis is
The result of my original work, and
All sources and references had been cited properly and correctly

A handwritten signature in black ink, appearing to read 'Yulia', written in a cursive style.

(Yulia Triana Nugraheni)

UNIVERSITAS INDONESIA
FAKULTAS ILMU SOSIAL DAN ILMU POLITIK
DEPARTEMEN ILMU ADMINISTRASI
PROGRAM PASCASARJANA
PROGRAM STUDI ILMU ADMINISTRASI
KEKHUSUSAN ADMINISTRASI BISNIS INTERNASIONAL

ABSTRAK

Nama : Yulia Triana Nugraheni
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Analisa pengendalian *operating exposure* dengan Menggunakan Alat Lindung
Nilai
Suatu studi kasus mengenai Amcor Limited

Isi : xv, 102 halaman, 15 buku literatur, 30 artikel, 3 website, 5 laporan keuangan tahunan, 2 laporan keuangan (tidak terpublikasi)

Thesis ini mempelajari bagaimana suatu Perusahaan Multinasional (MNC) mengatur kegiatan finansialnya dalam skala internasional dimana dalam transaksinya menggunakan mata uang beberapa negara dalam hal keragaman mata uangnya. Tujuan riset adalah (1) mempelajari dan menganalisa bagaimana resiko yang berhubungan dengan mata uang pada alur kas bisa berkurang dengan menggunakan alat *hedging* lindung nilai yang dipilih dalam menangani *operating exposure* selama 5 (lima) tahun periode keuangan (2) untuk mengumpulkan seluruh komponen literature yang berhubungan dengan topik tesis dan menyajikan suatu analisa yang komprehensif mengenai *operating exposure*.

Pada perdagangan internasional, segala bentuk mata uang bergerak dengan cepat. Karena nilai pada aset, kewajiban, pendapatan dan biaya sensitif terhadap fluktuasi nilai tukar mata uang asing, terdapat berbagai kemungkinan *exposure* dalam kegiatan keuangan contohnya *currency exposure*. Apabila terjadi fluktuasi yang tidak terduga, perusahaan bisa mengalami kerugian atau bisa sebaliknya memperoleh keuntungan. Keputusan untuk mengurangi resiko *exposure* bisa berbeda setiap tahunnya. Apabila pada tahun ini perusahaan mampu mengurangi resiko dengan suatu alat lindung nilai *hedging*, cara yang sama dapat dilakukan ditahun berikutnya atau melakukan penelitian lebih lanjut untuk memilih strategi *hedging* yang lebih baik.

Suatu MNC yang berbasis di Australia, Amcor Limited (AL), dipilih sebagai obyek studi karena beroperasi secara global dan merupakan perusahaan manufaktur kemasan dengan produknya yang beragam yang memperoleh bahan baku diimpor dari negara lain dan melakukan penjualan produknya ke luar negeri. Tesis ini pada akhirnya memberikan rekomendasi kepada Amcor dalam hal melindungi perusahaan dari resiko mata uang di tahun

mendatang serta meningkatkan kualitas pengambilan keputusan eksekutif dalam manajemen resiko.

Langkah-langkah analisa yaitu membandingkan kurs aktual AL dengan kurs pasar yang diperoleh dari RBA. Hasil perbandingan menunjukkan bagaimana AL mengeluarkan uangnya untuk membeli mata uang asing. Selain itu analisa sensitifitas terhadap cash dan analisa prediksi nilai tukar dengan menggunakan rumus *absolute forecast error as a percentage of the realised value*.

Amcor sudah menetapkan kebijakan menggunakan *fixed price swaps, options and futures* dalam lindung nilai. Selain itu juga membuat perjanjian *interest rate* dan *cross currency swaps, forward rate*, serta *interest rate options* dalam hal lindung nilai suku bunga dan *exposure* mata uang asing. Analisa studi kasus AL pada periode analisa 2004 sampai 2008 menunjukkan bahwa *cash flow* AL sensitive terhadap fluktuasi. AL merubah kebijakan lindung nilai pada tahun 2008 setelah diadakan peninjauan kembali mengenai jumlah dan volume *exposure* mata uang asing. Rekomendasi diberikan untuk AL bahwa mereka dapat menggunakan *forward contract* jangka panjang dan *money market hedging* sebagai strategi alternative mengingat kondisi krisis global saat ini. Saran lain adalah ekspansi usaha kenegara lain dan difersifikasi produk untuk mendapatkan *matching currency cash flow* yang lebih baik sehingga *operating exposure* dapat diperkecil.

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ADMINISTRATIVE SCIENCE PROGRAM
MAJORING IN INTERNATIONAL BUSINESS ADMINISTRATION**

ABSTRACT

Name : Yulia Triana Nugraheni
NPM : 0606018601

**Analysis on managing operating exposure via hedging instruments
A case study of Amcor Limited**

Contents: xv, 102 pages, 15 literature books 30 articles, 3 websites, 5 annual reports, 2 financial reports (unpublished)

This thesis examines how a Multinational Corporation (MNC) manages their international financial activities in terms of diversity of currencies. The research purpose is thus aiming (1) to study and analyse whether the currency risk in MNC's cash flows can be reduced with the hedging instruments they have used during the period of 5 (five) financial years in order to manage the operating exposure (2) to pull together all relevant strands of the literature and to present a comprehensive analysis on operating exposure.

In international trading, currencies move rapidly amongst countries. Since value of assets, liabilities, revenues and costs are sensitive to fluctuation of foreign exchange rates, there are always possibilities of exposure in the financial activities, for example, currency exposure. Should there be an unexpected fluctuation of exchange rate, company suffers loss or in reverse gain profit. The decisions to reduce risk on exposure may vary year to year. If the Company is able to reduce risk this year by using a hedging instrument, they may apply the same one in the following year or do a further research to select better hedging instrument.

An Australian based MNC, Amcor Limited (AL), was selected to be the object study as it is operating globally and a manufacturing company with diversified products on packaging which its raw material imported from more than one country and sell their products abroad. This thesis gives recommendation to Amcor in order to protect firm's value from currency risk in the following years and improve their executive decision-making in risk management.

Steps of data analysis consist of comparison between actual rate of AL and market rate from RBA. The variance of this comparison showing how AL spent their cash to buy the foreign currencies. Analysis of sensitivity to the cash

flow and analysis on forecasted exchange rates using the formula of absolute forecast error as a percentage of the realised value.

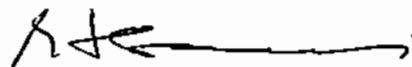
AL has set up to use the fixed price swaps, options and futures. AL enters into interest rate and cross currency swaps, forward rate agreements and interest rate options to hedge interest rate and foreign currency exposures. Analysis on case study of AL in the period of 2004 to 2008 showing that cash flow of AL is sensitive to fluctuation. AL has changed its hedging policy in 2008 after a reassessment of amounts and volume of foreign currency exposures. Recommendation provided is AL can also use a long term forward contract and money market hedging as an alternative hedging strategy considering to the company and market condition especially during current economic crisis. Other suggestion is business expansion to other country and product diversification to get higher matching currency cash flow, therefore, the operating exposure can be minimized.

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THESIS APPROVAL

Name : Yulia Triana Nugraheni
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instruments
A case study of Amcor Limited

Thesis Supervisor,



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THESIS ENDORSEMENT STATEMENT

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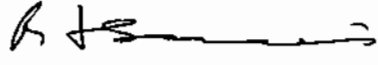
This thesis has been defended in front of Thesis Examination Board of Administration Science Department for Graduate Program of Faculty of Social and Political Sciences, University of Indonesia on 18 December 2008 and declared as **PASS THE THESIS EXAMINATION.**

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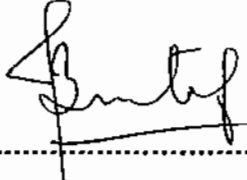
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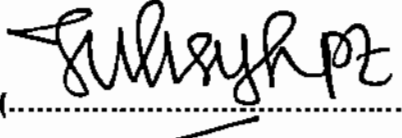
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Zuliansyah P. Zulkarnain, S.Sos, MSi


(.....)

FOREWORD

It is obvious that operating globally not only puts the firm into advantageous position but will also facing some problems in global interaction to deal with. Each department of the firm must involve in firm's decision making to minimize any risk and keep the firm to be in profitable position in global trade. Furthermore, they must anticipate on the reaction of their competitors on any global change.

It was a long journey to complete this thesis, lots of obstacle in climbing the mountain, but above all, reaching the end is the best accomplishment I have ever made.

I sincerely express my gratitude to Prof. Dr. Ferdinand D. Saragih, MA, Prof. Dr. Bhenyamin Hoessein, Dr. B. Yulianto Nugroho, MSM, PhD, and Bp. Zuliansyah P. Zulkarnain, S. Sos., M.Si.

Thanks to my friend from ABI VIII: my thesis partners, Mas Ari & Mbak Dini, my older sisters – we have gone through difficult days, my best friends Mbak Maya – Mbak Anna Lamadua, Retno and Wiwid, thanks for accompanying me to study in MM library -my colleagues, Wiwin and Ajeng, thanks for taking care of my works - my friends from extension program, economy faculty, UI year of 1999, Mbak Ani, Yose, you all are friends indeed - my bosses, all, thanks for the support. Finally, it is presented to my beloved mother, you are always be flower in my heart.

Yulia Triana Nugraheni
Jakarta, Indonesia
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CHAPTER I INTRODUCTION

A. Background

As the world becomes flat by rapid improvement on information technology, most countries are being borderless. Globalization brings democratization in technology, finance and information (Sumarlin, 2004:11). No-entry barriers environment and free market condition, push the company to struggle to be sustainable enterprise. In terms of business, globalization contributes huge impacts e.g. people exodus and fast moving money and materials among the countries. To deal with this, being multinational is the aim of some companies in order to keep their profitable position and growth progressively. Having concluded from the history of Friedman (2007), in every phase of its growth, a multinational corporation (MNC) needs to frequently evaluate how flat they are. Broader perspective is necessary to understand the strategic bargaining position of an MNC. The paradigms must change. To survive in long term, firms need to expand its operation in global basis (Clark and Clegg, 1998:11).

An MNC, to compete globally, must set up their business drivers. By expanding the operation through the world, MNC can strengthen the position on their core of business. An example of a global company is Amcor Limited, one of the world's top three global packaging companies. Amcor Limited is an Australian-based multinational packaging company.

Amcor Limited has approximately annual sales of USD 7,280 million and has a market value of USD 5,020 million. It dominates the Australian cardboard packaging market, and it is the world's largest manufacturer of plastic bottles. The way forward program was outlined to their shareholders in August 2005 and involves a three-year agenda focusing on improving execution in a number of key disciplines. Through its diversity and gradual change also strategic acquisition,

Amcor reach the well known position in packaging innovation. (Amcor website, downloaded on 29 October 2008)

Across the Group, there are a number of opportunities for further expansion in these market segments with further announcements relating to new investments expected in the coming year. (Amcor website, accessed on 29 October 2008)

Amcor manufacturing plants by business are as follows:

Amcor Australasia	69 plants in 2 countries
Amcor Twinpak	19 plants in 5 countries
Amcor Sunclipse	14 plants and 38 distribution centers in 2 countries
Amcor Rentsch	9 plants in 8 countries
Amcor Asia	15 plants in 5 countries.

Shapiro (2008:15) determines that operating globally confers other advantages as well: It increases the bargaining power of the multinational firms when they negotiate investment agreements and operation conditions with foreign governments and labor unions; it give MNCs continuous access to information on the newest process technologies available overseas and the latest research and development activities of their foreign competitors; and it helps them diversify their funding sources by giving them expanded access to the world's capital markets.

The old adage "Don't put all your eggs in one basket" is taken by MNC to its logical conclusion. They invest their money into less-developed countries in the form of foreign direct investment. Other reasons for operating internationally are marketing factors e.g. to enhance their market share, develop market growth and cost factors e.g. close to the raw material source, low-cost labors and other more favorable cost levels. The bigger expansion an MNC is operating, the wider global activities is involved.

The old economic condition shifts to global economy which leads to global financial market. Multi currencies trading transaction, facing multiple differences on each country's monetary regulation and inflation rate required MNC to be

capable to deal with this situation to reach win and win condition. Firm's cash flow is sensitive to any change on exchange rate, interest rate and price of goods and service. If the exchange rate unexpectedly fluctuates negatively, it could bring the cash flow down towards the minimum value or point of financial distress. Firm will suffer loss due to currency exposure. To minimize this risk, hedging can be implemented to reduce the probability of cash flow to fall into or under that point (Eiteman, Stonehill & Moffet: 2001:150).

Financial distress is a situation where a firm's operating cash flows are not sufficient to satisfy current obligations (such as trade credits or interest expenses) and the firm is forced to take corrective action. Financial distress may lead a firm to default on a contract, and it may involve financial restructuring between the firm, its creditors, and its equity investors. Usually the firm is forced to take actions that it would not have taken if it had sufficient cash flow.

Financial distress is surprisingly hard to define precisely. This is true partly because of the variety of events befalling firms under financial distress. The list of events is almost endless but here are the examples: (Ross, Westerfield, Jaffe, 1999:793-794).

- Dividend reductions
- Plant closings
- Losses
- Layoffs
- CEO resignations
- Plummeting stock prices

The focus on the real (economic) effects of currency changes and how to cope with the associated risks suggests that a sensible strategy for exchange risk management is one that is designed to protect the currency e.g. dollar earning power of the company as a whole. But whereas firms can early hedge transaction exposures, competitive exposures-those arising from competition with firms based in other currencies-are longer-term and cannot be dealt with solely through financial hedging techniques. Rather, they require making the long-term operating adjustments. This briefly describes as marketing management of exchange risk which includes marketing selection, pricing strategy and product

strategy and production management of exchange risk which includes input mix, shifting production among plants, plant location and raising productivity. It is followed by planning for exchange rate changes then financial management of exchange risk. The latest will be reviewed further in this thesis.

Hedging as one of the strategy of MNC to manage their operating exposure, as part of foreign exchange exposure, arise from the fluctuation of exchange rate especially in the unpredictable situation of economy with high uncertainty that brings risk into the cash flow. MNCs which depend on foreign countries in supplying their raw material or foreign market to sell their products are sensitive to any fluctuation of exchange rate. Amcor Limited's policy on interest rate risk management is to monitor and, where appropriate, actively hedge the company's exposure to movements in interest rates through the use of various hedging products available in the financial markets

In supplying the raw materials, Amcor Limited mostly imports from United States. It also purchase from several Europe countries e.g. United Kingdom and Italy, especially on aluminum, laminated paper and laser film also carton board and sell the finished products into global market. In 2008, the rising Australian dollar continues to have a negative impact on the carton board business. Input cost increased substantially during the year, and in June 2008, selling prices increased by 8%, in line with global trends.

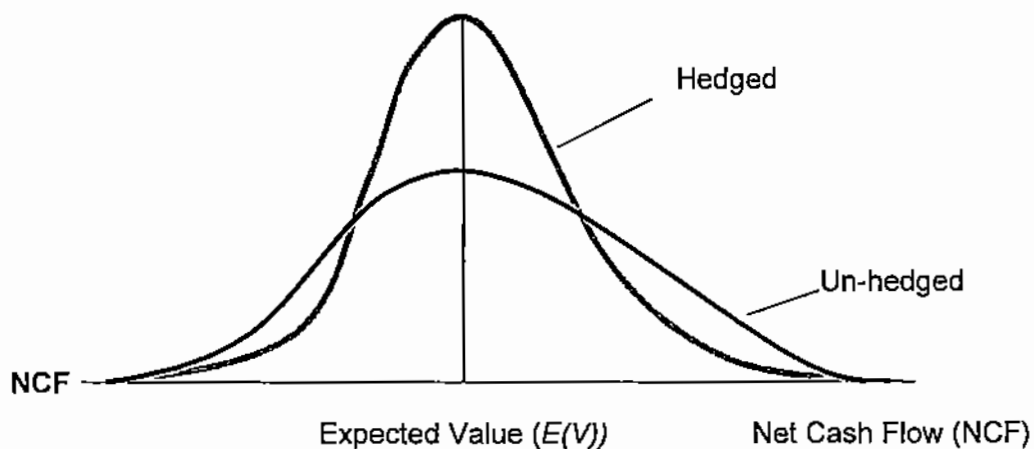
Amcor Limited enters into cross currency swaps, forward rate, options and futures agreements to hedge interest rate and foreign currency exposures. These instruments are not held for speculative purposes. Where hedge transactions are designated as a hedge of the anticipated purchase or sale of goods or services or an anticipated interest transaction, gains and losses on the hedge arising up to the date of the anticipated transactions are included in the measurement of the anticipated transaction. (Amcor annual report 2008:96)

Currency risk affects all facets of a company's operation, it should not be the concern of financial managers alone. Operating managers, in particular, should develop marketing and production initiatives that help to ensure profitability over the long run. They should also devise anticipatory or proactive,

rather than reactive, strategic alternatives in order to gain competitive leverage internationally. (Shapiro, 2007:409)

The implementation of a hedging policy is likely to be quite difficult in practice, if only because the specific cash-flow effects of a given currency change are hard to predict. Trained personnel are required to implement and monitor an active hedging program. Consequently, hedging should be undertaken only when the effects of anticipated exchange rate changes are expected to be significant. (Shapiro:2007:420).

Figure 1
Impact of hedging on the Expected Cash Flows of the Firm



Hedging reduces the variability of expected cash flows about the mean of the distribution. This reduction of distribution variance is a reduction of risk.

Source: Eiteman, Stonehill, Moffett : 1998 – 189

Figure 1 illustrates the distribution of expected net cash flows of the individual firm. Hedging these cash flows narrows the distribution of the cash flows about the mean of the distribution. Currency hedging reduces risk. Reduction of risk is not, however, the same as adding value or return. The value of the firm depicted in the figure 1 would be increased only if hedging actually shifted the mean of the distribution to the right. In fact, if hedging is not "free", meaning that the firm must expend resources to undertake hedging activity, for

hedging to add value, it must not only shift the mean to the right, but also have a net-rightward shift given the expenses related to hedging activities.

In relation to transactional foreign currency exposures, Amcor's latest policy is to hedge all net forecast or actual foreign currency exposures greater than AUD500,000 equivalent. The gains or costs on entering the hedge and the exchange difference up to the date of the purchase or sale are deferred and recognised as assets or liabilities on the Balance Sheet from the inception of the hedge contract, not when the specific purchase or sale occurs. At maturity, the costs and gains are included in the measurement of the underlying transaction.

With regard to balance sheet exposures, Amcor's approach is to analyse the foreign currency denominated assets and hedge them with an appropriate mix of borrowings in relevant currencies to manage and optimise the exposure of the Group's net assets. All material foreign currency liabilities are hedged or matched by equivalent assets in the same currencies, such assets representing a natural hedge. In relation to translational exposures, no hedging is undertaken. Amcor has a global spread of operations and exposure to a number of major economies around the world. Part of this exposure is to movements in local currencies compared to the AUD, which is reflected in the translation of local business results into the AUD equivalent results of the global group. Importantly, however, these do not reflect cash or economic exposure to Amcor. Amcor's overseas operations are self-sustaining and net profits are largely not repatriated. (Amcor annual report, 2006:19)

The results and financial position of all entities within the consolidated entity that have a functional currency different from the presentation currency are translated into Australian dollars as follows:

- Assets and liabilities for each balance sheet presented are translated at the closing exchange rate at the date of that balance sheet;
- Income and expenses for each income statement are translated at average exchange rates, which approximate the exchange rates at the dates of the transactions; and

- Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as asset and liabilities of the foreign operation and are translated at the closing exchange rate.

On consolidation, all the resulting exchange differences arising from the translation are recognised in the Exchange Fluctuation Reserve ('EFR'). When a foreign operation is disposed of, in part or in full, the amount that has been recognised in equity in relation to the foreign operation is transferred to the income statement as an adjustment to the profit or loss on disposal.

Foreign currency differences arising on the retranslation of financial liabilities designated as net investment hedges of a foreign operation are recognised directly in the Exchange Fluctuation Reserve (EFR), to the extent that the hedge is effective. To the extent that the hedge is ineffective, the foreign currency differences arising on the retranslation are recognised in the income statement. When the hedged net investment is disposed of, the cumulative amount that has been recognised in equity in relation to the hedged net investment is transferred to the income statement as an adjustment to the profit or loss on disposal. (Amcor annual report 2008: 54)

B. Identifying Research Problem

The main focus in this research is which hedging instrument used in the period of 2004 to 2008 by Amcor Limited in managing their operating exposure. The operating exposure arises from the difference on currency used in operating activity of the company.

Based on the problems defined, the research questions are as follows:

1. Which hedging instruments applied by Amcor Limited in the period of 2004 to 2008 in managing their operating exposures?
2. How much is the percentage of sensitivity on each cash flows by using forecast exchange rates during the analysis period?

The above problem and questions are basically detailed the main research problem.

C. Research Objectives and Significances

Research objectives are defined as follows:

1. To describe the hedging instruments applied in Amcor Limited in the period of 2004 to 2008 in managing their operating exposures by using forecast exchange rates.
2. To analyze the sensitivity on cash flows by using forecast exchange rates during the analysis period. It is limited to spot and forward contract by not doing research on other hedging strategy such as swap.

Research significances.

Benefits acquired from this research:

1. This research is aiming to give comprehensive knowledge for the writer on operating exposure, hedging instrument, and simple understanding on risk management.
2. This research analysis can be used as reference to any research in relation to currency risk management. Further, it can be treated as reference to a multinational corporation to deal with their financial problem. For the management is to guide them in executive decision making. In addition, to forecast expected cash flow and budget plan for upcoming year.

D. Guideline Structure

The sequence of this thesis is divided into five (5) chapters described as follows:

CHAPTER I INTRODUCTION

As in any other research paper, the starting point for the guideline is background, identifying research problem, research objectives and significances and closed by guideline structure.

CHAPTER II LITERATURE STUDY AND RESEARCH METHOD

This chapter is addressing literature overview from various published resources supporting the research analysis including general and specific concepts, steps of data analysis and concept operational grounded on studies of others in relation to risk arise from fluctuation of foreign exchange and hedging strategy. It also contains the research method implemented as basis of the discussion structure including research approach, research type, data collection method, data analysis technique and research limitation.

CHAPTER III GENERAL DESCRIPTION OF THE OBJECT STUDY

This chapter presents the object study in details. This is the part to describe the characteristics of the research object i.e. a worldwide packaging company from Australia, Amcor Limited.

CHAPTER IV DATA AND FINDINGS ANALYSIS

This chapter is the explanation of the findings linked to the theories used and analysis method determined to analyse the operating exposure of Amcor Limited and hedging strategy.

CHAPTER V CONCLUSION AND RECOMMENDATION

The conclusion is withdrawn from the specific analysis on operating exposure in Amcor Limited. This chapter is providing answers to the research question given previously. It also gives the recommendations as the actual answers to solve the problems facing by multinational corporation.

At the last part of this paper a selected annotated bibliography is included. This is intended to act as a signpost for those interested in finding out more about theories, arguments and other data presented in the paper.

CHAPTER II

LITERATURE STUDY AND RESEARCH METHOD

A. Literature Study

Financial Management is traditionally separated into two basic functions; the acquisition of funds and the investment of those funds. The first function, also known as the financing decision, involves generating funds from internal sources or from sources external to the firm at the lowest long-run cost possible. The investment decision is concerned with the allocation of funds over time in such a way that shareholder wealth is maximized. Many of the concerns and activities of multinational financial management, however, cannot be categorized so neatly (Shapiro, 2007:30).

Internal corporate fund flows such as loan repayments often are undertaken to access funds that are already owned, at least in theory, by the MNC itself. Other flows, such as dividend payments, may take place to reduce taxes or currency risk. Capital structure and other financing decisions frequently are motivated by a desire to reduce investment risks as well as financing costs. Furthermore, exchange risk management involves both the financing decision and the investment decision.

The pressure to monitor and manage foreign currency risks has led many companies to develop sophisticated computer-based systems to keep track of their foreign exchange exposure and aid in managing that exposure. The general concept of exposure refers to the degree to which a company is affected by exchange rate changes. This impact can be measured in several ways. (Shapiro, 2007:337).

A.1. Foreign Exchange

Starts with the definition of foreign exchange rate, is the price of one currency expressed in terms of another currency. A foreign exchange quotation

or quote is a statement of willingness to buy or sell at an announced rate. In the retail market (including newspapers and foreign exchange booths at airports), quotes are most often given as the home currency price of the foreign currency and are also given for many currency pairs. However, this practice is not uniform worldwide. The professional interbank market has standardized its quote system (Eiteman, Stonehill and Moffet, 1998 :94).

Shapiro concludes it as simply the price of one nation's currency in terms of another currency, often termed the reference currency. Exchange rates can be for spot or forward delivery. A spot rate is the price at which currencies are traded for immediate delivery, or in two days in the interbank market. A forward rate is the price at which foreign exchange is quoted for delivery at a specified future date. The foreign exchange market, where currencies are traded, is not a physical place; rather, it is an electronically linked network of banks, foreign exchange brokers, and dealers whose function is to bring together buyers and sellers of foreign exchange.

While according to Hady (1999:24) foreign exchange (*forex*) defined as foreign currency or payment tool used to deal and give fund to international economic transaction and international finance or outside of the country and normally registered officially in the central bank of the country. It is recognized in two kinds of currency:

1. Hard Currency

Currency frequently used in international finance and economic transaction as the nominal tool and payment reference. It is a relatively stable currency which sometimes appreciated than other currency. This currency generally comes from developed countries e.g. USD, JPY, DEM, GBP, FRF, AUD and SFR.

2. Soft Currency

Weak currency, it is rarely used in international finance and economic transaction as nominal tool and payment reference since relatively unstable. It is frequently depreciated. This currency generally comes from less-developed countries e.g. IDR, Peso, Bath and Rupee.

A.1.1. The nature of Money and Currency Values

To understand the factors that affect currency values, it helps to examine the special character of money. To begin, money has value because people are willing to accept it in exchange for the goods and services. The value of money, therefore, depends on its purchasing power. Money also provides liquidity, that is, people readily exchange it for goods or other assets, thereby facilitating economic transactions. Thus, money represents both a store of value and a store of liquidity. The demand for money, therefore, depends on money's ability to maintain its value and on the level of economic activity. Hence, the lower the expected inflation rate, the more money people will demand. Similarly, higher economic growth means more transactions and a greater demand for money to pay bills. (Shapiro, 2006:56).

A.1.2. Foreign Exchange Market

The foreign exchange market provides the physical and institutional structure through which the money of one country is exchanged for that of another country, the rate of exchange between currencies is determined, and foreign exchange transactions are physically completed. Foreign exchanges means the money of a foreign country – that is foreign currency bank balances, bank notes, checks, and drafts. A foreign exchange transaction is an agreement between a buyer and seller that a fixed amount of one currency be delivered at a specified rate for some other countries. (Eiteman, 1998: 83).

Geographically the foreign exchange markets spans the globe, with prices moving and currencies traded somewhere every hour of every business day. Major world trading starts each morning in Sydney and Tokyo, moves west to Hong Kong and Singapore, passes on to Bahrain, shifts to the main European markets of Frankfurt, Zurich, and London, jumps the Atlantic to New York, goes west to Chicago, and ends up in San Francisco and Los Angeles. (Eiteman, 1998:84).

A.1.3. Functions of the foreign exchange market

The foreign exchange market is the mechanism by which a person or firm transfers purchasing power from one country to another, obtains or provides credit for international trade transactions, and/or minimizes exposure to the risks of changing exchange rates. (Eiteman, 1998:84).

A.1.4. Market participant

If there were a single international currency, there would be no need for a foreign exchange market. As it is, in any international transaction, at least one party is dealing in a foreign currency. The purpose of the foreign exchange market is to permit transfers of purchasing power denominated in one currency to another—that is, to trade one currency for another currency. For example, a Japanese exporter sells automobiles to a U.S. dealer for dollars, and a U.S. manufacturer sells machine tools to a Japanese company for yen. Ultimately, however, the U.S. company will likely be interested in receiving dollars, whereas the Japanese exporter will want yen. Similarly, an American investor in Swiss-franc-denominated bonds must convert dollars into francs, and Swiss purchasers of U.S. treasury bills require dollars to complete these transactions. It would be inconvenient, to say the least, for individual buyers and sellers of foreign exchange to seek out one another, so a foreign exchange market has developed to act as an intermediary. (Shapiro, 2006:247).

The foreign exchange market consists of two tiers: the interbank or wholesale market, and the client or retail market. Individual transactions in the interbank market usually involve large sums that are multiples of a million U.S. dollars or the equivalent value in other currencies. By contract between a bank and its clients are usually for specific amounts, sometimes down to the last penny. (Eiteman, 1998 : 85).

1. Bank and Nonbank foreign exchange dealers

Banks, and a few nonbank foreign exchange dealers, operate in both the interbank and client market. They profit from buying foreign exchange at a "bid"

price and reselling it at a slightly higher "offer" (also called "ask") price. Competition among dealers worldwide narrows the spread between bid and offer and so contributes to making the foreign exchange market "efficient" in the same sense as securities market.

2. Individuals and firms conducting commercial and investment transactions

Importers and exporters, international portfolio investors, multinational firms, tourists, and others use the foreign exchange market to facilitate execution of commercial or investment transactions. Their use of the foreign exchange market is necessary but nevertheless incidental to their underlying commercial or investment purpose. Some of these participants use the market to "hedge" foreign exchange risk.

3. Speculators and arbitragers

Speculators and arbitragers seek to profit from trading in the market itself. They operate in their own interest, without a need or obligation to serve clients or to ensure a continuous market. Whereas dealers seek profit from the spread between bid and offer in addition to what they might gain from changes in exchange rates, speculators seek all of their profit from exchange rate changes. Arbitragers try to profit from simultaneous exchange rate differences in different market.

4. Central banks and treasuries

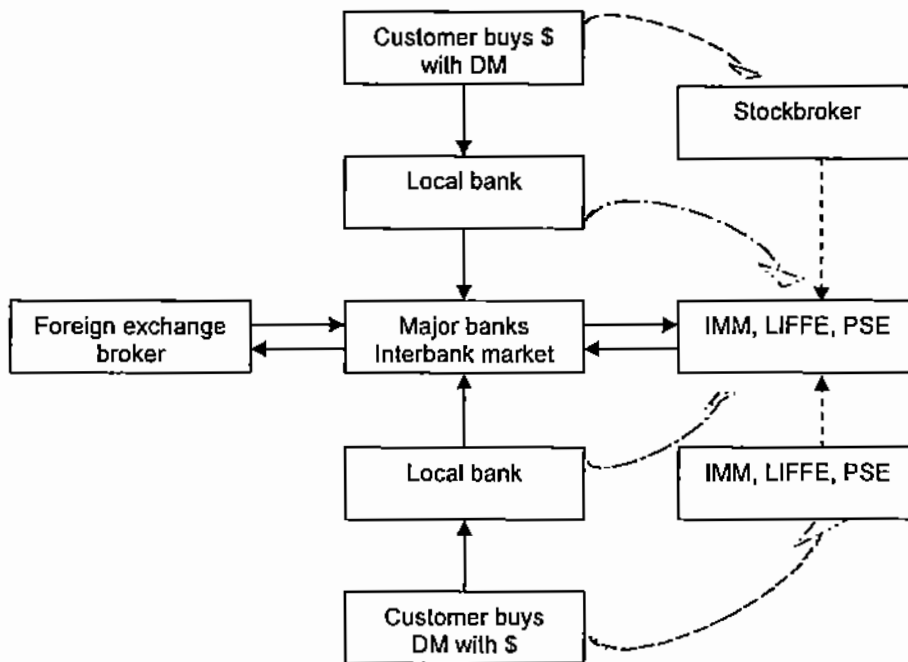
Central banks and treasuries use the market to acquire or spend their countries foreign exchange reserves as well as to influence the price at which their own currency is traded. They may act to support the value of their own currency because of policies adopted at the national level or because of commitments entered into through membership in such joint float agreements as the European Monetary System (EMS).

5. Foreign exchange brokers

Foreign exchange brokers are agent who facilitate trading between dealers without themselves becoming principals in the transaction. For this service they charge a small commission.

The relationship between bank, acting as dealers, and brokers is shown in Figure 2. It is a broker's business to know at any moment exactly which dealers want to buy or sell any currency. This knowledge enables the broker to find a counterparty for a client quickly without revealing the identity of either party until after an agreement has been reached. Dealers use brokers for speed and because they want to remain anonymous, as the identity of participants may influence short-term quotes. (Shapiro 1998:89).

Figure 2.
Structure of Foreign Exchange Markets



Source.: (Shapiro, 1999:145)

A.1.5. A Brief History of the International Monetary System

Almost from the dawn of history, gold has been used as a medium of exchange because its desirable properties. It is durable, storable, portable, easily recognised, divisible, and easily standardized. Another valuable attribute of gold is that short-run changes in its stock are limited by high production costs, making it costly for governments to manipulate. Most important, because gold is

a commodity money, it ensures a long-run tendency toward price stability. The reason is that the purchasing power of an ounce of gold, or what it will buy in terms of all other goods and services, will tend toward equality with its long-run cost of production.(Shapiro, 2006:93).

Madura (2000:59) mentions the foreign exchange market allows currencies to be exchanged in order to facilitate international trade or financial transactions. The system for establishing exchange rates has changed over time. The foreign exchange market provided the physical and institutional structure through which the money of one country is exchanged for that of another country, the rate of exchange between currencies is determined, and foreign exchange transactions are physically completed. Foreign exchange means the money of a foreign country-that is, foreign currency bank balances, banknotes, checks and drafts. A foreign exchange transaction is an agreement between a buyer and seller that a fixed amount of one currency be delivered at a specified rate for some other country. (Eiteman, Stonehill, Moffet, 1998:83).

1. Gold standard

From 1876-1913, exchange rates were dictated by the gold standard. Each currency was convertible into gold at a specified rate. Thus, the exchange rate between two currencies was determined by their relative convertibility rates per ounce of gold. Each country used gold to back its currency.

In 1914, World War I began, and the gold standard was suspended. Some countries reverted to the gold standard in the 1920s but abandoned it as a result of a banking panic in the United States and Europe following the Great Depression. In the 1920s, some countries attempted to peg their currency to the dollar or the British pound, but there were frequent revisions. As a result of the instability in the foreign exchange market and the severe restrictions on international transactions during this period, the volume of international trade declined.

2. Bretton Woods Agreement

In 1944, an arrangement between countries (known as the Bretton Woods Agreement) called for fixed exchange rates between currencies. This arrangement lasted until 1971, as governments would intervene to prevent exchange rates from moving more than 1 percent above or below their initially established levels.

By 1971, the U.S. dollar appeared to be overvalued, since the foreign demand for U.S. dollars was substantially less than the supply of dollars for sale (to be exchanged for other countries). Representatives from the major nations met to discuss how to deal with this dilemma. As a result of this conference, which became known as the Smithsonian Agreement, the U.S. dollar was devalued relative to the major currencies.

4. Floating Exchange Rate System

Even after the Smithsonian Agreement, governments were still having difficulty maintaining exchange rates within the stated boundaries. By March 1973, the more widely traded currencies were allowed to fluctuate in accordance with market forces, and the official boundaries were eliminated.

A.2. Measuring Exchange rate movements

A foreign exchange quotation is a statement of willingness to buy or sell currency at an announced price (Eiteman, Stonehill, Moffet, 1998:103). An exchange rate measures the value of one currency in units of another currency. As economic conditions change, exchange rates can change substantially. A decline in a currency's value is often referred to as depreciation. The increase in a currency value is often referred to as appreciation. (Madura, 2000:97).

When the foreign currency price of the home currency is used, the formula for the percent change in the foreign currency is used. If the comparison of the spot rate of a currency on two difference dates, a direct quote can be used.

The latest date spot exchange rate is the ending rate and the day before exchange rate is beginning rate, therefore, the percentage of change of the currency can be calculated as follows: (Eitemann, Stonehill, Moffet, 1998:102).

$$\% \text{ change of exchange rate} = \frac{\text{Ending rate} - \text{beginning rate}}{\text{Beginning rate}} \times 100$$

For example the ending rate is IDR 9,500/USD and beginning rate is IDR 10,000/USD, the percentage of change is negative 5%.

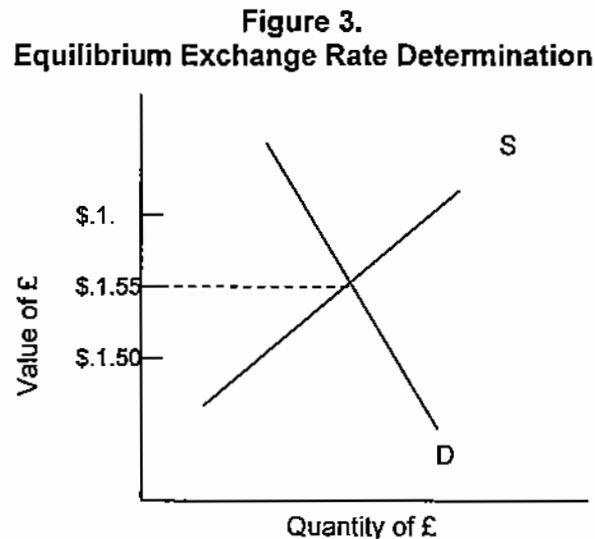
A positive percentage change represents appreciation of the foreign currency, while a negative percentage change represents depreciation. The above measurement is easy, it is more difficult to explain why the value changed or to forecast how it may change in the future. To achieve either of these objectives the concept of an equilibrium exchange rate must be understood, as well as the factors that affect the equilibrium rate. Before considering why an exchange rate changes, realize that an exchange rate at a given point in time represent a price of a currency. Like any other products sold in markets, the price of a currency is determined by the demand for that currency relative to supply. At any point of time, a currency should exhibit the price at which the demand for that currency is equal to supply, and this represents the equilibrium exchange rate. Of course, conditions can change over time, causing the supply or demand for a given currency to adjust, which would force movement in the currency's price. (Madura, 2000: 97-98).

A.2.1. The relationship between the forward rate and the future spot rate

Our current understanding of the workings of the foreign exchange market suggests that in the absence of government intervention in the market, both the spot rate and the forward rate are heavily influenced by current expectations of future events. The two rates move in tandem, with the link between them based on interest differentials. New information, such as a change in interest rate differentials, is reflected almost immediately in both spot and forward rate. (Shapiro, 2006:161).

A.3. Factor that influence exchange rates

The equilibrium exchange rate will change over time as supply and demand schedules change. The factors related to the demand and supply schedules are graphically described in Figure 3.



(Source: Madura, 2000:100)

Financial Manager of a multinational company must continuously monitor the movement of exchange rate as the cash flow depends strongly to the exchange rate value. They need to understand factors that effect the exchange rate so that they can anticipate any condition precisely. According to Eiteman (2004: 166-173), the factor that influence exchange rates is as follows:

1. Balance of Payment (Current Account & Capital Account Balances & Foreign Currency Reserves).

The component of Balance of payment including:

- a. Current Account Balance, is the net balance of export-import and service & transfer from various countries. Current account balance is the total of trade balance sheet, service, export and import, revenue and transfer payment. If current account balance is deficit, this cannot be determined as good or bad, as this is only

reflects the companies trading activities, exporter or importer. Deficit can also be the solution of a difference problem for the tendency of a company to be investor and fund reserve.

- b. Capital Account Balance, having the function to record public and private investment and also loan, this is usually called as investment portfolio, direct investment or short term investment. If there is an increase in Capital Account Balance it means the investment to the country is increased. It shows more cash flow in a foreign currency to the invested country which increase the demand on the foreign currency which make its value appreciated. In reverse, if there is a decrease in Capital Account Balance, it means lot of capital flight that cause the foreign exchange depreciated.
- c. Foreign Currency Reserves, is the reserve owned by a central bank in a country. This Foreign Currency Reserves reflects surplus or deficit on current account balance and capital account balance.

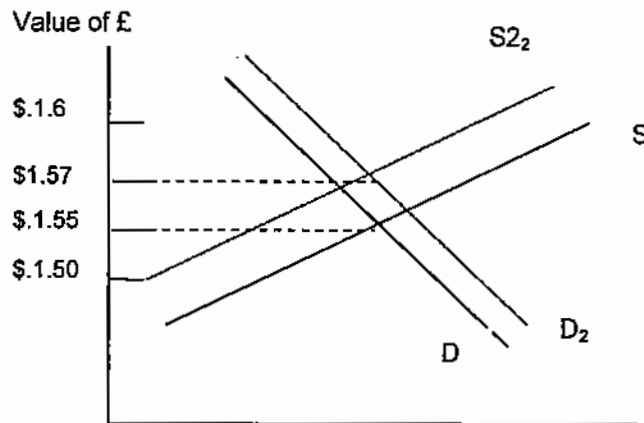
2. Interest rate and inflation

The change on inflation level can impact the international trading activities. It influences supply and demand of a foreign currency then its exchange rate. For example, when the inflation in United States suddenly increase while in United Kingdom remains the same. The high increase in United States reduces the demand on goods of United States in United Kingdom. It makes the reduction to use the supply of Poundsterling (GBP) to sell. The impact of that inflation on equilibrium of GBP is shown in Figure 4.

Changes in relative inflation rates can affect international trade activity, which influences the demand and supply of currencies, and therefore influences exchange rates. In reality, the actual demand and supply schedules, and therefore the true equilibrium exchange rate, will reflect several factors simultaneously. (Madura, 2000:101).

Figure 4.

Impact of Rising U.S. Inflation on the equilibrium Value of the British Pound



Source: Madura, 2000:100) Quantitv of £

3. Government Policy

Madura (2003:114) describes that government of foreign country can impact the equilibrium of exchange rate in some ways such as :

- a. To reduce the limit of exchange rate
- b. To reduce the exchange rate quota
- c. To interference by buying and selling currency in foreign exchange market.
- d. Macro variables, e.g. inflation rate, interest rate and revenue level.

4. Market sentiment / market expectation

The same as in the financial market, the foreign exchange market reacts to any news in the future. The news on fluctuation of inflation rate push the traders of foreign exchange to sell the currency to anticipate their currency value falls. In general, the investors also take the long and short position based on the anticipation of movement in interest rate in various countries.

5. Interaction between factors

Factors connected to the foreign exchange trading and other financial activities sometimes reacts each other. The movement of exchange rate simultaneously can be effected by these factors. An increase of revenue can impact the increase on interest rate. Therefore, although there is an increase

in revenue that can increase import, in other side, indirectly pull the cash flow into because the increase on exchange rate.

A.4. Why Company must forecast the exchange rate?

Every multinational company can be effected by the movement of exchange rate. According to Madura (2003: 266-268), the reasons to forecast the exchange rate are as follows:

1. The decision to hedge

A multinational company is always facing the situation to take decision whether to hedge or not their liabilities or receivables incurred in the future. The decision to hedge or not is based on the forecast of exchange rate.

2. The decision on short term financing

If the company withdraws the loan, it generally executes by various currencies. The borrowed money is ideally having low interest rate and that currency is weakening during the loan period.

3. The decision on short term investment

Company may sometimes have surplus in cash in short term. The big amount deposit can be placed into various foreign currencies that ideally return with high interest rate and strengthen during the placement period of the currency.

4. The decision on capital budgeting

When the parent company of a multinational company considers to invest to the project denominated in a foreign currency, the company will calculate its account that periodically needs the value of exchange rate of the project. The analysis on capital budgeting will be implemented is all estimate on cash flow has been measured in the local currency of the parent company.

5. The decision of long term investment.

The company which issue obligation to guarantee all requirements in long term, will consider the obligation in foreign currency. They prefers to borrow the depreciated foreign currency against the currency they will receive as

sales revenue. To estimate the cost of issue of obligation in foreign currency, it needs a forecast of certain foreign currency.

6. Profit reporting

When the profit reported to the parent company, the profit of subsidiaries to be consolidated and translated to the functional currency of the parent company.

A.5. Quotation

There are some quotations in foreign currencies in foreign exchange markets. The most used is the price of a country compared to other country which is called as Direct Quote but not generally applied to other countries. The professionals of interbank market has made a standardization of quotation system, some of those are as follows: (Eiteman 2004: 80-86).

1. Interbank Quotation

Quotation denominated in an amount of foreign currency to buy one USD, for example AUD 1.003/USD read as Australian dollar per US Dollar. This method is called as European terms. The alternative method is American terms which is denominated in USD when purchase one foreign currency for example USD 0.0013/AUD read as 0.0013 US Dollar per Australian Dollar.

2. Direct and Indirect Quotation

Direct Quotation is home currency/foreign currency, AUD 1.003/USD, is a direct quotation in Indonesia. In reverse, indirect quotation is foreign currency/home currency e.g. 0.0013/AUD is indirect quote in Australia.

3. Bid and Ask Quotation

Quotation inter bank is called with bid price and ask price. Bid price is a price of a currency to purchase another currency. Ask price is a price of a currency to sell to other currency. Ask price is called offer price.

4. Cross Rate

There are some currencies that cannot actively be traded, therefore the exchange rate is determined by other currency that can be traded actively. For example, EUR/AUD, to get the exchange rate of EUR/AUD, it must be compared with AUD/USD with EUR/USD. If it is assumed AUD 1.003/USD and 0.30 EUR/USD, the cross rate for EUR/AUD is AUD 3.34/EUR.

A.6. Exposure

As focus of the thesis review is on operating exposure, we need to understand some definitions lead into depth of the thesis' major topic. Foreign exchange exposure is a potential measurement to a change because of fluctuation on profitability, net cash flow and company's market value.

The general concept of exposure refers to the degree to which a company is affected by exchange rate changes. This impact can be measured in several ways. As so often happens, economists tend to favor one approach to measuring foreign exchange exposure, while accountants favor an alternative approach. Management of accounting exposure centers around the concept of hedging. (Shapiro. 2006:337).

According to Moosa (2004:105), Management of exposure to foreign exchange risk centers on the concept of hedging, which is a process whereby a firm can be protected from unanticipated changes in exchange rates. As business becomes global, firms get increasingly engaged in international activities such as exports, cross-border sourcing, joint venture with foreign partners, and establishing production and sales affiliates abroad. As a result, firms find it necessary to pay careful attention to the exposure to foreign exchange risk and to the design and implementation of appropriate hedging strategies. This is because changes in exchange rates affect the values of cash flows (costs and revenues), assets, liabilities, market share and the competitive position of the firm.

This thesis studies specifically on the dynamic interaction of foreign exchange exposure and management of exposure to shield firm's value, to maximize profits and net cash flow. Shapiro (2006:337-338) has concluded the

three basic types of exposure. Those are translation exposure/accounting exposure, transaction exposure, and operating exposure. Transaction exposure and operating exposure combine to form economic exposure.

- a. Translation exposure, also known as *accounting exposure*, arises from the need for purposes of reporting and consolidation, to convert the financial statements of foreign operations from the local currencies (LC) involved to the home currency (HC). If exchange rates have changed since the previous reporting period, this translation, or restatement of those assets, liabilities, revenues expenses, gains and losses that are denominated in foreign currencies will result in foreign exchange gains or losses. The possible extent of these gains or losses is measured by the translation exposure figures.
- b. Transaction exposure, results from transactions that give rise to known, contractually binding future foreign-currency-denominated cash inflows or outflows. As exchange rates change between now and when transactions settle, so does the value of their associated foreign currency cash flows, leading to currency gains and losses.
- c. Operating exposure measures the extent to which currency fluctuations can alter a company's future operating cash flows, that is, its future revenues and costs. Any company whose revenues or costs are affected by currency changes has operating exposure, even if it is a purely domestic corporation and has all its cash flows denominated in home currency.

The two cash-flow-exposures-operating exposure and transaction exposure- combine to equal a company's economic exposure. In technical terms, economic exposure is the extent to which the value of the firm – as measured by the present value of its expected cash flows – will change when exchange rates change.

This table illustrates and contrasts translation, transaction, and operating exposure. As can be seen, these exposures cannot always be neatly separated but instead overlap to some extent.

Table 2.1.
Comparison of Translation, Transaction and Operating Exposure

Translation Exposure	Operating Exposure
<p>Changes in income statement items and the book value of balance sheet assets and liabilities that are caused by an exchange rate change.</p>	<p>Changes in the amount of future operating cash flows caused by an exchange rate change.</p>
<p>The resulting exchange gains and losses are determined by accounting rules and are paper only. The measurement of accounting exposure is retrospective in nature as it is based on activities that occurred in the past.</p>	<p>The resulting exchange gains or losses are determined by changes to the firm's future competitive position and are real. The measurement of operating exposure is prospective in nature as it is based on future activities.</p>
<p><i>Impacts:</i> Balance sheet assets and liabilities and income statement items that already exist.</p>	<p><i>Impacts:</i> Revenues and costs associated with future sales.</p>
<p>↓</p>	
<p>Exchange rate change occurs</p> <p><i>Impacts:</i> Contracts already entered into, but.....to be settled at a later date</p>	
<p>Transaction Exposure</p>	
<p>Changes in the value of outstanding foreign-currency-denominated contracts (i.e. contracts that give rise to future foreign currency cash flows) that are brought about by an exchange rate change. The resulting exchange gains and losses are determined by the nature of the contracts already entered and are real. The</p>	

measurement of transaction exposure mixes the retrospective and prospective because it is based on activities that occurred in the past but will be settled in the future. Contracts already on the balance sheet are part of accounting exposure, whereas contracts not yet on the balance sheet are part of operating exposure.

Source: Shapiro, Alan C, 2007. Multinational Financial Management, 337

Other exposure known is Tax Exposure that is the tax consequence of foreign exchange exposure varies by the country. As a general rule, however, only realized foreign exchange losses are deductible for purposes of calculating income taxes. Similarly, only realized gains create taxable income. "Realised" means that the loss or gain involves cash flows.

A.6.1. Operating Exposure

This research is now focusing more on operating exposure, also called economic exposure, competitive exposure, or strategic exposure measures any change in the present value of a firm resulting from changes in future operating cash flows caused by any unexpected change in exchange rates (Eiteman, Stonehill, Moffett, 1998:234). Operating exposure analysis assesses the impact of changing exchange rates over coming months and years on a firm's own operations and on its competitive position vis-à-vis other firms. The goal is to identify strategic moves or operating techniques the firm might wish to adopt to enhance its value in the face of unexpected exchange rate changes.

Operating exposure and transaction exposure are related in that they both deal with future cash flows. They differ in terms of which cash flows are observed and why those cash flows change when exchange rates change. Operating exposure of the firm requires forecasting and analyzing all of the firm's future individual transaction exposures together with the future exposures of all of the firm's competitors and potential competitors worldwide.

This research concentrates only to the analysis on how a company manages its operating exposure. Operating exposure measures the changes on company's present value as the effect of change in future operating cash flow resulted from unexpected change in exchange rate. This value change depends

on effect of exchange rate to the sales volume, price and future costs. (Eiteman, Stonehill, Moffett, 2001:193).

Measuring and managing operating currency exposure is difficult at best. Prior research finds that this exposure depended on the characteristics of the industry, firm specific operating activities and the relative strength of parent company vis-à-vis the relevant functional currency (Kim & McElreath, 2001: 9, 1).

According to Shapiro (2007:339), operating exposure measures the extent to which currency fluctuations can alter a company's future operating cash flows, that is, its future revenues and costs. Any company whose revenues or costs are affected by currency changes has operating exposure, even if it is a purely domestic corporation and has all its cash flows denominated in home currency.

Operating exposure is far more important for the long-run health of a business entity than changes caused by transaction or translation of exposure. However, operating exposure is inevitably subjective because it depends on estimates of future cash flow changes over an arbitrary time horizon. Thus operating exposure does not spring from the accounting process but rather derives from economic analysis. Planning for operating exposure is a total management responsibility because it involves the interaction of strategies in finance, marketing, purchasing, and production. (Eiteman, Stonehill, Moffett: 2004 – 196).

All transactions denominated in foreign currency must be reported with spot rate due on selling date or purchase date not in the settlement date, therefore, foreign exchange gain or loss cannot be avoided (unless fixed exchange rate been determined). The cash flows of the multinational firm can be divided into operating cash flows and financing cash flows. : (Eiteman, Stonehill, Moffett, 1998:234).

- Operating cash flows arise from intercompany (between unrelated companies) and intracompany (between units of the same firm) receivables and payables, rent and lease payments for the use of facilities and equipment, royalty and license fees for the use of technology and

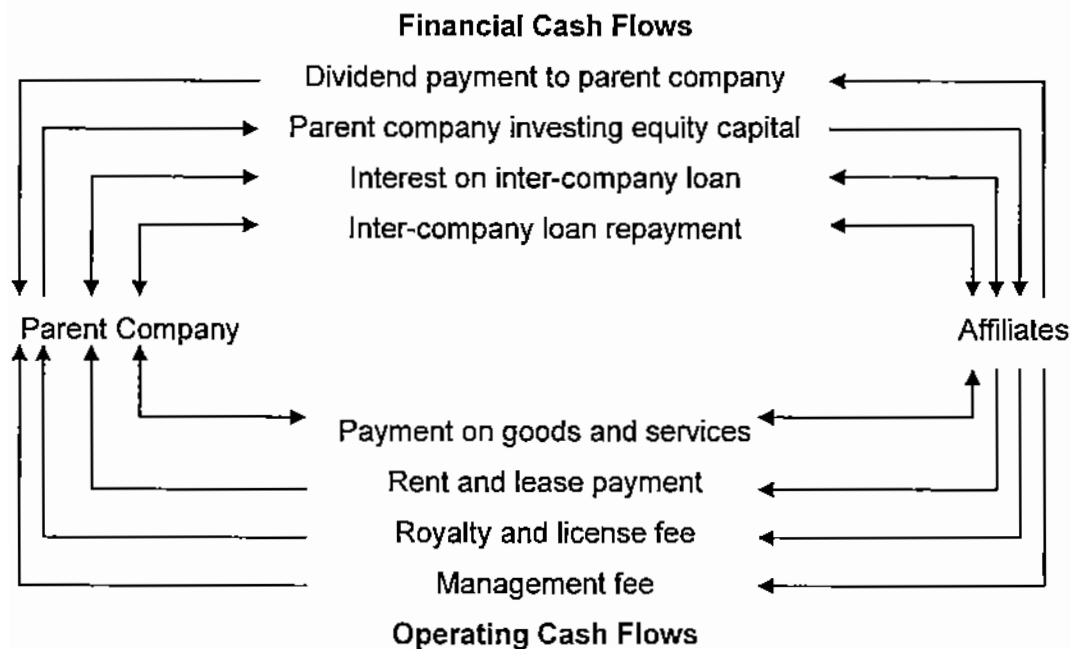
intellectual property, and assorted management fees for services provided.

- Financing cash flows are payment for the use of intercompany and intracompany loans (principal and interest) and stockholder equity (new equity investments and dividends).

Each of these cash flows can occur at different time intervals, in different amounts, in different currencies of denomination, and has a different predictability of occurrence. An unexpected change in exchange rates impacts a firm's expected cash flows at four levels, depending on the time horizon used. (Eiteman, Stonehill, Moffett, : 1998 – 237). Summary of these cash flows as shown in Figure 5.

Figure 5.

Financial and operating cash flows in the parent company and its affiliates.



Source: Eiteman, Stonehill, Moffett, : 2004 – 194

From an investor's perspective, if the foreign exchange market is efficient, information about expected changes in exchange rates should be widely known and thus reflected in a firm's market value. Only unexpected changes in

exchange rate, or an inefficient foreign exchange market, should cause market value to change. From a broader perspective, operating exposure is not just the sensitivity of a firm's future cash flows to unexpected changes in foreign exchange rates, but also its sensitivity to other key macroeconomic variables. This factor has been labeled as macroeconomic uncertainty. (Eiteman, Stonehill, Moffet, 1998:235).

1. Short Run

The first-level impact is no expected cash flows in the one-year operating budget. The gain or loss depends on the currency of denomination of expected cash flows. The currency of denomination cannot be changed for existing obligations, such as those defined by transaction exposure, or even for implied obligations such as purchase or sales commitments. Apart from real or implied obligations, in the short run it is difficult to change sales prices or renegotiate factor costs. Therefore realized cash flows will differ from those expected in the budget. As time passes, however, prices and costs can be changed to reflect the new competitive realities caused by a change in exchange rates.

2. Medium Run : Equilibrium Case

The second-level impact is on expected medium-run cash flows, such as those expressed in two- to five-year budgets, assuming parity conditions hold among foreign exchange rates, national inflation rates, and national interest rates. Under equilibrium conditions the firm should be able to adjust prices and factor costs over time to maintain the expected level of cash flows. In this case the currency of denomination of expected cash flows is not as important as the countries in which cash flows originate. National monetary, fiscal and balance of payments policies determine whether equilibrium conditions will exist and whether firms will be allowed to adjust prices and costs.

If equilibrium exists continuously, and a firm is free to adjust its prices and costs to maintain its expected competitive position, its operating exposure may be zero. Its expected cash flows would be realized and therefore its market value unchanged, since the exchange rate change was anticipated. However,

it is also possible that equilibrium conditions exist but the firm is unwilling or unable to adjust operations to the new competitive environment. In such a case the firm would experience operating exposure because its realized cash flow would differ from expected cash flows. As a result, its market value might also be altered.

3. Medium Run : Disequilibrium Case

The third-level impact is on expected medium-run cash flows assuming disequilibrium conditions. In this case, the firm may not be able to adjust prices and costs to reflect the new competitive realities caused by a change in exchange rates. The firm's realized cash flows will differ from its expected cash flows. The firm's market value may change because of the unanticipated results.

4. Long run

The fourth-level impact is on expected long-run cash flows meaning those beyond five years. At this strategic level a firm's cash flows will be influenced by the reactions of existing and potential competitors to exchange rate changes under disequilibrium conditions. In fact, all firms that are subject to international competition, whether they are purely domestic or multinational, are exposed to foreign exchange operating exposure in the long run whenever foreign exchange markets are not continuously in equilibrium.

Operating exposure depends on the structures of the markets in which the firm sells its products and sources its inputs. Specifically in the local currency appreciates, the change in the cash flow is zero if there is free trade in the output and input market, and operates in a free trade input market. Changes in cash flows are unambiguously negative if free trade in products exists, but the input market is protected; or if the foreign affiliate in a exporter and operates in segmented products and input markets, which is more realistic. The effect is ambiguous (more likely to be positive) if the foreign affiliate provides import-competing products in segmented product and input markets. (Karikari, Collins, 1989:29,3).

The impact of the firm's competitive position on its operating exposure is a very important one. A firm's operating exposure is largely determined by: (Flood, Lessard, 1986:15,1).

- a) The structure of the markets in which the company sells its products, and
- b) The structure of the markets in which the company (and its competitors) purchase their inputs

Market structure will, in turn, determine

- a) The currency habitat of the price of goods, and
- b) Quantity impacts (unit sale or purchases).

When the first factor, which describes the price movements, is combined with the second factor, quantity impacts, this fully describes the revenues, costs, and profits.

The dynamic and complex nature of dealing with operating currency exposure makes it difficult to understand it full. Typical rigorous academic research investigates mainly the major economic factors and the effect on firm value analyzing firms by industry, firm specific characteristics and changes in exchange rates. While there are certain common factors across firms, one of the best way of understanding operating exposure would be to look at detailed events by focusing on a case study. (Kim, Mc.Elreath, 2001:9,1).

A.6.2. Managing operating exposure at the strategic level through diversification

According to Eiteman (1998:244-245), the objective of both operating and transaction exposure management is to anticipate and influence the effect of unexpected changes in exchange rates on a firm's future cash flows, rather than merely hoping for the best. To meet this objective, management can diversify the firm's operating and financing base. Management can also change the firm's operating and financing policies.

The key to managing operating exposure at the strategic level is for management to recognize a disequilibrium in parity conditions when it occurs and

to be positioned to react in the most appropriate way. This task can best be accomplished if a firm diversifies internationally both its operating and its financing bases. Diversifying operations means diversifying sales, location of production facilities, and raw material sources. Diversifying the financing base means raising funds in more than one capital market and in more than one currency.

Depending on management's risk preference, a diversification strategy permits the firm to react either actively or passively, to opportunities presented by disequilibrium conditions in the foreign exchange, capital and product markets. Such a strategy does not require management to consider how competitors are positioned with respect to their own operating exposures. This knowledge should reveal which firms would be helped or hurt competitively by alternative disequilibrium scenarios.

A.6.3. Managing operating exposure by changing operating policies

Operating and transaction exposures can be partially managed by adopting policies that deviate from normal domestic-oriented policies but have the virtue of reducing foreign exchange exposure. The cost of adopting such policies is less obvious than the cost of contractual arrangements because operations may become less efficient, but sometimes rethinking operating procedures leads to new efficiencies that were previously not discovered. The operating policies commonly employed to manage operating and transaction exposures as follows: Eiteman (2004:254)

1. Matching currency cash flow
2. Risk sharing agreement
3. Back to back parallel loans
4. Currency swap

A.6.3.1. Matching Currency Cash Flow

One way to offset an anticipated continuous long exposure to a particular currency is to acquire debt denominated in that currency. To compete effectively in one country, all export sales are invoiced in the country's currency e.g. dollar.

This policy results in a continuing receipt of the currency month after month. If the export sales are part of continuing supplier relationship, the long dollar position is relatively predictable and constant. This endless series of transaction exposures could, of course, be continually hedged with the forward contracts or other contractual hedges.

A.6.3.2. Risk Sharing Agreement

An alternative arrangement for managing a long-term cash flow exposure between firms with a continuing buyer-supplier relationship is risk sharing. Risk sharing is a contractual arrangement in which the buyer and seller agree to "share" or split currency movement impacts on payment between them. If the two firms are interested in a long-term relationship based on product quality and supplier reliability, and not on the occasional unpredictable and potentially painful whims of the currency markets, a cooperative agreement to share the burden of currency risk management may be in order.

A.6.3.3. Back-to-Back Loans

Back-to-Back Loans also referred to as a parallel loan or credit swap loan, involves two business firms in separate countries arranging to borrow one another's currency for a specific period of time. At a agreed terminal date they return the borrowed currencies. The operation is conducted outside the foreign exchange markets although spot quotations may be used as the reference point for determining the amount of funds to be swapped.

One fundamental impediment exists to widespread use of the back-to-back loan: It is difficult for a firm to find a partner, termed a counterparty, for the currency, amount, and timing desired. This disadvantage has led to the rapid development and wide use of the currency swap.

A.6.3.4. Currency Swaps

A currency swap resembles a back-to-back loan except that it does not appear on a firm's balance sheet. Swap is widely used to describe a foreign exchange agreement between two parties to exchange a given amount of one currency for another and, after a period of time, to give back the original amounts swapped. Care should be taken to clarify which of the many different swaps is being referred to in a specific case.

In a currency swap, a firm and a swap dealer or swap bank agree to exchange an equivalent amount of two different currencies for a specified period of time. Currency swaps can be negotiated for a wide range of maturities up to at least 10 years. If funds are more expensive in one country than another, a fee may be required to compensate for the interest differential. The swap dealer or swap bank acts as a middleman in setting up the swap agreement.

A.7. Hedging

Jones (1998: 537) defines hedge as a strategy using derivatives to offset or reduce the risk resulting from exposure to an underlying asset. A hedge is a combination of an option and its underlying stock designed such that the option protects the stock against loss or the stock protects the option against loss.

Hedging can also be defined differently for other financial instrument as described by Shapiro (2007:337), hedging is a particular currency exposure means establishing an offsetting currency position so that whatever is lost or gained on the original currency exposure is exactly offset by a corresponding foreign exchange gain or loss on the currency hedge. Regardless of what happens to the future exchange rate, therefore, hedging locks in a home currency, e.g. dollar value, for the currency exposure. In this way, hedging can protect a firm from foreign exchange risk, which is the risk of valuation changes resulting from unforeseen currencies movements.

In perfect markets, hedging will not affect firm value. Theories of risk management provide four motives for corporate hedging (Supanvanij, Strauss, 2007:479):

1. Alleviating the underinvestment problem
2. lowering expected costs of financial distress
3. reducing expected taxes, and
4. reducing the manager's personal risk exposure, particularly when management owned stock.

For the first three motives, managers hedge to maximize shareholders' wealth. The last motive implies that managers hedge to maximize their wealth.

In general, firm in dealing with international transaction having receivable or payable in multiple foreign currency. To determine the necessity of hedging on receivable and/or payable in a currency, the most important thing to consider is its fluctuation (appreciated or depreciated). See table 2.2.. (Hady,1999:31).

Table 2.2
Foreign Exchange hedging matrix

Hedging	Foreign Exchange	
	Appreciated (FR>SR)	Depreciated (FR<SR)
Receivable (inflows)	(-) not necessary	(+) necessary
Payable (outflows)	(=) necessary	(-) necessary

Notes : FR = Forward rate

SR = Spot rate

It is noted that:

1. If firm's receivable in a currency predicted to be appreciated (FR>SR), hedging will not be done. In reverse, if the currency is depreciated (FR<SR), hedging must be done.
2. If the firm's payable in a currency predicted to be appreciated (FR>SR) hedging must be done. When depreciated (FR<SR), no hedging.

If both receivable and payable are in the same currency with equal amount or value, hedging will not be done. But if value and amount are different, hedging will be done on the difference of both.

The following elements are suggested for an effective exposure management strategy (Shapiro, 2006:344).

1. Determine the types of exposure to be monitored
2. Formulate corporate objectives and give guidance in resolving potential conflicts in objectives.
3. Ensure that these corporate objectives are consistent with maximizing shareholder value and can be implemented.
4. Clearly specify who is responsible for which exposures, and detail the criteria by which each manager is to be judged.
5. Make explicit any constraints on the use of exposure-management techniques, such as limitations on entering into forward contracts.
6. Identify the channels by which exchange rate considerations are incorporated into operating decisions that will affect the firm's exchange risk posture.
7. Develop a system for monitoring and evaluating exchange risk management activities.

Some techniques on currency hedging to anticipate foreign exchange exposure is (Eiteman, Stonehill, Moffet, 1998:194-198):

1. Forward hedge

A "forward hedge" involves a forward (or futures) contract and a source of funds to fulfill that contract. The forward contract is entered into at the time the transaction exposure is created.

In forward market hedge, a company that is long a foreign currency will sell the foreign currency forward, whereas a company that is short a foreign currency will buy the currency forward. In this way, the company can fix the dollar value of future foreign currency cash flow. (Shapiro, 2006:357).

2. Money market hedge

Like a forward market hedge, a money market hedge involves a contract and a source of funds to fulfill that contract. In this instance the contract is a loan agreement. The firm seeking the money market hedge borrows in one currency and exchanges the proceeds for another currency. Funds to fulfill the contract—that is, to repay the loan—may be generated from business operations, in which case the money market hedge is “uncovered” or “open”.

The equality of the net cash flow from the forward market and money-market hedge is not coincidental. The interest rates from forward and spot rate were selected so that interest rate parity would hold. In effect, the simultaneous borrowing and lending transactions associated with a money-market hedge enable a company to create a “home-made” forward contract. The effective rate on this forward contract will equal the actual forward rate if interest rate parity holds. Otherwise a covered interest arbitrage opportunity would exist. In reality, there are transaction costs associated with hedging: the bid-ask spread on the forward contract and the difference between borrowing and lending rates. These transaction costs must be factored in when comparing a forward contract with a money market hedge. (Shapiro:359-360).

3. Futures hedge

Currency futures can be used by firms that desire to hedge transaction exposure. A futures contract hedge is very similar to that of a forward contract except that forward contracts are common for large transactions, whereas futures contracts may be more appropriate for firms that prefer to hedge in smaller amounts. Also, futures contracts represent a standardized number of units for each currency.

4. Option market hedge

Firm can cover its exposure by purchasing a put option. This technique allows the firm to speculate on the upside potential for appreciation of a currency while limiting downside risk to a known amount. There will be two options quoted in the beginning, at-the-money or on-the money option market hedge.

5. Currency range agreement, including:
 - a. Neutral zone
 - b. Sharing zone
 - c. Renegotiation zone

Any transaction denominated in foreign currency is noted in the balance sheet at spot exchange rate due on the entry date. If this transaction settled in a future period with different spot exchange rate, the difference between settlement rate and rate on entry date is the foreign exchange gain (loss). If total foreign exchange gain (loss) considered important by management and independent auditor, an item line is created to identify total currency gain (losses) for certain period in income statement. If it is immaterial, gain (loss) is normally included in other expenses.

As there is difference on spot exchange rate and forward rate resulted from interest rate difference of two currencies, gain (loss) resulted from a forward contract is categorized as forward interest expenses. This expense, in general, is significant for the firm with outstanding foreign currency transaction at the end of the year when producing financial statement.

Many multinational firms now attempt to hedge their operating exposure with contractual strategies. Firms like these, have undertaken long-term currency option hedges designed to offset lost earnings from adverse exchange rate changes. This hedging of what many of these firms refer to as strategic exposure or competitive exposure seemingly flies in the face of traditional theory. (Eiteman, Stonehill, Moffett, 1998 :257-258).

The ability of firms to hedge the "unhedgeable" is dependent on predictability:

- 1) The predictability of the firm's future cash flows; and
- 2) The predictability of the firm's competitors' responses to exchange rate changes.

Although many firms may believe they are capable of predicting their own cash flows, few in practice feel capable of accurately predicting competitor response.

A company which possesses relatively predictable long-run revenue streams due to the product-niche nature of the pharmaceutical industry, markets in which sales levels by product are relatively predictable and prices are often regulated by government, it can accurately predict net long-term cash flows in foreign currencies five and ten years into the future. Also if the company relatively undiversified operating structure (it is highly centralized in terms of where research, development, and production costs are located), if feels it has no real alternatives but contractual hedging if it is to weather long-term put options on foreign currencies versus the dollar as insurance against potential lost earnings from exchange rate changes.

The effectiveness to hedge operating exposure by contractual hedging is rather doubtful as, in fact, after fluctuation and there is put option position payoff, company suffers lost. The capital disbursement to buy put option position is an idle capital intended to be used for diversification of potential operation which is in long term can effectively hold company's position in global market share and competitive international position.

There is no obligation for a company to hedge their currency risk. Theoretically, hedging reduces cash flow volatility. Not increasing cash flow value, hedging cost potentially reducing cash flow.

When there are imperfections in capital markets, corporate hedging can enhance shareholder value through its impact on agency costs, costly external financing, direct and indirect costs of bankruptcy, as well as taxes. More specifically, corporate hedging can alleviate underinvestment and asset substitution problems by reducing the volatility of cash flows, and it can accommodate the risk aversion of undiversified managers and increase the effectiveness of managerial incentive structures through eliminating unsystematic risk. Lower volatility of cash flows also leads to lower bankruptcy costs.

Moreover, corporate hedging can also align the availability of internal resources with the need for investment funds, helping firms to avoid costly external financing. Finally corporate risk management can reduce the corporate tax burden in the presence of convex tax schedules. (Aretz, Bartram, Dufey. 2007:1).

A.7.1. Why Hedge and not hedge?

Multinational firms possess a multitude of cash flows that are sensitive to changes in exchange rates, interest rates, and commodity prices. These three financial price risks are the subject of the growing field of financial risk management. (Eiteman, 1998:188). Many firms attempt to manage their currency exposures through hedging. Hedging protects the owner of the existing asset from loss.

The most frequently occurring objectives, explicit and implicit, in management behavior include the following: (Shapiro, 2006:345)

1. Minimize translation exposure.

This common goal necessitates a complete focus on protecting foreign-currency-denominated assets and liabilities from changes in value due to exchange rate fluctuations. Given that translation and transaction exposures are not synonymous, reducing the former could cause an increase in the latter (and vice versa).

2. Minimize quarter-quarter (or year-to-year) earnings fluctuations owing the exchange rate changes. This goal requires a firm to consider both its translation exposure and its transaction exposure.

3. Minimize transaction exposure. This objective involves managing a subset of the firm's true cash-flow exposure.

4. Minimize economic exposure. To achieve this goal, a firm must ignore accounting earnings and concentrate on reducing cash-flow fluctuations stemming from currency fluctuations.

5. Minimize foreign exchange risk management costs. This goal requires a firm to balance off the benefits of hedging with its costs. It also assumes risk neutrality.

6. Avoid surprises. This objective involves preventing large foreign exchange losses.

But there are opponents of currency hedging. The following arguments are as follows: (Eiteman, 1998:189).

1. Stockholders are much more capable of diversifying currency risk than the management of the firm.
2. Currency risk management does not add value to the firm. It does, however, use precious resources of the firm, which leads to a net reduction in value.
3. Management often conducts hedging activity that benefits management at the expense of the stockholders.
4. Managers cannot outguess the market. If and when markets are in equilibrium with respect to parity conditions, the expected net present value of the hedging is zero.
5. Management's motivation to reduce variability is sometimes driven by accounting reason.
6. Efficient market theorists believe that investors can see through the "accounting veil" and therefore have already factored the foreign exchange effect into a firm's market valuation.

A.7.2. Limitations of Hedging

There are some limitations of hedging as follows: (Madura, 2000:325)

- Limitation of hedging an uncertain amount.
Some international transactions involve an uncertain amount of goods ordered and therefore involve an uncertain transaction amount in a foreign currency. A solution to avoid overhedging is to hedge only the minimum known amount in the future transaction. For example, if the future receivables may be as low as £200,000, the firm could hedge this amount. However, under these conditions the firm may not have completely hedged its position. If the actual transaction amount turns out to be £300,000 as expected, the firm will be only partially hedged and will need to sell the extra £100,000 in the spot market.

- Limitation of repeated short-term hedging

The continual hedging of repeated transactions that are expected to occur in the near future has limited effectiveness over the long run.

A.8. Forward Contract

In this thesis, one of hedging tools to be analysed is forward contract. To understand forward contract, definition of forward market is leading us to forward contract.

Forward market means foreign exchange market in which its sale and purchase transaction using forward rate. The rate is fixed now but fall due in the future period between more than 2x24 hours to normally 1 year or 12 months. (Hady, 1999:29-30).

Firms, banks and government use forward market rate to produce forward contract in order to shield their trading transaction and international finance from the risk of loss. From the broker's side, it is to seek gain of foreign exchange rate fluctuation.

Firm is selecting forward contract which is one of hedging tool to avoid any loss risk because of fluctuation on foreign exchange rate namely as foreign exchange exposure.

The major participants in the forward market can be categorized as arbitrageurs, traders, hedgers, and speculators. *Arbitrageurs* seek to earn risk-free profits by taking advantage of differences in interest rates among countries. They use forward contracts to eliminate the exchange risk involved in transferring their funds from one nation to another (Shapiro, 1999:144).

1. *Traders* use forward contracts to eliminate or cover the risk of loss on export or import orders that are denominated in foreign currencies. More generally, a forward-covering transaction is related to a specific payment or receipt expected at a specified point in time.

2. *Hedgers*, mostly multinational firms, engage in forward contracts to protect the home currency value of various foreign currency-denominated assets and liabilities on their balance sheets that are not to be realized over the life of the contracts. (Shapiro, 2006:251).
3. Arbitrageurs, traders and hedgers seek to reduce (or eliminate, if possible) their exchange risks by “locking in” the exchange rate on future trade or financial operations.

In contrast to these types of forward market participants, *speculators* actively expose themselves to currency risk by buying or selling currencies forward in order to profit from exchange rate fluctuations. Their degree of participation does not depend on their business transactions in other currencies; instead, it is based on prevailing forward rates and their expectations for spot exchange rates in the future.

Arbitrage traditionally has been defined as the purchase of assets or commodities on one market for immediate resale on another in order to profit from a price discrepancy. In a broader context, risk arbitrage, or speculation, describes the process that leads to equality of risk-adjusted returns on different securities, unless market imperfections that hinder this adjustment process exist.

The concept of arbitrage is of particular importance in international finance because so many of the relationships between domestic and international financial markets, exchange rates, interest rates, and inflation rates depend on arbitrage for their existence. In fact, it is the process of arbitrage that ensures market efficiency.

Forward contracts gives the owner the right and obligation, to buy or to sell a given security stock at a specified price on (or perhaps before) a specified date. It is an agreement in which one party obliges to transfer contract size of deliverable item/an asset on the settlement date and the other party obliges to pay the invoice amount on the asset at a certain date. The contract's purpose is

to protect each both parties from the fluctuation of asset's value on a period e.g. from the signing date up to settlement or date to transfer the property. (Siahaan, Manurung, 2007:29).

Shapiro (2007:265) describes forward contract between a bank and a customer (which could be another bank) calls for delivery at a fixed future date, of a specified amount of one currency against, for example, dollar payment; the exchange rate is fixed at the time the contract is entered into. Although the Euro is the most widely traded currency at present, active forward market exist for the pound sterling, the Canadian dollar, the Japanese yen, and the Swiss franc. In general, forward markets for the currencies of less-developed countries (LDC) are either limited or nonexistent.

Forward contract is sold outside stock exchange or over-the-counter market. (Siahaan, Manurung, 2007:24) Brief description is as follows:

Table 2.3.
Brief description on forward contract

Description	Characteristic
<ul style="list-style-type: none"> ▪ an agreement of two parties to buy and sell an asset at a certain date and at a certain price in the future agreed on the contract's signing date ▪ Transaction is via broker by phone or telex ▪ Generally used to determine price in the future 	<ul style="list-style-type: none"> ▪ No payment in the beginning of the transaction. It is executed when falls due ▪ There is credit risk ▪ Contract is made based on each party's interest. It is used for hedging ▪ Available contract is for short term security (maximum 1 year)

A.9. Forecasting Techniques and Evaluation of Forecast Performance

A.9.1. Forecasting Techniques

Forecasting exchange rates has become an occupational hazard for financial executives of multinational corporations. The potential for periodic and unpredictable government intervention makes currency forecasting all the more difficult. But this difficulty has not dampened the enthusiasm for currency forecasts or the willingness of economists and others to supply them. Unfortunately, however, enthusiasm and willingness are not sufficient conditions for success. (Shapiro, 2006: 165).

Requirement for successful currency forecasting.

Currency forecasting can lead to consistent profits only if the forecaster meets at least one of the following four criteria. The successful forecaster (Shapiro, 2006: 165).

- Has exclusive use of a superior forecasting model
- Has consistent access to information before other investors
- Exploits small, temporary deviations from equilibrium
- Can predict the nature of government intervention in the foreign exchange market.

The first two conditions are self-correcting. Successful forecasting breeds imitators, while early access to information is unlikely to be sustained in the highly informed world of international finance. The third situation is how foreign exchange traders actually earn their living, but deviations from equilibrium are not likely to last long. The fourth situation is the one worth searching out. Countries that insist on managing their exchange rates and are willing to take losses to achieve their target rates present speculators with potentially profitable opportunities. Simply put, consistently profitable predictions are possible in the long run only if it is not necessary to outguess the market to win. (Shapiro, 2006:166).

The numerous methods available for forecasting exchange rates can be categorized into four general groups (Madura, 2000:244) as follows:

a. Technical Forecasting

It involves use of historical exchange rate data to predict future values. For example, the fact that a given currency has increased in value over four consecutive days may provide an indication of how the currency will move tomorrow.

Company tends to use this technique with limited purpose as technical forecasting is focusing on short term of the future time, it does not help company to develop its policy. Therefore this technique cannot be used as a forecast tool. This technical factor is usually to be the main reason to change the speculative position that cause the movement of exchange rate.

Mostly headline news are connected to the movement of exchange rate with technical factors, those are as follows:

- Technical factors on economic news.
- Technical factors cause the selling of a currency
- Technical factors indicate the currency oversold that cause buying of the currency.

From the example above mentioned it seems that technical forecasting generally used by speculative party to capitalize the movement of exchange rate day to day.

Technical analysis is the antithesis of fundamental analysis in that it focuses exclusively on past price and volume movements – while totally ignoring economic and political factors – to forecast currency winners and losers. Success depends on whether technical analysts can discover price patterns that repeat themselves and are, therefore, useful for forecasting.

There are two primary methods of technical analysis: charting and trend analysis. Chartists examine bar charts or use more sophisticated computer based extrapolation techniques to find recurring price patterns. They then issue buy or sell recommendations if prices diverge from their past pattern. Trend following systems seek to identify price trends via various mathematical computations. (Shapiro, 2006:169)

b. Fundamental Forecasting

Fundamental analysis is the most common approach to generating model-based forecasts of future exchange rates. It relies on painstaking examination of the macroeconomic variables and policies that are likely to influence a currency's prospects. The variables examined include relative inflation and interest rates, national income growth, and changes in money supplies. The interpretation of these variables and their implications for future exchange rates depend on the analysis model of exchange rate determination. (Shapiro, 2006:168)

It is based on fundamental relationships between economic variables and exchange rates. Given current values of these variables along with their historical impact on a currency's value, corporations can develop exchange rate projections. For example, high inflation in a given country can lead to depreciation in the currency representing that country. Of course, all other factors that may influence exchange rates also should be considered. (Madura, 2000:246)

The regression equation can be defined as :

$$BP_t = b_0 + b_1 INF_{t-1} + b_2 INC_{t-1} + \mu_t$$

Where

b_0 is a constant

b_1 measures the sensitivity of BP_t to changes in INF_{t-1}

b_2 measures the sensitivity of BP_t to changes in INC_{t-1} and

μ_t represents an error term.

Use of Sensitivity Analysis for Fundamental forecasting

When a regression model is used for forecasting, and the values of the influential factors have a lagged impact on exchange rates, the actual value of those factors can be used as input for the forecast. For example, if the inflation differential in the previous period may be used to forecast the percentage change in the exchange rate over the future period. However, some factors may have an instantaneous influence on exchange rates. Since these factors are not known, forecasts must be used. Firms recognize that poor forecast of these factors can cause poor forecasts of the exchange rate movements, so they may attempt to account for the uncertainty by using sensitivity analysis, in which more than one possible outcome is considered for the factors exhibiting uncertainty.(Madura 2000:247)

Use of Purchasing Power Parity (PPP) for fundamental forecasting

Recall that the theory of purchasing power parity (PPP) specifies the fundamental relationship between the inflation differential and the exchange rate. In simple terms, PPP states that the currency of the relatively inflated country will depreciate by an amount that reflects that country's inflation differential.(Madura, 2000: 250).

In reality, the inflation rates of the two countries over an upcoming period are uncertain and therefore would have to be forecasted when using PPP to forecast the future exchange rate at the end of the period. This complicates the use of PPP to forecast future exchange rates. Even if the inflation rates in the upcoming period were known with certainty, PPP might not be able to forecast exchange rates accurately.

If the PPP theory were accurate in reality, there would be no need to even consider alternative forecasting techniques. However, using the inflation differential of two countries to forecast their exchange rate is not always accurate. Problems arise because (1) the timing of the impact of inflation fluctuations on changing trade patterns, and therefore on exchange rates, is not known with

certainty, (2) data used to measure relative prices of two countries may be somewhat inaccurate, (3) barriers to trade can disrupt the trade patterns that should emerge in accordance with PPP theory and (4) other factors, such as the interest rate differential between countries, can also affect exchange rates. For these reasons, the inflation differential by itself is not sufficient to accurately forecast exchange rate movements. Yet, it should be included in any fundamental forecasting model. (Madura, 2000:250)

Limitations of Fundamental Forecasting

While fundamental forecasting accounts for the expected fundamental relationships between factors and currency values, the following limitations exist:

- uncertain timing of impact
- forecasts needed for factors with instantaneous impact
- omission of other relevant factors from model
- Change in sensitivity of currency movements to each factor over time.

c. Market based forecasting

The empirical evidence on these relationships implies that, in general, the financial market of developed countries efficiently incorporate expected currency changes in the cost of money and forward exchange. This means that currency forecasts can be obtained by extracting the predictions already embodied in interest and forward rates. (Shapiro, 2006: 166).

The process of developing forecasts from market indicators, known as market based forecasting, is usually based on either (1) the spot rate or (2) the forward rate (2). (Madura, 2000:251).

Use the Spot Rate

Corporations can use the spot rate to forecast, since it represents the market's expectation of the spot rate in the near future.

Use the Forward Rate

Forward rate offered in the certain future date generally can be used to forecast the spot rate in future. It is speculation that helps to push the forward rate to the level that reflects the general expectation of the future spot rate. If corporations are convinced that the forward rate is a reliable indicator of the future spot rate, they can simply monitor this publicly quoted rate to develop exchange rate projections. (Madura, 2000:251).

Market based forecasts of exchange rate changes can be derived mostly simply from current forward rates. Specifically, the forward rate for one period from now, will usually suffice for an unbiased estimate of the spot rate of that date. (Shapiro, 2006:166).

d. Mixed Forecasting

Because no single forecasting technique has been found to be consistently superior to the others, some MNCs may prefer to use a combination of forecasting technique. This method is referred to as mixed forecasting. Various forecasts for a particular currency value could be developed using several forecasting techniques. Each of the techniques used could be assigned weights in such a way that the weights totaled 100 percent, with the techniques thought to be more reliable being assigned higher weights. The actual forecast of the currency by the MNC would be a weighted average of the various forecasts developed. (Madura: 2000, 252).

A.9.2. Evaluation of Forecast Performance

An MNC that forecasts exchange rates must monitor its performance over time to determine whether the forecasting procedure is satisfactory. For this purpose, a measurement of the forecast error is required.

There are various ways to compute forecast errors. (Madura, 2000: 254). Only one possible measurement will be discussed here and is defined as follows:

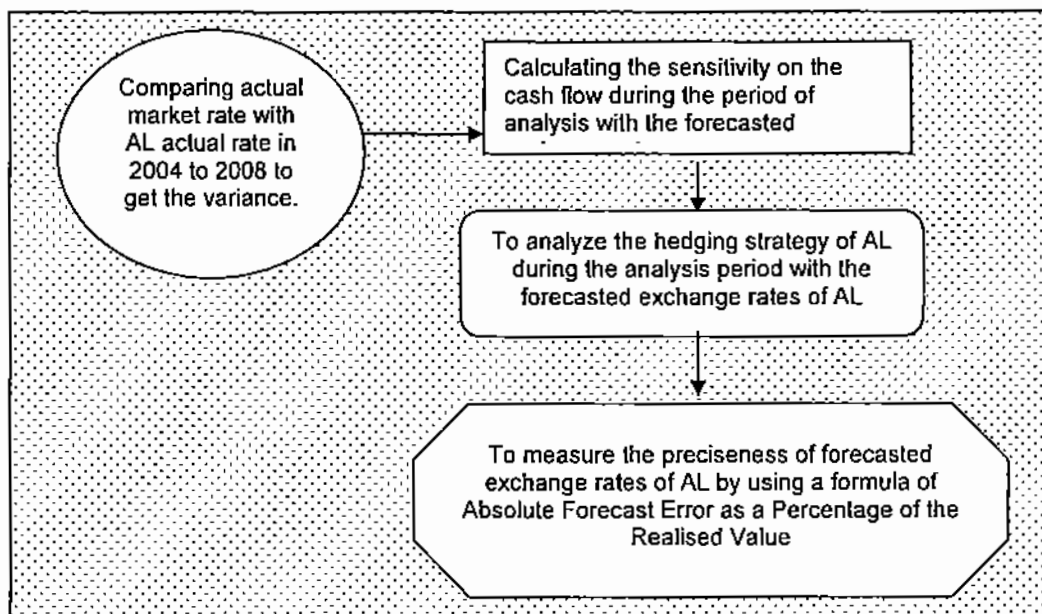
$$\text{Absolute forecast error as a percentage of the realised value} = \frac{\text{Forecasted Value} - \text{Realised Value}}{\text{Realised Value}}$$

The error is computed using an absolute value, since this avoids a possible offsetting effect when determining the mean forecast error. For example, consider a simplified example, in which the forecast error is 0.05 in the first period and -0.05 in the second period (if the absolute value is not taken). The mean error here over the two periods is zero. Yet, that is misleading because the forecast was not perfectly accurate in either period. The absolute value avoids such a distortion. When measuring forecast performance of different currencies, it is often useful to adjust for their relative sizes, so forecasting ability can be compared among currencies. (Madura, 2000:255).

B. Steps of Data Analysis

The technique to analyze the operating exposure of Amcor in the period of 2004 to 2008 is using the formula to analyse sensitivity analysis for both exchange rate USD/AUD and EUR/AUD and formula of absolute forecast error as a percentage of the realised value.

Figure 7



C. Concept Operational Grounded on Studies of Others

Unlike transaction and accounting exposure, managing operating exposure involves all the aspects of a corporation, including financial, marketing, management, production, and others (Shapiro: 1996). Choi (1989) pointed out that international investment is one of major instruments of managing operating exposure. Kim (1997), by analyzing stock price reaction from foreign operating, showed empirically that managing real exchange risk and gains from diversification are major motivations of corporate international investment. The dynamic interaction of currency exposure and management of exposure makes it difficult to understand the full nature of operating exposure. A case study would demonstrate the intricate nature of operating exposure by listing various measures of managing currency in detail. The purpose is to present the complex nature of operating exposure of the industry in general.

D. Research Method

This research uses the secondary data e.g. financial statements in five years for the Amcor Limited. Five years in sequence is adequate to show the expected analysis trend since financial Statements summarize the results of the firm's activities over the accounting period. The secondary data obtained from the company to be used in analysis phase includes:

1. Financial statements of Amcor Limited for the period of 2004 to 2008 downloaded from the publication of the financial statements of Amcor Limited in Amcor's website. Each year ended on 30th June. All monetary amounts are in Australian dollars. Financial data of Amcor Limited consists the list of of monthly company rate and cash book + bank reconciliation of 2003 to 2008 (unpublished).
2. Exchange rate movement of foreign exchanges shown in the financial statements compiled from the website of Reserve Bank of Australia <http://www.rba.gov.au/Statistics/HistoricalExchangeRates/index.html> for the period of 2003 to 2008.

D.1. Research Approach

The approach of this research is a quantitative approach, one in which the investigator primarily uses postpositivist claims for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypotheses and questions, use of measurement and observation, and the test of theories), employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data. (Creswell, 2000:18).

D.2. Research Type

The type of this research is descriptive as the outcomes or findings after computation processes from historical data are quantitatively described and analyzed.

D.3. Data Collection Method

Due to limited time and other limitation related to this research, this research is completed with Secondary-data Analysis. Data and information of the company are compiled from the Annual reports in the website of Amcor Limited and Reserve Bank of Australia.

Related theories and assumptions have been depicted from multiple references or books of financial Management. Past researches and existing studies have been utilized to describe, illustrate and understand each of the variables that are used in this thesis. All of these have described and reviewed thoroughly the above literature study in this chapter.

D.4. Data Analysis Technique

The method of analysis is explained as follows:

1. The steps of data analysis begin by comparing the exchange rate obtained from Reserve Bank of Australia which considered representing the market rate to actual exchange rate used by AL during the analysis period. The variance of this comparison showing the cash flows of AL in providing foreign exchanges or how AL spent their cash to buy foreign

currencies. Positive number means AL actual rate is higher than market rate or AL spent more cash flow to buy foreign exchange and negative number means AL actual rate is lower than market rate or spent less cash flow as AL bought foreign exchange less than market rate. It is presented in a table of monthly average variance.

2. Second step is using operating exposure data of AL to produce feasible cash flows by using forecasted exchange rates. These are rates forecasted between the range of lowest and highest rate in the market during 2004 to 2008.
3. This step is presenting a table of change on cash flow on the foreign exchange. The number of each month in a year obtained from the variance of the month multiplied by the requirement of the foreign exchange. Percentage of the ratio on cash flow change to the requirement is the analysis basis on this step.
4. Using the formula on evaluation of forecast performance to get the absolute forecast error as a percentage of the realised value on the requirement of both USD and EUR to measure the preciseness of the forecasted exchange rates. The formula is as follows:

$$\text{Absolute forecast error as a percentage of the realised value} = \frac{\text{Forecasted Value} - \text{Realised Value}}{\text{Realised Value}}$$

Foreign exchange risk arises when future commercial transactions and recognized assets and liabilities are denominated in a currency that is not the functional currency of the entity within the consolidated entity. The consolidated entity operates internationally and is exposed to foreign currency exchange risk arising from currency exposures mainly to the AUD and EUR.

D.5. Research Limitation

In the operation of a Multinational Company, it involves various currencies transaction. The MNC must be prepared on any fluctuation of foreign exchange. The fluctuation effects can be measured in foreign exchange exposure. Literally, described as the gauge of any potential change on profitability, net cash flow and market value. There are three major types of foreign exchange exposures; transaction, operating and accounting.

This research does not analyze those related to the entire financial statements, either the budget or forecast. It is limited only to the specific elements of the financial statements especially in relation to operating exposure in order to focus only on its operating exposure as one factor that gives impact on cash flow and competitive advantage of the firm.

This research does not analyze the risk arise from the fluctuation of foreign exchange related to transaction (transaction exposure) as Amcor has no transaction exposure. All sale transaction is in AUD and the company has no intention to convert the cash into other foreign currency.

Analysis objects are those related to the risk arise from the foreign exchange especially in connection to operating exposure that Amcor has. Furthermore, it describes the concept of hedging on foreign exchange applied in Amcor and the selection of the most appropriate hedging instrument to minimize risk of losses as the impact from the fluctuation of the foreign exchange.

CHAPTER III

GENERAL DESCRIPTION OF THE OBJECT STUDY

A. History

The object study is "Amcor Limited", a world leader in innovative packaging. Amcor has come a long way to become one of the world's top three global packaging companies.

Amcor's history dates back to the 1860s and Australia's first paper making activities when Samuel Ramsden, a young stone mason from Yorkshire, arrived in Australia with his bride to seek his fortune in a new land. He established Victoria's first paper mill on the banks of the Yarra River in Melbourne. Until 1980, Amcor was almost exclusively a forestry, pulp and paper company in Australia. Since that time, however, Amcor implemented a major program of expansion that resulted in a shift away from sole reliance on pulp and paper products in Australia and the development of a diversified and integrated international packaging and paper company. Amcor has grown through a combination of acquisitions, "greenfield" developments where suitable acquisitions could not be obtained and expansion of capacity of existing businesses.

For most of its life the company was known as APM - Australian Paper Manufacturers and its products even then touched the daily lives of all Australians.

In the 1970s and 1980s the company added a range of diverse packaging interests to its traditional papermaking activities. This was achieved through creating new business partnerships and making strategic acquisitions in order to expand and diversify the company's activities. With the focus gradually changing and as the company moved towards the future, the company name did not quite fit with the new focus of this young, energetic Australian company. It was decided that the company name should be changed.

On May 1, 1986 APM became Amcor Limited, a name that has become increasingly well known throughout the world for its packaging innovation and its global reach.

Amcor's Changing Global Face

World-renowned innovation and customer service has seen Amcor expand from its Australian heritage to now serve markets around the globe. Profitable organic growth and strategic acquisitions and divestments continue to build change the face of Amcor and reinforce our global leadership position in packaging innovation.

Table 3.1.
Amcor acquisitions history

Divestments	Year	Acquisitions
John Sands Greeting Cards Group Leigh-Mardon Printing Business	1995	Rentsch Folding Cartoris – Switzerland
Corrugated packaging business Europe	1996	European Flexibles Business (UCB)
Paper Mill in USA	1997	
Leigh Mardon Flexibles Australia Australian Rigid Plastics Valpak Sawmilling Business Closed Pulp Mill	1998	Leaderpak
	1999	
Envelope Business Australia European Box Business	2000	Injepet USA Stevens Flexible Packaging USA Albertazzi Films Smutfitt Tobacco Europe
Paper Group Demerger	2001	Brazilian PET Acquisition Expansion of Sunclipse in USA Expansion of Amcor Rentsch, Poly Laupen Expansion of Amcor Asia – China Flexibles
Kimberley Clark Australia (5%)	2004	PET USA Expansion – CNC Containers, PET Pack Containers Three way Flexibles Merger with Danisco Akerlund & Rausing Bericap North America JV Sunclipse Expansion – Sirod, Vanguard Packaging, Apollo Paper
Kimberley Clark Australia (remaining 45%)	2004	PET and Closures Businesses of Schmalbach-Lubeca Amcor Flexibles Expansion – Rexam Food Flexibles, Tobepal/Tobefil Spain Amcor Sunclipse Expansion – Malow Corp, Brick Container

Divestments		Acquisitions
	2004	Expansion Amcor PET – Alcoa, Latin America; Arca, Mexico Expansion Amcor Flexibles – Rexam Healthcare Flexibles
	2005	Expansion of China tobacco packaging via share in Vision Grande Group Holdings
Amcor White Cap	2007	Vision Grande (46%)
Australasian food can and aerosol business PET Packaging Europe	2007	

Source: Amcor website, downloaded on 16 June 2008

B. Mission, Vision and Values

Mission

Amcor's mission is to generate sustainable shareholder value by:

- Becoming the premier packaging solutions provider
- Creating superior customer service relationships and value
- Encouraging and rewarding employees to achieve the highest standard of performance

Vision

Amcor's vision is to be a:

- Top three participant in our chosen markets
- Top five global packaging company
- Globally recognised brand

Values

Amcor's five core values are:

- Customer Satisfaction
A passion for our customers delivered through dependable on-time service, superior quality and partnerships built upon excellence.
- Integrity
People who are open, direct, honest and treat all others with respect.
- Teamwork
Working genuinely as a team to be better every day at what they do.
- Safety and Environment Responsibility

By utilising our resources to create a safe and environmentally responsible workplace.

- **Innovation and Creativity**

Continuously challenging current practices, harnessing modern technology commercially, being sensible and astute in the management of risks.

C. Business Overview

Amcor Limited's group of companies comprise of five substantial operating companies in five geographic areas - Australasia, North America, Latin America, Europe and Asia.

Most of these specialise in specific sectors of the packaging market. As one of the world's largest packaging companies, Amcor offers customers the highest standards in innovative packaging solutions, reliable service and partnerships built on excellence.

The main products include PET plastic containers for beverage applications, flexible packaging for the food and healthcare markets, tobacco packaging, corrugated boxes and a North American distribution business.

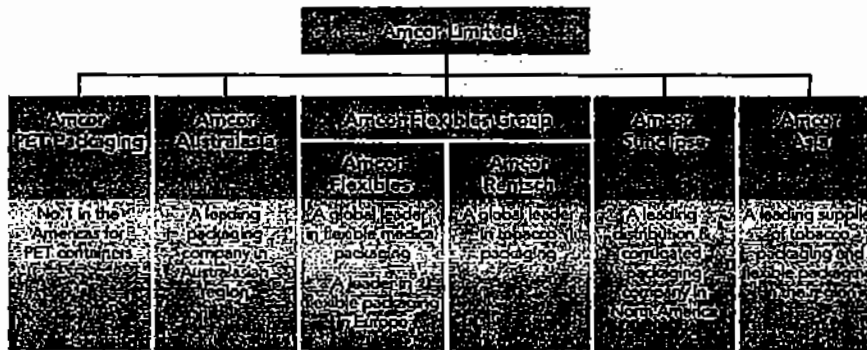
In April 2000, Amcor demerged its printing papers business, enabling the company to focus on growing its global packaging operations.

In July 2004 Amcor acquired the PET and Closures businesses of Schmalbach-Lubeca, a global leader in its markets, headquartered in Ratingen, Germany. This acquisition, at a cost of around AUD 2,875 million makes Amcor the largest PET manufacturer globally and a market leader in its chosen sectors.

Amcor has annual sales of around AUD11.0 billion and operate in 217 plants in 34 countries globally.

D. Company Structure

Figure 7
Company Structure



Source: Amcor website, downloaded on 16 June 2008

Some Business Groups can be further broken down to Business Units. Amcor Australasia, for example, has many business units, from Beverage Cans to Folding Cartons.

Amcor consists of five operating divisions including:

- Amcor Asia

With manufacturing plants across Asia, Amcor is a leading supplier of tobacco and flexible packaging in the region. Amcor Asia has five plants in three countries. Its head office is located in Singapore. The business produces tobacco and flexible packaging, including high value-added medical packaging. The business has responsibility for Amcor's ownership of the Hong Kong publicly listed company AMVIG holding Limited (AMVIG).

Amcor Asia consists of:

- Two wholly-owned tobacco packaging plants (one in Singapore and one in Malaysia);
- Three wholly-owned flexible packaging plants (two in China and one in Singapore); and
- The investment in the Hong Kong publicly listed company, AMVIG.

On 13 August 2008, AMVIG announced its half year earnings to 30 June 2008. Profit after tax attributable to the equity holders of AMVIG increased 68.7% from HKD 139.3 million to HKD 235.1 million. Earnings attributable to members of AMVIG, for the 12 months to 30 June 2008 increased 46.9% from HKD 306.1 million to HKD 449.6 million. This improvement in earnings was primarily driven by the acquisition of Brilliant Circle and an improvement in product mix to higher value-add cartons.

- Amcor Australasia

Amcor Australasia consists of many business units that provide a huge range of products and services across Australia and New Zealand. Amcor Australasia is the most diverse of the Group's business units and supplies a broad range of packaging items. Its products include corrugated boxes, carton and folding carton, aluminium cans for beverages, flexible packaging, plastic and metal closure, glass wine bottles, multiwall sacks, paper, cartonboard and paper recycling. It has 60 plants throughout Australia and New Zealand and approximately 5,600 co-workers and as of 6 October 2008, new headquarters in Hawthorn, Victoria (Australia).

Amcor Australasia had a mixed year with solid improvement in earnings in the glass and flexibles operations offset by lower earnings in the beverage can and fibre businesses. Profit before interest and tax and before significant items (PBIT) on a continuing business basis, decreased 2.7% to AUD 188.5 million in 2007/2008.

- Amcor Flexibles, consisting of Food, Healthcare and Rentsch.

A global leader in flexible packaging across multiple market segments, Amcor Flexibles consists of: Amcor Flexibles Food, Amcor Flexibles Healthcare and Amcor Rentsch. The flexible business, which consists of four operating units; polyethylene, laminations, barrier films and multiwall sacks, had higher earnings with the benefits of recent capital expenditure contributing to improved operating performance. Sales were modestly lower due to reduced sales in industrial commodity films, as well as a softer market for lamination products.

Amcor flexibles is a market leader and one of the world's largest suppliers of flexible and tobacco packaging. It has three operating divisions: Amcor Flexibles Food, Amcor Flexibles Healthcare and Amcor Rentsch. The business has 7,811 co-workers, 48 plants and supplies a wide range of products to the food, beverage and healthcare markets. These products include packaging for fresh foods such as meat, fish, bread, produce and dairy; processed foods such as confectionery, snack foods, coffee and ready meals, as well as high value-added medical applications, hospital supplies, pharmaceuticals and personal care products. In addition, it supplies tobacco packaging.

Amcor Flexibles has a mixed year, with profit before interest and tax and before significant items (PBIT) down 2.8% to EUR 115.9 million. Both the Food and Healthcare businesses had solid earnings improvements, however earnings for the tobacco packaging operations were substantially low.

- Amcor PET Packaging

As the world's largest manufacturer of PET containers, Amcor PET Packaging supplies the largest of food and beverage companies. They also count start-ups and those with small volume needs amongst their customers.

Amcor PET Packaging is headquartered in Ann Arbor, Michigan (US) and employs 5,168 people at 45 sites – comprising 34 manufacturing locations and 11 on-site injection and blowing facilities in 12 countries. Amcor PET packaging is one of the world's largest producers of PET (polyethylene terephthalate) containers. It produces PET containers and preforms for a wide variety of food and beverage applications, and supplies PET containers to the personal care, household chemical and agro-chemical industries.

The business in Latin America also had a strong year in 2007/2008. Volumes were up 6.8% with CSD and water up 5% and custom containers up 15.5%. Custom container volumes now comprise 18.1% of the product mix, up from 16.7% for the 2006/2007 year. The region has favourable demographics, increasing per capita income and ongoing replacement of glass with PET that

continues to support overall growth. The PET packaging operations had an outstanding year, with improved product mix and excellent operating performance.

▪ **Amcor Sunclipse Distribution**

Amcor Sunclipse manufactures and distributes quality packaging products across the United States and Mexico. Amcor Sunclipse had a solid year with profit before interest and tax and before significant items (PBIT) up 10.4% to USD 55 million.

Amcor Sunclipse, based in California, is Amcor's North American distribution and corrugated manufacturing business unit. It produces packaging products to complement its distribution services and has over 2,100 co-workers at 40 distribution and redistribution centres throughout the USD and Mexico. The distribution unit is a major supplier to businesses in North America, and purchases, warehouses, sells and delivers a wide variety of packaging products and equipment and industrial and janitorial supplies. The manufacturing division produces corrugated sheets and converts these into boxes for use throughout the business. In addition, it designs and produces specialty packaging products including "Point of Purchase" displays and specialty items tailored to customers' requirements.

E. Investment Fundamentals

- The leading packaging company in Australia and New Zealand
- Second largest packaging company in the world by sales
- Largest producer of PET containers in the world
- Largest packaging company in Australia
- Annual sales of around AU\$11.0 billion (20% Australia/NZ – 80% Rest of World)
- 24,000 employees
- 217 plants in 34 countries
- 87,000 shareholders (80% Australian institutions and retail – 30% foreign institutions)

- Profit after tax and before significant items was \$397 million.
- Significant items for the year were a profit of \$136.7 million.
- The profit after tax and significant items was \$533.7 million.
- The operating cash flow after movement in working capital, the cash component of significant items and base capital expenditure was \$643.9 million.
- After payment of \$319.2 million in dividends, the free cash flow was \$324.7 million.

F. Key Results - Amcor Group

Earnings for the 2008 year were AUD 369.1 million (after tax and before significant items) down 7% on the previous year's AUD 397 million. The result was adversely impacted by the translation of overseas earnings into Australian dollars and a reduction in earnings due to the sale of businesses. The negative translation impact of the higher Australian dollar on reported profit after tax was AUD 3.2 million.

On a continuing business basis, expressed in constant currency terms, the profit before interest and tax (PBIT) was up to 9.4%. This increase continues the momentum established in the second half of the 2006/2007 year when earnings for the continuing businesses, expressed in constant currency terms, were up 10.7%.

The Company generated excellent operating cash flow of AUD 418 million. This follows similarly strong performances in the two previous years of AUD 644 million in 2006/2007 and AUD 522 million in 2005/2006. The improvement in the underlying performance of the continuing operations, expressed in local currency terms, combined with the third year of strong operating cash flow, has enabled the Board to declare a final dividend of 17 cents per share, giving a full year dividend of 34 cents per share.

Table 3.2.

Key Results for Financial Year to 30 June 2007 (all figures quoted in Australian Dollars)

	2007	2007	% Change
Sales (\$A million)	10,875.2	11,439.3	(4.9)
Profit before interest, tax, depreciation and amortization (PBITDA) (\$ million)	1,198.9	1,249.1	(4.0)
Profit before interest and tax	731.9	775.7	(5.6)
Profit after tax (PAT) (\$ million)	397.0	405.0	(2.2)
Significant items (\$ million)	136.7	54.6	350.4
Profit after tax and significant items (\$ million)	533.7	351.3	51.9
Earnings per share ¹ (cents)	44.2	46.1	(4.1)
Operating cash flow ² (\$ million)	643.9	522.3	23.3
Dividend per share (cents)	34.0	34.0	

Source: Amcor Website, downloaded on 16 June 2008

Table 3.3.

Key Results for Financial Year to 30 June 2007 (all figures quoted in Australian Dollars)

	Sales		PBITDA	
	2007	2007	2007	2007
\$A million				
Amcor/Asia	122	175	39.0	31.7
Amcor/Australasia	2,524	2,561	361.6	384.2
Amcor/Flexibles	3,009	2,979	301.6	336.5
Amcor/PEI Packaging	3,980	4,049	465.9	451.6
Amcor/Sunclipse	1,251	1,292	76.6	78.4
Amcor Limited (Group)	10,875	11,439	1,198.9	1,249.1

Source: Amcor Website, downloaded on 16 June 2008

Table 3.4.

Results All Operations – Before Significant Items

A\$m	June 07	June 08	% Change
Sales	10,875.2	9,316.8	(14.3)
PBITDA	1,198.9	1,070.1	(10.7)
PBIT	731.9	657.0	(10.2)
Borrowing costs	(214.9)	(179.4)	16.5
PBT	517.0	477.6	(7.6)
Tax and minorities	(120.0)	(108.5)	9.6

PAT	397.0	369.1	(7.0)
Basic EPS (cents)	44.2	42.9	(2.9)
Weighted Ave No. of Shares (m)	897.7	860.0	(4.2)
ROAFE (%)	11.3	11.8	4.4
Dividend per share (cents)	34	34	

Source: Amcor Website, downloaded on 16 June 2008

"The way forward" – Key announcements

This program was outlined to shareholders in August 2005 and involves a three year agenda focusing on improving execution in a number of key disciplines. Over the past 12 months, there has been continued progress across all the key metrics. These improvements have made significant contributions to increasing profit before interest and tax for the business groups. The main components of the Way forward are:

- A portfolio review to ensure the Company remains only in those businesses that have strong market positions.
- Building excellence in sales and marketing to help develop a more customer focused organisation
- Driving costs out of the business
- Improving all aspects of capital discipline
- Developing talent management processes and
- Changing the culture of the Company

The portfolio review has resulted in asset sales of AUD 1.25 billion and the business portfolio is now focused on those market segments where Amcor has strong market positions and sustainable competitive advantages that will deliver profits over the long term. The proceeds from the asset sales have been used to retire debt, complete AUD 680 million in share buy-backs, and reinvest in markets which exhibit the highest growth and return opportunities.

Table 3.5.
“The way forward” – Key announcements

August 2005	Growth markets nominated as custom PET in North America, flexibles and tobacco packaging in emerging markets and some select segments in Australasia.
December 2005	Increased investment in AMVIG, the Hong Kong publicly listed tobacco packaging company from 16.7% to 44%.
February 2006	<ul style="list-style-type: none"> ▪ Sale of the White Cap Closures and Asian Corrugated businesses for AU\$420 million. ▪ Expansion of the flexibles operations in Russia.
May 2006	New US\$80 million plant dedicated to PepsiCo for the production and supply of PET Gatorade bottles.
August 2006	<ul style="list-style-type: none"> ▪ AU\$300 million Australasian Fibre turnaround plan with benefits of AU\$70 million per annum once completed ▪ Turnaround plan for the Mexican PET operations to deliver a US\$16 million improvement over a two-year period. ▪ Strong operating cash flow for the 2005/06 year of AU\$522 million.
December 2006	New €30 million flexibles plant in Poland dedicated to PepsiCo for the snack food market.
April 2007	Comprehensive restructuring of the European Flexibles operations costing €60 million with benefits of €30 million per annum.
July 2007	Sale of the European PET business for approximately €425 million.
August 2007	<ul style="list-style-type: none"> ▪ Operating cash flow of AU\$644 million. ▪ Share buy back of up to AU\$350 million. ▪ Subsequent to the finalisation of the year end accounts the Australasian food Can and Aerosol business was sold for AU\$ 150 million.

Source: Amcor Website, downloaded on 16 June 2008

Three years into “The Way Forward” agenda, Amcor is far better positioned across all aspects of its operations that it was in June 2006. The portfolio has been strengthened and is focused on those businesses and market segments

where here are sound industry fundamentals. The large turn around projects are progressing well with a number of significant milestones achieved.

There has been an intensive program over the past three years developing capabilities in customer and market focus, capital discipline, cost reduction and talent management. These are the foundations that underpin future growth and the benefits from these efforts are increasingly evident in the results. The culture within Amcor has changed. There is a greater focus on customers and a more disciplined approach across all aspects of the operations.

Importantly, there has been positive momentum in the earnings growth for the continuing businesses over the past 18 months. This commenced in the second half of the 2006/2007 fiscal year and has continued into the 2007/2008 year. Amcor's businesses predominantly supply packaging for consumer staples and are relatively defensive when compared to the broader market. Notwithstanding this, input costs continue to increase and need to be recovered through higher selling prices. This could be more difficult to achieve in markets where the demand is showing signs of softening.

From a strategic perspective, Amcor is transitioning into a new phase of development "The Way Forward" agenda is delivering against expectations and the organisation is moving towards a more growth-oriented agenda. This growth remains focused on custom PET, Flexible and Tobacco packaging in attractive and emerging markets, as well as the beverage segments in Australia, and will be a mixture of organic projects and acquisitions. The Amcor Board is confident that the changes undertaken over the past three years will deliver sustainable benefits, and that the Company is well positioned to embark on the next phase of Amcor's growth.

Their Agenda 2006 – 2008

- Getting the company fit and ensuring business fundamentals are embedded.
- Strong market positions
 - Divested AUD 1.25 billion in assets

- Defined "high growth" segments Completing the restructuring in Flexibles Europe & Fibre packaging
- Developed Core Capabilities Customer and market focus
 - Customer and market focus Low cost
 - Capital discipline
 - Talent management
- Established improving earnings trend
 - Improved earnings for the past 18 months

Events subsequent to the end of the financial year:

- Dividend

Since the end of the financial year, the directors declared a final dividend of 17 cents per share payable on 3 October 2008. The forecast total amount of this dividend is AUD 141.9 million. The financial effect of this dividend has not been brought to account in the Financial Statements for the year ended 30 June 2008 and will be recognised in subsequent financial reports.

- AMVIG

On 31 July 2008, the Company implemented the previously announced to acquire a further 78.3 million shares at HKD 8.94 each in the Hong Kong listed company AMVIG Holdings Limited for a total payment of HKD 700 million. The Company consequently held 40.2% of the shares in AMVIG pending completion of other announced transactions by AMVIG when the Company will hold 39.3% of the shares in AMVIG.

This year, an environmental reporting system was implemented. This system provides detailed reporting and analysis of energy, greenhouse gas (GHG), waste and water use at each Amcor site. These reports have allowed Amcor businesses to more accurately prioritise programs to improve operational efficiency. In Amcor's ongoing efforts to respond to the challenges of climate change, a set of aggressive environmental targets to reduce emissions, cut waste and conserve water was approved by the Board of Directors. Targets are in line with recommendations by the United Nation's intergovernmental Panel on

Climate change. Sustainability Champions have been appointed by each of the business groups to ensure action is taken and coordinated to achieve these targets. Each group's environmental performance will be monitored against these targets and reported back to senior management to ensure the targets are achieved.

G. Latest Stockbrokers' Forecasts

Many major stockbroking companies regularly monitor Amcor's performance, attend our briefings and maintain regular contact with senior management. Based on this and other information, these brokers formulate opinions on the company's performance and prepare reports containing their opinions about the company's current and future status, including their ongoing forecasts for financial results, earnings and dividends. These reports are made available by the brokers to their clients.

Amcor provide here a table showing profit forecasts extracted (with permission) from reports prepared by the major stockbroking companies who monitor Amcor's performance. The table also includes revision dates so it is possible to see when brokers' forecasts have been changed.

Table 3.6.
Table showing profit forecasts of Amcor Limited

<u>Company</u>	<u>2007/08</u>	<u>Last Revised</u>
<u>ABN AMRO Australia</u>	AUD \$375m	21 February 2008
<u>Citigroup</u>	AUD \$396m	21 February 2008
<u>Credit Suisse</u>	AUD \$376m	21 February 2008
<u>Deutsche Bank</u>	AUD \$371m	23 May 2008
<u>Goldman Sachs JBWere</u>	AUD \$379m	21 February 2008
<u>JPMorgan</u>	AUD \$372m	23 May 2008
<u>Macquarie Equities</u>	AUD \$361m	8 May 2008
<u>Merrill Lynch Equities Australia</u>	AUD \$403m	21 February 2008
<u>Morgan Stanley</u>	AUD \$377m	2 April 2008
<u>UBS</u>	AUD \$360m	22 February 2008

Source: Amcor Website, downloaded on 16 June 2008

H. Whistleblower Service

Amcor's Whistleblower Policy and global Whistleblower Service ensure that, in line with legislation in many parts of the world, co-workers who report suspected inappropriate conduct are protected from bullying, harassment or discrimination when they make reports in good faith.

The Whistleblower Service is an independent, anonymous service that gives our people the opportunity to blow the whistle on any misconduct in the workplace including:

- Theft
- Harassment
- Fraud
- Unethical/illegal behaviour
- Dishonesty
- Workplace safety hazards
- Discrimination

The service has been successfully rolled out worldwide. Each report is investigated thoroughly and appropriate action taken where necessary.

Flow-on benefits of this service include the opportunity for management to reinforce relevant policies and/or alternatively make changes to current procedures where applicable. This helps Amcor to improve its operations on a day to day basis.

Reports go to an independent third party (Deloitte Forensic) which is responsible for investigating issues raised on behalf of the company and the whistleblower. By providing this service, Amcor strives to ensure that all Amcor's people feel safe and secure in their work environment and to provide an avenue whereby employees can help the company eliminate theft, fraud and dishonesty.

At all times, Amcor works to promote ethical and honest behaviour and make Amcor a fair, safe and honest place to work.

I. Corporate Ethics

For well over 100 years the activities of our company, and its place in the Australian community, have been characterised by a genuine respect for the laws of the land, respect for the rights of individuals and high standards of ethical behaviour.

As Amcor expands in Australia and overseas, it is important that Amcor continue to meet our fundamental responsibilities to act ethically in all dealings with our shareholders, suppliers, customers, advisers and regulators, competitors, fellow employees and the communities in which Amcor work.

Amcor's Statement on Corporate Ethics summarises the company's policy on corporate behaviour as a guide for management and employees of the company and for the information of those who have an interest in the way Amcor conduct their businesses.

Statement on Corporate Ethics

Amcor's policy is that the affairs of the company and its subsidiaries are conducted, at all times, in accordance with all applicable laws and regulations in the countries in which Amcor operates, and, as well, in accordance with high ethical standards. All directors, senior executives and other employees are expected to act lawfully, in a professional manner and with the utmost integrity in their dealings with our shareholders, customers, suppliers, advisers and regulators, competitors, the community and each other, striving at all times to enhance the reputation and performance of the Group.

1. Ethical Conduct Generally

All Amcor personnel should understand that ethical conduct is a fundamental part of their duty to our shareholders, customers, suppliers, advisers and regulators, competitors, the community and fellow employees.

Ethical behaviour in business, personal and community conduct, extends beyond the duties imposed by laws or regulations and clearly includes:

- Honesty and loyalty in dealings with the company and fellow employees
- Scrupulous avoidance of deceptive or "sharp" practices or dishonourable conduct which would reflect unfavourably on Amcor; avoidance of the temptation to pursue personal gain or advantage in conflict with the interests of the company
- Striving to exercise sound business judgement, while providing the highest possible standard of service to our customers
- The proper use of the company's resources and information.

By strict compliance with local laws and regulations and observance of these principles Amcor will demonstrate that Amcor is aware of our responsibilities as a corporate citizen in whatever country Amcor operate.

2. Dealing in Shares of Amcor Limited

In the course of their employment with Amcor, some people will possess privileged price-sensitive information about the company. The Australian Corporations Law *inter alia* imposes particular duties on such people and prescribes criminal penalties for breaches of these obligations.

Persons who have such 'inside information' (that is information about the company which the person obtained directly or indirectly from the company which has not been broadly disclosed to the general public and which could, if known, affect a shareholder's decision to buy, sell or hold Amcor shares) should not buy or sell the Company's shares other than:

- In the period between the announcement of the full year result and fourteen days after the annual general meeting.
- In the period of fourteen days following the announcement of the half year result.

Even at these times there could be occasions when it is not proper for these employees, because of their knowledge, to buy or sell Amcor shares. If in doubt, those concerned should seek the prior approval of the Company Secretary, Executive General Manager Finance or Managing Director as appropriate.

3. Trade Practices Policy

Sound business practice requires the company and its employees to compete fairly, honestly, and lawfully with its competitors.

In most countries in which Amcor operates, there are consumer protection and anti-monopoly legislative provisions to be observed. Amcor's policy is to comply with these laws.

In Australia, the Trade Practices Act 1974, now administered by the Australian Competition and Consumer Commission, sets consumer protection standards and prohibits certain practices which are considered to be anti-competitive.

Amcor's policy is to ensure that all relevant employees are made aware of these provisions, and of the need to comply with them, by an education program which includes the distribution of compliance manuals and by the explanation and elaboration of these requirements by independent experts on a regular basis. This Australian procedure is adapted as appropriate for other countries in which Amcor operates.

4. Environmental Policy

Amcor believes that environmental management is among the highest corporate priorities and environmental responsibility is accepted as an integral part of the company's operations.

Amcor is committed to reduction of waste at source, recycling and other responsible methods of waste management and to fully comply with all related legislation and regulation.

Amcor will ensure that its employees are:

- well informed about relevant environmental issues
- familiar with and conform to group environmental policy
- free to communicate their concerns about policy and performance to responsible management.

5. Occupational, Health and Safety Policy

Amcor is committed to maintain and provide as far as practicable, a safe and healthy working environment conducive to job satisfaction and productivity. The company will fully comply with all relevant occupational health and safety laws and regulations and is committed to ensure that everything practical is done to prevent injury from unsafe practices, machinery or harmful elements in the working environment.

To ensure the successful implementation of this policy employees are to comply with workplace safety policies and are encouraged to actively participate in ensuring the safety of their workplace.

6. Employee Related Issues

Amcor believes that its people are an important asset and is committed:

- To ensure that any agreements with employees are adhered to.
- To ensure that employees receive fair and competitive remuneration and advancement based on abilities, performance, skills and qualifications.
- To provide the training and development necessary to realise mutually beneficial individual and company goals.

Amcor's policy is to comply fully with all relevant legislation and support the principle of equal employment opportunity to all employees regardless of race, colour, nationality, religion, sex, age, disability or marital status.

As individuals and as a member of the Amcor group, employee should be aware of, and seek to eliminate, any barriers that may interfere with the achievement of this policy.

CHAPTER IV DATA AND FINDINGS ANALYSIS

A. Mechanism to provide the requirement of foreign exchange in managing the operating exposure

Amcor Limited (AL) operates internationally and is exposed to foreign exchange risk arising from various currency exposures, primarily with respect to the Euro and US dollar. Foreign currency exposures arise from future commercial transactions, recognized assets and liabilities denominated in a currency that is not the functional currency of it and net investments in foreign operations.

AL requires some foreign exchanges to manage the operating exposure. Most of the requirements are Euro (EUR) and US dollar (USD). The supply of USD is required for purchasing raw materials from United States or other countries with the sales transaction denominated in USD. AL also prepares EUR for other suppliers than from United States i.e. from Europe to purchase raw materials or others e.g. spare parts of machines with the terms of payment determined in EUR.

Sale transactions in foreign currencies are translated into the respective functional currency of AL e.g. AUD using exchange rates prevailing at the date of the transaction. As the overall revenue is in AUD, to accommodate the requirement of both currencies, e.g. USD and EUR, AL must exchange its functional currency to another currencies required. Appropriate commercial terms are negotiated or derivative financial instruments are used, such as foreign exchange contracts and interest rate swaps, to hedge risk exposures.

Amcor differentiate the means to provide its requirement on foreign currencies each year which is during the analysis period e.g. financial year of 2004 to 2008 is as follows:

1. To manage the foreign currency exchange risk arising from commercial transactions, AL management has set a policy to use forward exchange contracts to hedge forecast or actual foreign currency exposures greater than AUD 500,000 in 2008. In previous reporting periods, it was to hedge foreign exchange exposures greater than AUD 100,000 – this policy was amended after a reassessment of amounts and volume of foreign currency exposures. AL has also set up to use the fixed price swaps, options and futures.
2. To buy directly either USD or EUR with AUD (spot rate).
3. To buy separately for AUD/USD e.g. by buying EUR with USD followed by buying USD with AUD or buy USD with EUR, then buy EUR with AUD (cross rate).

Furthermore, the exchange rates in this thesis are described with indirect quote as explained in the literature study in chapter II.

B. Comparison between actual rate of AL and market rate from RBA

Information obtained from Amcor from the financial year of 2004 to 2008 are: 1) monthly weighted average of actual exchange rate used by AL in purchasing foreign exchanges 2) Market rate on the prevailing date of the actual exchange rate. The information on exchange rates is derived from Reserve Bank of Australia (RBA) which is considered to represent the market rate during the analysis period.

Market rate offered by RBA on the exchange rates of USD/AUD and EUR/AUD from 2003 to 2008 is shown on the appendix 1. AL financial year commences from July last year to June this year. This thesis analyse financial year of AL from financial year of 2004 to 2008. First month of the financial year of 2004 starts from July 2003. Therefore, this thesis needs some data from 2003 to 2008. The Comparison between actual rate of Amcor and market rate from RBA e.g. 4-1, 4-2, 4-3, 4-4, 4-5, 4-6, 4-7, 4-8, 4-9 and 4-10 are presented from 2003 to 2008.

The monthly weighted average of actual exchange rate used by AL can be seen in the table 4-1 for the exchange rate of USD/AUD. It is presented monthly to see the exchange rate trend in 12 months. In December 2008, it is an estimated number for the month as latest date to compile is 11 December 2008. But considering the global economic condition in 2008, the number in December is expected to be higher.

Table 4-1
Ancor Limited
Monthly weighted average of actual rate
Exchange rate of AUD/USD
Period 2003 – 2008

Month	Year					
	2008	2007	2006	2005	2004	2003
Jan	0.8819	0.7828	0.7498	0.7668	0.7717	0.5829
Feb	0.9130	0.7832	0.7417	0.7812	0.7770	0.5956
Mar	0.9221	0.7932	0.7266	0.7848	0.7496	0.6015
Apr	0.9309	0.8273	0.7369	0.7738	0.7443	0.6100
May	0.9498	0.8251	0.7636	0.7661	0.7039	0.6468
Jun	0.9511	0.8423	0.7399	0.7667	0.6937	0.6652
Jul	0.9619	0.8670	0.7528	0.7524	0.7111	0.6607
Aug	0.8817	0.8291	0.7631	0.7614	0.7028	0.6518
Sep	0.8186	0.8461	0.7554	0.7651	0.7337	0.6635
Oct	0.6861	0.8996	0.7539	0.7536	0.7337	0.6948
Nov	0.6593	0.8970	0.7729	0.7353	0.7697	0.7158
Dec	0.6457	0.8718	0.7856	0.7417	0.7675	0.7385

Source: AL

The formula of monthly weighted average rate is monthly actual rate of AL multiplied by amount of USD purchased divided by amount of purchase of raw materials. Table 4-1 shows quite wide range between lowest and highest rate in six years. The range in 2003 to 2008 is from 0.5000 to 0.9700.

In providing USD, AL provides 2/3 (two third) of the requirement by forward contract when AL predicts the best exchange rate is by using forward contract, the 1/3 (one third) with spot rate when AL requires USD to be ready on the date

of transaction. AL has also set up to use fixed price swaps if the cash flow condition of the company requires it to be done while the provided fund in the difference currency. For example, the cash available is in AUD but AL requires to have cash in USD, AL will do swap sell and buy AUD to USD.

The lowest and highest rate obtained during the analysis period is as per the table 4-2. In table 4-2, the biggest difference of lowest rate and highest rate is in 2008 with the percentage of 48.96% and the smallest difference is in 2005 with the percentage of 6.73%. In 2008, the range might be higher if it is counted to end of December and considered the current economic crisis factor. Based on the information acquired from AL, their hedging strategy from year to year is improving to get good outcome than not doing any hedging to manage their operating exposure. They periodically assess the implemented hedging strategy. Based on the information obtained from AL, they change the policy to use forward exchange contracts to hedge forecast or actual foreign currency exposures greater than AUD 500,000 in 2008 which previously greater than AUD 100.000.

Table 4-2
Ancor Limited
Lowest and highest rate
Monthly weighted average of actual rate
Exchange rate of AUD/USD
Period 2003 – 2008

Year	Lowest	Highest	Difference	
			Amount	%
2008	0.6457	0.9619	0.3162	48.96%
2007	0.7828	0.8996	0.1167	14.91%
2006	0.7266	0.7856	0.0591	8.13%
2005	0.7353	0.7848	0.0495	6.73%
2004	0.6937	0.7770	0.0833	12.01%
2003	0.5829	0.7385	0.1556	26.69%

Source: Calculation

The weighted average of actual rate of AL during the analysis period for the exchange rate of EUR/AUD is in table 4-3. It is presented monthly to see the

exchange rate trend in 12 months. In December 2008, it is an estimated number for the month as latest date to compile is 11 December 2008. But considering the global economic condition in 2008, the number in December is expected to be higher. Same as for USD, The formula of monthly weighted average rate is monthly actual rate of AL multiplied by amount of EUR purchased divided by amount of purchase of raw materials. Table 4-3 shows quite wide range between lowest and highest rate in six years. The range in 2003 to 2008 is from 0.5000 to 0.6100. This shows the fluctuation of EURO during the analysis period was low.

Table 4-3
Ancor Limited
Monthly weighted average of actual rate
Exchange rate of EUR/AUD
Period 2003 – 2008

Month	Year					
	2008	2007	2006	2005	2004	2003
Jan	0.5992	0.6022	0.6195	0.5621	0.6106	0.5499
Feb	0.6187	0.5986	0.6212	0.5685	0.6147	0.5529
Mar	0.5943	0.5988	0.6041	0.5586	0.6114	0.5571
Apr	0.5909	0.6122	0.6004	0.5727	0.6208	0.5620
May	0.6102	0.6277	0.5982	0.6878	0.5866	0.5609
Jun	0.6112	0.6105	0.5844	0.6228	0.5711	0.5690
Jul	0.6105	0.6319	0.5937	0.6306	0.5838	0.5821
Aug	0.5895	0.6084	0.5957	0.6134	0.5833	0.5841
Sep	0.5702	0.6082	0.5935	0.6174	0.5749	0.5890
Oct	0.5162	0.6320	0.5976	0.6317	0.5867	0.5921
Nov	0.5171	0.6111	0.5997	0.6483	0.5923	0.6115
Dec	0.5094	0.5991	0.5951	0.6440	0.5725	0.6020

Source: AL

In providing EUR, AL applies spot rate as the requirement during the analysis period is lower than USD. It means AL not hedging in providing EUR. The lowest and highest difference of the weighted average of actual rate during the analysis period is in table 4-4.

EURO provided only at the time the purchase transaction occurs and not enough balance of EURO in the cash flow. AL deals the spot rate based on the amount of operating exposure needed on the date it is required. If the amount required is high, AL requests the dealer to give their best rate.

Table 4-4
Amcor Limited
Lowest and highest rate
Monthly weighted average of actual rate
Exchange rate of EUR/AUD
Period 2003 – 2008

Year	Lowest	Highest	Difference	
			Amount	%
2008	0.5094	0.6187	0.1093	21.45%
2007	0.5986	0.6320	0.0334	5.58%
2006	0.5844	0.6212	0.0368	6.30%
2005	0.5586	0.6878	0.1292	23.14%
2004	0.5711	0.6208	0.0497	8.70%
2003	0.5499	0.6115	0.0616	11.20%

Source: Calculation

Table 4-4 shows the biggest difference of lowest rate and highest rate is in 2005 with the percentage of 23.14% which for USD/AUD is in 2008 and the smallest difference is in 2007 with the percentage of 5.58% which is for USD/AUD in 2005. The condition of biggest of smallest difference between USD/AUD and EUR/AUD might not happen in the same year considering EUR/AUD is cross rate of USD/EUR and EUR/AUD. EUR/AUD depends on the fluctuation of both currencies.

From the observation on AL, it is also obtained the daily rate from the Reserve Bank of Australia. This reflects the exchange rates applied during the analysis period. The details can be seen in appendices 1a, 1b, 1c, 1d, 1e and 1f for the exchange rate of USD/AUD and EUR/AUD and chart can be seen in appendix 1g. These appendices are calculated in monthly average basis to be

equal comparison with the weighted average rate of AL. Therefore, the comparison between actual rate and market rate is monthly average exchange rate.

To provide the comparison between actual rate and market rate, a recapitulation of average market is provided with the source from appendices 1a, 1b, 1c, 1d, 1e and 1f for the exchange rate of AUD/USD and EUR/AUD. The recapitulation result for the USD/AUD is on table 4-5. It shows the monthly weighted average of actual rate for 6 (six years) and it is presented monthly to see the exchange rate trend in 12 months. In December 2008, it is an estimated number for the month as latest date to compile is 11 December 2008. This data is sorted from lowest to highest to produce its range and presented in table 4-6.

Table 4-5
Reserve Bank of Australia
Monthly weighted average of actual rate
Exchange rate of AUD/USD
Period 2003 – 2008

Month	Year					
	2008	2007	2006	2005	2004	2003
Jan	0.8815	0.7839	0.7498	0.7636	0.7695	0.5825
Feb	0.9128	0.7823	0.7416	0.7807	0.7777	0.5947
Mar	0.9260	0.7912	0.7291	0.7873	0.7493	0.6023
Apr	0.9298	0.8263	0.7350	0.7724	0.7442	0.6090
May	0.9488	0.8255	0.7634	0.7667	0.7054	0.6467
Jun	0.9508	0.8423	0.7402	0.7667	0.6942	0.6643
Jul	0.9641	0.8680	0.7514	0.7524	0.7172	0.6627
Aug	0.8810	0.8285	0.7630	0.7620	0.7104	0.6512
Sep	0.8215	0.8464	0.7566	0.7655	0.7007	0.6605
Oct	0.6905	0.8973	0.7539	0.7539	0.7331	0.6936
Nov	0.6556	0.8992	0.7715	0.7353	0.7685	0.7159
Dec	0.6448	0.8726	0.7861	0.7430	0.7678	0.7383

Source: RBA

Table 4-6
Reserve Bank of Australia
Lowest and highest rate
Monthly weighted average of actual rate
Exchange rate of USD/AUD
Period 2003 – 2008

Year	Lowest	Highest	Difference	
			Amount	%
2008	0.6448	0.9641	0.3193	49.5%
2007	0.7823	0.8992	0.1169	14.9%
2006	0.7291	0.7861	0.0570	7.8%
2005	0.7353	0.7873	0.0520	7.1%
2004	0.6942	0.7777	0.0835	12.0%
2003	0.5825	0.7159	0.1333	22.9%

Source : Calculation

The lowest and highest market rate during analysis period can be seen in table 4-6. In this table, the biggest difference is in year 2008 with the percentage of 49.5% and the smallest difference is in year 2005 with the percentage of 7.1%. This matches with the rate pattern of AL actual rate. It shows that AL forecasts their exchange rate with a good analysis.

The recapitulation table of monthly average market rate for EUR/AUD is in table 4-7. The same as above explanation, in December 2008 the rate presented might increase if it is calculated to the end of December and due to the current economic condition. The monthly exchange rate obtained from the average of daily exchange rates in a month of Reserve Bank of Australia. Several days in a month may not have any exchange rate. Therefore, the average is based on the actual dates with exchange rate within a month. The other information is the same as a explained for the exchange rate of USD/AUD.

Table 4-7
Reserve Bank of Australia
Monthly weighted average of actual rate
Exchange rate of EUR/AUD
Period 2003 – 2008

Month	Year					
	2008	2007	2006	2005	2004	2003
Jan	0.5993	0.6027	0.6189	0.5816	0.6101	0.5490
Feb	0.6192	0.5981	0.6203	0.5999	0.6152	0.5520
Mar	0.5964	0.5976	0.6069	0.5946	0.6104	0.5577
Apr	0.5899	0.6117	0.5993	0.5971	0.6201	0.5610
May	0.6095	0.6102	0.5986	0.6030	0.5874	0.5607
Jun	0.6116	0.6274	0.5842	0.6300	0.5714	0.5689
Jul	0.6105	0.6328	0.5920	0.6247	0.5836	0.5825
Aug	0.5890	0.6087	0.5959	0.6196	0.5828	0.5843
Sep	0.5706	0.6088	0.5938	0.6240	0.5740	0.5893
Oct	0.5171	0.6312	0.5975	0.6269	0.5868	0.5922
Nov	0.5159	0.6126	0.5997	0.6232	0.5928	0.6118
Dec	0.5086	0.5987	0.5949	0.6265	0.5735	0.6018

Source: RBA

The lowest and highest exchange rate during the analysis period for the exchange rate of EUR/AUD is in table 4-8. It shows the biggest difference is in year of 2008 with the percentage of 21.7% and the smallest difference is in year 2007 with the percentage of 5.9%. Compared to the monthly weighted average of exchange rate of AL, the pattern is not the same which is the biggest difference is in 2005 with percentage of 23.14% and for the smallest difference is in 2007 with the percentage of 5.58%. The fluctuation of exchange rates is sometimes influenced by macroeconomic condition e.g. political situation, monetary policy and inflation. The biggest difference of lowest and highest rate in 2008 is effected from the slowing economic conditions in the US during the second half of the year. Economic conditions in some countries are softening and this could impact demand in certain product segments. Should this continue for the balance of the year, it could reduce the anticipated rate of improvement and rising costs.

Table 4-8
Reserve Bank of Australia
Lowest and highest rate of monthly weighted average of actual rate
Exchange rate of USD/EUR
Period 2004 – 2008

Year	Lowest	Highest	Difference	
			Amount	%
2008	0.5086	0.6192	0.1106	21.7%
2007	0.5976	0.6328	0.0352	5.9%
2006	0.5842	0.6203	0.0361	6.2%
2005	0.5816	0.6300	0.0483	8.3%
2004	0.5714	0.6201	0.0487	8.5%
2003	0.5490	0.6118	0.0628	11.4%

Source: Calculation

By comparing both tables of monthly weighted average of exchange rate of AL and market rate, the difference during the analysis period can be formulated. The difference is a deviation between the closing rate used by AL based on the applied hedging strategy with the market rate. If AL did not use any hedging strategy but only waiting on the date of foreign exchange required, the foreign exchange provided by buying spot rate. This is part of their financial risk management.

The overall risk management program focuses on the unpredictability of financial markets and seeks to minimise potential adverse effects on the financial performance of AL. Risk management is carried out by Amcor Group Finance for interest rate, foreign exchange exposures and commodity exposures under policies approved by the Board of Directors. Amcor Group Finance identifies, evaluates and hedges financial risks. The Board has determined written principles for overall risk management, as well as written policies covering specific areas such as mitigating foreign exchange, interest rate and credit risks, use of derivative financial instruments and investing excess liquidity.

The rate difference of both AL actual monthly rate and monthly market rate during the analysis period of USD/AUD is as per table 4-9.

Table 4-9
Variance on monthly weighted average
between actual rate of AL and market
Exchange rate of USD/AUD
Period of 2003 to 2008

Mth	2008			2007			2006		
	Actual	market	+/-	Actual	market	+/-	Actual	market	+/-
Jan	0.8819	0.8815	0.0003	0.7828	0.7839	-0.0011	0.7498	0.7498	0.0001
Feb	0.9130	0.9128	0.0001	0.7832	0.7823	0.0009	0.7417	0.7416	0.0001
Mar	0.9221	0.9260	-0.0039	0.7932	0.7912	0.0020	0.7266	0.7291	-0.0026
Apr	0.9309	0.9298	0.0011	0.8273	0.8263	0.0011	0.7369	0.7350	0.0018
May	0.9498	0.9488	0.0009	0.8251	0.8255	-0.0004	0.7636	0.7634	0.0002
Jun	0.9511	0.9508	0.0003	0.8423	0.8423	0.0001	0.7399	0.7402	-0.0004
Jul	0.9619	0.9641	-0.0022	0.8670	0.8680	-0.0010	0.7528	0.7514	0.0013
Aug	0.8817	0.8810	0.0007	0.8291	0.8285	0.0006	0.7631	0.7630	0.0001
Sep	0.8186	0.8215	-0.0029	0.8461	0.8464	-0.0003	0.7554	0.7566	-0.0012
Oct	0.6861	0.6905	-0.0043	0.8996	0.8973	0.0023	0.7539	0.7539	0.0001
Nov	0.6593	0.6556	0.0037	0.8970	0.8992	-0.0023	0.7729	0.7715	0.0014
Dec	0.6457	0.6448	0.0010	0.8718	0.8726	-0.0008	0.7856	0.7861	-0.0005
Mth	2005			2004			2003		
	Actual	market	+/-	Actual	market	+/-	Actual	market	+/-
Jan	0.7668	0.7636	0.0033	0.7717	0.7695	0.0022	0.5829	0.5825	0.0004
Feb	0.7812	0.7807	0.0005	0.7770	0.7777	-0.0007	0.5956	0.5947	0.0010
Mar	0.7848	0.7873	-0.0025	0.7496	0.7493	0.0003	0.6015	0.6023	-0.0008
Apr	0.7738	0.7724	0.0013	0.7443	0.7442	0.0001	0.6100	0.6090	0.0010
May	0.7661	0.7667	-0.0005	0.7039	0.7054	-0.0016	0.6468	0.6467	0.0001
Jun	0.7667	0.7667	0.0000	0.6937	0.6942	-0.0005	0.6652	0.6643	0.0009
Jul	0.7524	0.7524	-0.0001	0.7111	0.7172	-0.0062	0.6607	0.6627	-0.0020
Aug	0.7614	0.7620	-0.0006	0.7028	0.7104	-0.0076	0.6518	0.6512	0.0006
Sep	0.7651	0.7655	-0.0003	0.7337	0.7007	0.0330	0.6635	0.6605	0.0030
Oct	0.7536	0.7539	-0.0003	0.7337	0.7331	0.0006	0.6948	0.6936	0.0012
Nov	0.7353	0.7353	0.0000	0.7697	0.7685	0.0012	0.7158	0.7159	-0.0001
Dec	0.7417	0.7430	-0.0014	0.7675	0.7678	-0.0003	0.7385	0.7383	0.0002

Source : calculation

On the difference column, the positive number means actual rate of AL is higher than market rate. In reverse, the negative number means actual rate of AL is lower than the market rate. On the cash flow side of AL, if it shows positive

number, AL must have prepared more AUD to buy USD since AL bought with higher rate compared to the market rate on the due date of exposure. If it is negative number, AL must have prepared less AUD to purchase USD since AL buy with lower rate than market rate on the date of exposure. The average difference of the monthly weighted average of actual exchange rate and market rate is shown in the appendix 6.

Table 4-10
Variance on monthly weighted average
between actual rate of AL and market
Exchange rate of EUR/AUD
Period of 2003 to 2008

Mth	2008			2007			2006		
	Actual	market	+/-	Actual	market	+/-	Actual	market	+/-
Jan	0.5992	0.5993	-0.0002	0.6022	0.6027	-0.0005	0.6195	0.6189	0.0007
Feb	0.6187	0.6192	-0.0005	0.5986	0.5981	0.0005	0.6212	0.6203	0.0009
Mar	0.5943	0.5964	-0.0022	0.5988	0.5976	0.0011	0.6041	0.6069	-0.0028
Apr	0.5909	0.5899	0.0011	0.6122	0.6117	0.0005	0.6004	0.5993	0.0010
May	0.6102	0.6095	0.0007	0.6277	0.6102	0.0175	0.5982	0.5986	-0.0004
Jun	0.6112	0.6116	-0.0004	0.6105	0.6274	-0.0169	0.5844	0.5842	0.0002
Jul	0.6105	0.6105	0.0000	0.6319	0.6328	-0.0009	0.5937	0.5920	0.0017
Aug	0.5895	0.5890	0.0005	0.6084	0.6087	-0.0003	0.5957	0.5959	-0.0002
Sep	0.5702	0.5706	-0.0004	0.6082	0.6088	-0.0006	0.5935	0.5938	-0.0003
Oct	0.5162	0.5171	-0.0009	0.6320	0.6312	0.0008	0.5976	0.5975	0.0001
Nov	0.5171	0.5159	0.0012	0.6111	0.6126	-0.0016	0.5997	0.5997	0.0000
Dec	0.5094	0.5086	0.0008	0.5991	0.5987	0.0004	0.5951	0.5949	0.0002

Mth	2005			2004			2003		
	Actual	market	+/-	Actual	market	+/-	Actual	market	+/-
Jan	0.5992	0.5816	0.0175	0.6106	0.6101	0.0005	0.5499	0.5490	0.0009
Feb	0.6187	0.5999	0.0189	0.6147	0.6152	-0.0005	0.5529	0.5520	0.0009
Mar	0.5943	0.5946	-0.0003	0.6114	0.6104	0.0010	0.5571	0.5577	-0.0006
Apr	0.5909	0.5971	-0.0061	0.6208	0.6201	0.0007	0.5620	0.5610	0.0010
May	0.6102	0.6030	0.0072	0.5866	0.5874	-0.0008	0.5609	0.5607	0.0002
Jun	0.6112	0.6300	-0.0188	0.5711	0.5714	-0.0003	0.5690	0.5689	0.0001
Jul	0.6105	0.6247	-0.0142	0.5838	0.5836	0.0002	0.5821	0.5825	-0.0004
Aug	0.5895	0.6196	-0.0301	0.5833	0.5828	0.0005	0.5841	0.5843	-0.0002
Sep	0.5702	0.6240	-0.0538	0.5749	0.5740	0.0009	0.5890	0.5893	-0.0003
Oct	0.5162	0.6269	-0.1108	0.5867	0.5868	-0.0002	0.5921	0.5922	-0.0001
Nov	0.5171	0.6232	-0.1061	0.5923	0.5928	-0.0005	0.6115	0.6118	-0.0003
Dec	0.5094	0.6265	-0.1171	0.5725	0.5735	-0.0010	0.6020	0.6018	0.0002

Source : calculation

The same pattern as USD/AUD shown in table 4-9, the difference of positive and negative number for the exchange rate of EUR/AUD is shown in

table 4-10. As above mentioned, the meanings on positive and negative difference for the exchange rate of USD/AUD is also applicable for EUR/AUD.

The variance chart of EUR/AUD between average monthly rate of AL and market is shown in the appendix 7.

Analysis of hedging strategy is applied by comparing the cash flow required to the monthly weighted average of exchange rate of AL with the market rate. The cash flow movement effected from the variance of both rate for the exchange rate of USD/AUD shown in table 4-11. The cash flow movement is calculated from the requirement of USD multiplied by the variance counted in table 4-9.

Table 4-11
Amcor Limited
Cash flow movement for USD in financial year of 2004 - 2008

	Year									
	2008		2007		2006		2005		2004	
Jul 07	-13,756.27	Jul 06	8,383.66	Jul 05	(92,683.90)	Jul 04	-954.99	Jun 03	-1,034.71	
Aug 07	21,466.74	Aug 06	146,141.16	Aug 05	(12,973.11)	Aug 04	-533.82	Aug 03	3,677.42	
Sep 07	-64,513.84	Sep 06	-8,483.69	Sep 05	(22,949.95)	Sep 04	153.86	Sep 03	1,142.40	
Oct 07	6,664.37	Oct 05	167,802.42	Oct 05	(25,176.85)	Oct 04	10253.81	Oct 03	2,552.31	
Nov 07	-8,866.08	Nov 05	8,322.64	Nov 05	(231,140.94)	Nov 04	5013.95	Nov 03	-45,384.62	
Dec 07	-28,493.63	Dec 06	-25,745.26	Dec 05	(6,754.19)	Dec 04	-23260.64	Dec 03	14,132.43	
Jan 08	54,489.97	Jan 07	-11,154.93	Jan 06	147,586.21	Jan 05	1313.20	Jan 04	2,080.18	
Feb 08	139,122.26	Feb 07	13,772.73	Feb 06	87,802.20	Feb 05	9726.32	Feb 04	-5,357.62	
Mar 08	-5,648.34	Mar 07	5,363.59	Mar 05	(3,205.90)	Mar 05	-2103.88	Mar 04	10,411.63	
Apr 08	25,527.50	Apr 07	9,230.29	Apr 06	5,333.42	Apr 05	3739.78	Apr 04	35,137.61	
May 08	14,609.16	May 07	-27,412.21	May 06	45,702.97	May 05	-14702.77	May 04	-3,167.76	
Jun 08	79,661.02	June 07	125,568.18	Jun 06	(27,281.05)	Jun 05	-227323.23	Jun 04	-9,435.87	
Total (AUD)	220,262.86		411,788.58		-135,741.09		-238,678.42		4,753.40	
Total purchase of USD (USD)	226.30		134.28		101.65		67.28		41.98	
Cashflow movement/purchase of USD (%)	97332%		306664%		-133538%		-354754%		11323%	

Source: calculation

The lowest cash flow movement is in 2005, increases in the next year and decreases after. This does not show level of good or bad condition as the not included the comparison factor e.g. quantity or purchase. In this table, it shows that the cash movement divided by total purchase is also lowest in 2005 e.g. minus 354754% and the highest is in 2007 e.g. 306664%. It describes that the best hedging strategy using forward contract is in 2005 and the worst in 2007.

Table 4-12

Amcor Limited

Cash flow movement for EUR in financial year of 2004 – 2008

		Year							
2008		2007		2006		2005		2004	
Jul 07	-9804.88	Jul 06	4111.95	Jul 05	5807.43	Jul 04	-504.41	Jul 03	6592.23
Aug 07	-27225.19	Aug 06	4379.08	Aug 05	-43476.94	Aug 04	-317.93	Aug 03	5372.71
Sep 07	-14443.24	Sep 06	4583.65	Sep 05	-32110.09	Sep 04	-158.59	Sep 03	5324.65
Oct 07	11253.22	Oct 06	4849.63	Oct 05	96590.39	Oct 04	-82.53	Oct 03	4671.67
Nov 07	-4755.86	Nov 06	5374.93	Nov 05	-290400.00	Nov 04	-91.79	Nov 03	7078.00
Dec 07	20804.24	Dec 06	6423.03	Dec 05	24484.95	Dec 04	-79.86	Dec 03	6653.13
Jan 08	-45120.86	Jan 07	6059.38	Jan 06	-14168.41	Jan 05	10909.09	Jan 04	7089.28
Feb 08	-17448.58	Feb 07	6910.60	Feb 06	12094.02	Feb 05	9115.04	Feb 04	7201.50
Mar 08	-4408.19	Mar 07	7750.89	Mar 06	4462.44	Mar 05	-3470.20	Mar 04	7166.42
Apr 08	8922.43	Apr 07	6561.64	Apr 06	11140.37	Apr 05	7901.39	Apr 04	7092.80
May 08	12106.53	May 07	6395.27	May 06	350.15	May 05	-20693.96	May 04	6126.27
Jun 08	-21002.51	Jun 07	4610.34	Jun 06	-504.21	Jun 05	50166.36	Jun 04	5461.56
Total (AUD)	-91,123.00		68,010.38		-225,929.90		52,692.62		75,830.23
Total purchase of EUR (EUR)	101.39		86.00		104.79		74.29		50.42
Cash flow movement / purchase of EUR (%)	-89874%		79082%		-215603%		70928%		150397%

Source: calculation

As shown in table 4-12. The lowest cash flow movement is in 2005, increases in the next year and decreases after. This does not show level of good or bad condition as the not included the comparison factor e.g. quantity or purchase. In this table, it shows that the cash movement divided by total purchase is lowest in 2006 e.g. -215603% and the highest is the same as USD which is in 2007 e.g. 79082%. It describes that the best hedging strategy using spot rate was in 2006 and the worst in 2007. The decision to change hedging strategy in 2008 has given a good result than the year before.

C. Analysis of sensitivity to the cash flow

The sensitivity analysis as the next subject of the research is an analysis of the impact arises from the difference of actual exchange rate from the movement of USD/AUD and EUR/AUD against the cash flow. On each movement of AUD to USD and AUD to EUR, the impact to the cash outflow to settle the transaction to be calculated.

Based on the data obtained from AL, the requirement of AL on foreign exchanges during the analysis period is fluctuated following the value of any production planning deducted by the inventory. The following table is the requirement on operating exposure on USD. It is presented in a-five-financial-year from 2004 to 2008. Each year commenced on July last year and ended on June this year.

On the table 4-13, it shows that cash needed in USD increased every year. Every movement of USD/AUD amounting AUD1, the cash flow is as much as the amount needed in the said exchange rate, for example in 2008, it needs USD 226.30. This year the movement of exchange rate of USD/AUD is quite high, therefore, the impact on cash flow is a high fluctuated as shown in table 4-6.

During the analysis period of financial year 2004 to 2008 (see table 4-6), the lowest exchange rate of USD/AUD is 0.6448 and the highest is 0.9641 and its difference is 0.3193. Therefore, to analyze the sensitivity, every movement will be calculated on every 0.1000. It starts from USD/AUD 0.6, 0.7, 0.8 and 0.9. For example in 2008, the range of lowest and highest rate is between 0.6448 to 0.9641. To analyze the sensitivity, the denomination of 0.1000 among the lowest and highest exchange rate is 0.6, 0.7, 0.8 and 0.9. The same method is also applied to other financial years during the analysis period.

Table 4-13
Amcor Limited
Operating exposure in USD
Financial year : 2004 to 2008

Year									
2008		2007		2006		2005		2004	
Jul 07	13.32	Jul 06	11.29	Jul 05	6.66	Jul 04	5.90	Jul 03	2.03
Aug 07	12.51	Aug 06	10.55	Aug 05	7.42	Aug 04	4.07	Aug 03	2.28
Sep 07	17.67	Sep 06	10.34	Sep 05	7.25	Sep 04	5.08	Sep 03	3.40
Oct 07	15.19	Oct 06	11.89	Oct 05	7.83	Oct 04	6.06	Oct 03	3.16
Nov 07	20.24	Nov 06	12.05	Nov 05	8.20	Nov 04	6.16	Nov 03	2.95
Dec 07	22.36	Dec 06	12.50	Dec 05	9.26	Dec 04	6.40	Dec 03	2.49
Jan 08	18.62	Jan 07	11.88	Jan 06	8.56	Jan 05	4.31	Jan 04	4.67
Feb 08	19.02	Feb 07	12.12	Feb 06	7.99	Feb 05	4.62	Feb 04	3.97
Mar 08	21.89	Mar 07	10.53	Mar 06	8.29	Mar 05	5.27	Mar 04	3.24
Apr 08	28.31	Apr 07	9.82	Apr 06	9.80	Apr 05	5.03	Apr 04	3.83
May 08	13.67	May 07	10.26	May 06	10.17	May 05	7.95	May 04	4.95
Jun 08	23.50	Jun 07	11.05	Jun 06	10.22	Jun 05	6.43	Jun 04	5.01
Total	226.30		134.28		101.65		67.28		41.98

Table 4-14 shows the result of sensitivity analysis with details of calculation is shown in appendix 2. In 2008, AL requires bigger cash flow e.g. 49.89% if the exchange rate of USD/AUD is 0.6 compared to the monthly weighted average rate averaged in a year (0.8966), 28.47% if the exchange rate of USD/AUD is 0.7, 12.42% for 0.8. But if AL applies the exchange rate of 0.9 the cash flow needed is less 0.08% than using the actual rate. The exchange rate of USD/AUD equal to 0.6, 0.7, 0.8 and 0.9 are the possible exchange rates to be used in 2008. In every movement of 0.1 point, the cash needs 21.42% more or less than cash needed with the weighted average rate of AL.

In 2007, AL requires bigger cash flow e.g. 12.09% if the exchange rate of USD/AUD is 0.7 compared to the monthly weighted average rate averaged in a year (0.7865) and minus 1.92% if exchange rate is 0.8. The exchange rate of USD/AUD equals to 0.7 and 0.8 are the possible exchange rates to be used in 2007. In every movement of 0.1 point, the cash needs 10.17% more or less than cash flow with the weighted average rate of AL.

Table 4-14
Ancor Limited
Analysis on Sensitivity of Operating Exposure for USD
Financial year : 2004 to 2008

Year	Actual		Cash flow in AUD Mn for USD exposure			
	Exchange rate	Cash flow	Exchange Rate			
			0.6	0.7	0.8	0.9
2008	0.8966	251.63	377.17	323.29	282.88	251.44
2007	0.7865	171.13	NA	191.83	167.85	NA
2006	0.7473	136.13	NA	145.21	NA	NA
2005	0.7548	89.13	NA	96.11	NA	NA
2004	0.7138	58.62	69.97	59.97	NA	NA

Source: Calculation

In 2006, AL requires bigger cash flow e.g. 6.67% if the exchange rate of USD/AUD is 0.7 compared to the monthly weighted average rate averaged in a year (0.7473). 0.7 is the only possible exchange rate to be used in 2006 as volatility during 2006 is low only around 0.7291-0.7861 (see table 4-6).

In 2005, AL requires bigger cash flow e.g. 19% if the exchange rate of USD/AUD is 0.6 compared to the monthly weighted average rate averaged in a year (0.7138) and 2% if exchange rate is 0.7. The exchange rate of USD/AUD equals to 0.6 and 0.7 are the possible exchange rates to be used in 2005. In every movement of 0.1 point, the cash needs 17% more or less than cash flow with the weighted average rate of AL.

Table 4-15 shows the requirement of AL on EUR. The same as USD, it increases every year. Any movement on every AUD1 gives impact on cash flow to purchase the Euro. The highest requirement was in 2006 for the amount of AUD 104.79 and the lowest was in 2004 for the amount of AUD 50.42. Based on the information obtained from AL, the highest amount was because the increased production and repairs of machine.

Table 4-15
Amcor Limited
Operating exposure in EUR
Financial year : 2004 to 2008

	Year								
	2008	2007		2006		2005		2004	
Jul 07	9.05	Jul 06	9.46	Jul 05	7.16	Jul 04	5.79	Jul 03	2.35
Aug 07	8.48	Aug 06	8.89	Aug 05	9.57	Aug 04	7.11	Aug 03	2.55
Sep 07	8.39	Sep 06	8.50	Sep 05	8.53	Sep 04	7.18	Sep 03	3.85
Oct 07	8.74	Oct 06	8.04	Oct 05	9.14	Oct 04	8.19	Oct 03	3.64
Nov 07	7.56	Nov 06	7.26	Nov 05	9.74	Nov 04	5.41	Nov 03	4.21
Dec 07	8.06	Dec 06	6.08	Dec 05	9.35	Dec 04	5.76	Dec 03	5.22
Jan 08	7.20	Jan 07	6.45	Jan 06	7.32	Jan 05	5.41	Jan 04	5.26
Feb 08	8.20	Feb 07	5.66	Feb 06	8.24	Feb 05	5.33	Feb 04	4.88
Mar 08	9.65	Mar 07	5.05	Mar 06	9.80	Mar 05	5.36	Mar 04	5.76
Apr 08	9.53	Apr 07	5.97	Apr 06	8.23	Apr 05	5.42	Apr 04	3.56
May 08	8.15	May 07	6.13	May 06	8.52	May 05	6.28	May 04	3.51
Jun 08	8.38	Jun 07	8.51	Jun 06	9.19	Jun 05	7.05	Jun 04	5.63
Total	101.39		86.00		104.79		74.29		50.42

During the analysis period of financial year 2004 to 2008 (see table 4-8), the lowest exchange rate of EUR/AUD is 0.5098 and the highest is 0.6328 and its difference is 0.1230. Therefore, to analyze the sensitivity, movement on cash flow is calculated on every 0.1000 starts from EUR/AUD 0.5 and 0.6. For example in 2008, the range of lowest and highest rate is between 0.5086 to 0.6192. To analyze the sensitivity, the denomination of 0.1000 among the lowest and highest exchange rate is 0.5, and 0.6. The same method is also applied to other financial year during the analysis period.

In 2008, AL requires bigger cash flow e.g. 21.85% if the exchange rate of EUR/AUD is 0.5 compared to the monthly weighted average rate averaged in a year (0.6096) and 1.54% if the exchange rate of EUR/AUD is 0.6. The exchange rate of EUR/AUD equals to 0.5 and 0.6 are the possible exchange rates to be used in 2008. In every movement of 0.1 point, the cash needs 20.31% more or less than cash flow compared with the weighted average rate of AL.

Table 4-16
Amcor Limited
Analysis on Sensitivity of Operating Exposure for EUR
Financial year : 2004 to 2008

Year	Actual		Cash flow in AUD Mn for EUR exposure	
	Exchange rate	Cash flow	Exchange Rate	
			0.5	0.6
2008	0.6096	166.41	202.78	168.98
2007	0.6021	143.01	172.00	143.33
2006	0.6178	309.43	209.58	174.65
2005	0.5888	126.26	148.58	123.82
2004	0.5980	84.19	100.84	84.03

Source: Calculation

In 2007, AL requires bigger cash flow e.g. 20.27% if the exchange rate of EUR/AUD is 0.5 compared to the monthly weighted average rate averaged in a year (0.6021) and 0.22% if the exchange rate of EUR/AUD is 0.6. The exchange rate of EUR/AUD equals to 0.5 and 0.6 are the possible exchange rates to be used in 2007. In every movement of 0.1 point, the cash needs 20.05% more or less than cash flow compared with the weighted average rate of AL.

In 2006, AL requires bigger cash flow e.g. 23.46% if the exchange rate of EUR/AUD is 0.5 compared to the monthly weighted average rate averaged in a year (0.6178) and 2.88% if the exchange rate of EUR/AUD is 0.6. The exchange rate of EUR/AUD equals to 0.5 and 0.6 are the possible exchange rates to be used in 2006. In every movement of 0.1 point, the cash needs 20.58% more or less than cash flow compared with the weighted average rate of AL.

In 2005, AL requires bigger cash flow e.g. 17.68% if the exchange rate of EUR/AUD is 0.5 compared to the monthly weighted average rate averaged in a year (0.5888) and minus 1.94% if the exchange rate of EUR/AUD is 0.6. The exchange rate of EUR/AUD equals to 0.5 and 0.6 are the possible exchange rates to be used in 2005. In every movement of 0.1 point, the cash needs

15.74% more or less than cash flow compared with the weighted average rate of AL.

In 2004, AL requires bigger cash flow e.g. 19.77% if the exchange rate of EUR/AUD is 0.5 compared to the monthly weighted average rate averaged in a year (0.5888) and minus 0.19% if the exchange rate of EUR/AUD is 0.6. The exchange rate of EUR/AUD equals to 0.5 and 0.6 are the possible exchange rates to be used in 2004. In every movement of 0.1 point, the cash needs 19.58% more or less than cash flow compared with the weighted average rate of AL.

D. The analysis on forecasted exchange rate

The decision to hedge or not mostly depends on the forecasted exchange rate. If the forecasted exchange rate leads to the conclusion that fluctuation will make company suffers loss, it definitely hedge the currency. In the opposite way, if the forecasted exchange rate leads to the conclusion that its fluctuation will make company obtain gain, hedging will not be implemented.

Based on information obtained from AL, the management made the policy on forecasting exchange rate by mixed forecasting, to predict the exchange rate by combining the technical forecasting and fundamental forecasting and market-based forecasting. The decision to hedge normally based on the economic variable obtained, but for daily transaction is based on support resistance on the transaction day.

Evaluation of forecast performance of AL will be obtained by calculating the forecast error which the formula as follows:

$$\text{Absolute forecast error as a percentage of the realised value} = \frac{\text{Forecasted Value} - \text{Realised Value}}{\text{Realised Value}}$$

Forecasted value of AL for this analysis using the value of monthly weighted average of actual exchange rate of AL. The realised value used in this formula is monthly average of RBA. Based on this information, it will get the result of absolute forecast error as a percentage of the realised value of AL for the requirement on USD and EUR. Each can be seen in table 4-17 and 4-18.

In table 4-17, it shows that the average forecast error during analysis period, the lowest is in 2007 e.g. -0.0009% and the highest is in 2004 e.g. 0.0064%. The range is between minus 0.0009% - 0.0064%. It shows during analysis period the forecast error is quite low. Considering to hedging strategy applied in AL, it shows that the forward contract to buy USD close to the realized value. AL's forecasted rates are close to the realized value.

Table 4-17
Amcors Limited
Absolute forecast error as a percentage of the Realised Value for the
requirement of USD
Period : financial year of 2004 to 2008

2008		2007		2006		2005		2004	
Jul 07	-0.112%	Jul 06	-0.179%	Jul 05	-0.010%	Jul 04	-0.8689%	Jul 03	-0.297%
Aug 07	0.070%	Aug 06	0.009%	Aug 05	-0.075%	Aug 04	-1.0848%	Aug 03	-0.095%
Sep 07	0.032%	Sep 06	-0.161%	Sep 05	0.041%	Sep 04	-4.4998%	Sep 03	0.449%
Oct 07	0.253%	Oct 06	0.009%	Oct 05	-0.041%	Oct 04	0.0805%	Oct 03	0.178%
Nov 07	-0.255%	Nov 06	-0.187%	Nov 05	-0.005%	Nov 04	-0.1596%	Nov 03	0.009%
Dec 07	-0.090%	Dec 06	-0.062%	Dec 05	0.185%	Dec 04	0.0359%	Dec 03	-0.024%
Jan 08	-0.039%	Jan 07	0.136%	Jan 06	0.008%	Jan 05	-0.4280%	Jan 04	-0.291%
Feb 08	0.015%	Feb 07	0.112%	Feb 06	0.012%	Feb 05	-0.0508%	Feb 04	0.095%
Mar 08	0.420%	Mar 07	-0.248%	Mar 06	0.356%	Mar 05	0.3192%	Mar 04	0.042%
Apr 08	-0.119%	Apr 07	0.129%	Apr 06	0.249%	Apr 05	-0.1738%	Apr 04	0.015%
May 08	0.099%	May 07	0.045%	May 06	0.029%	May 05	0.0706%	May 04	-0.222%
Jun 08	0.031%	Jun 07	-0.010%	Jun 06	0.051%	Jun 05	0.0037%	Jun 04	0.077%
Avg	0.0026%		-0.0009%		0.0042%		0.0003%		0.0064%

Source: calculation

In table 4-18, it shows that the average forecast error during analysis period, the lowest is in 2007 e.g. minus 0.2304% and the highest is in 2005 that 0.0961%. The range is between minus 0.2304% - 0.0961%. It shows during

analysis period the forecast error is quite low. Considering to hedging strategy applied in AL, the spot rate used close to the realized value. Comparing both tables, it shows that forecasted error is bigger for the exchange rate of EUR/AUD than USD/AUD.

Table 4-18
Amcor Limited
Absolute forecast error as a percentage of the Realised Value for the
requirement of EUR
Period : financial year of 2004 to 2008

2008		2007		2006		2005		2004	
Jul 07	0.146%	Jul 06	-0.284%	Jul 05	0.942%	Jul 04	0.04%	Jul 03	-0.073%
Aug 07	0.051%	Aug 06	-0.034%	Aug 05	-1.008%	Aug 04	0.08%	Aug 03	0.032%
Sep 07	0.096%	Sep 06	-0.045%	Sep 05	1.066%	Sep 04	-0.16%	Sep 03	-0.046%
Oct 07	0.123%	Oct 06	0.014%	Oct 05	0.756%	Oct 04	0.03%	Oct 03	-0.013%
Nov 07	-0.260%	Nov 06	-0.004%	Nov 05	-3.876%	Nov 04	-0.08%	Nov 03	0.047%
Dec 07	-0.065%	Dec 06	-0.042%	Dec 05	2.714%	Dec 04	0.18%	Dec 03	-0.031%
Jan 08	0.027%	Jan 07	0.076%	Jan 06	0.108%	Jan 05	3.48%	Jan 04	0.084%
Feb 08	-0.076%	Feb 07	-0.078%	Feb 06	-0.146%	Feb 05	5.51%	Feb 04	-0.081%
Mar 08	0.368%	Mar 07	-0.189%	Mar 06	0.467%	Mar 05	6.44%	Mar 04	0.171%
Apr 08	-0.181%	Apr 07	0.088%	Apr 06	0.173%	Apr 05	4.26%	Apr 04	-0.107%
May 08	0.110%	May 07	-2.789%	May 06	0.069%	May 05	-12.33%	May 04	0.136%
Jun 08	-0.055%	Jun 07	-2.764%	Jun 06	0.031%	Jun 05	1.15%	June 04	0.058%
Avg	-0.0054%		-0.2304%		0.0026%		0.0961%		0.0048%

Source: calculation

E. Summary

To manage the foreign currency exchange risk, AL management has set up some policies. They use forward contract, fixed price swaps, options and futures. For the immediate purchase, they apply spot rate. AL forecasts the exchange rate by mixed forecasting which is the combination of technical forecasting, fundamental forecasting and market-based forecasting.

The summary of findings analysis are:

1. During the analysis period of the financial year 2004 – 2008, AL data shows quite wide range between lowest and highest rate for USD in six years. The range in 2003 to 2008 is from 0.5000 to 0.9700 which the biggest difference of lowest rate and highest rate is in 2008 and the smallest difference is in 2005. Comparing to the market rate, the biggest difference is in year 2008 and the smallest difference is in year 2005. This matches with the rate pattern of AL actual rate.
2. It is the same for EUR, AL data shows quite wide range between lowest and highest rate in six years. The range in 2003 to 2008 is from 0.5000 to 0.6100 which the biggest difference of lowest rate and highest rate is in 2005 (USD/AUD was in 2008) and the smallest difference is in 2007 (EUR/USD was in 2005). While market data from RBA shows the biggest difference is in year of 2008 and the smallest difference is in year 2007. Compared to the monthly weighted average of exchange rate of AL, the pattern is not the same.
3. The rate difference of both AL actual monthly rate and monthly market rate during the analysis period of USD/AUD and EUR/AUD is produced to see the forecasted error of both currencies. Considering to hedging strategy applied in AL, it shows that the forward contract to buy USD close to the realized value and EUR with spot rate. AL's forecast was close to realized value.. The selection of hedging strategy in managing operating exposure on their cash flow shows that the best hedging strategy with forward contract was in 2005 and the worst was in 2007 for the exchange rate of USD/AUD. During the analysis period, the lowest percentage of cash flow movement divided by total purchase was in 2005 and the highest percentage was in 2007. The best hedging strategy for the exchange rate of EUR/AUD during the analysis period was in 2006 and the worst was 2007 when the percentage of cash flow movement divided by total purchase, the lowest was in 2006 and the highest was in 2007.

4. The absolute forecast error as a percentage of the realised value for the requirement of USD shows that the hedging strategy of forward contract close to realised value. For the average of absolute forecast error of USD/AUD, the lowest was in 2007 and the highest was in 2004. For the average of absolute forecast error of EUR/AUD, the lowest was in 2007 and the highest was in 2005. Considering to strategy in AL for the exchange rate EUR/AUD, the spot rate used close to the realized value. Comparing both tables, it shows that forecasted error is bigger for the exchange rate of EUR/AUD than USD/AUD.

CHAPTER V

CONCLUSION AND RECOMMENDATION

This chapter presents conclusions based on findings, identification and analyses of hedging instruments used by Amcor Limited (AL) to minimize currency risk. The conclusions provide answer to prior questions delivered in the first chapter.

Recommendation is provided afterward to any Multinational Company that need any reference in managing their operating exposure and to give overview on which hedging instruments suitable with their business.

The conclusions resulted from this research are, in practice, the policy of the company reports their various transactions in the financial statements reflect on how they are exposed to the foreign exchange fluctuation. Analysis on case study of AL in the period of 2004 to 2008 showing that cash flow of Amcor Limited is sensitive to fluctuation. The hedging strategy of AL is flexible to change, dynamic and improving for time to time. Their management has changed its hedging policy in 2008 after a reassessment of amounts and volume of foreign currency exposures.

AL has also set up to use the fixed price swaps, options and futures. AL enters into interest rate and cross currency swaps, forward rate agreements and interest rate options to hedge interest rate and foreign currency exposures. The method is based on uncertainty and risk factors which impacts exchange rate fluctuation and cash flow. For the currency with low frequency to be used for transaction (EURO), hedge will not be applied to overcome the uncertainty. If the transaction denominated in EUR, they negotiate with the vendor to settle in USD. Otherwise they will buy EUR with spot rate if the exchange rate is reasonable. For US dollar which needs for large amount to transact, AL hedge with forward contract to reduce risk on loss for using big amount of AUD to transact in USD.

Recommendation provided is AL can consider using the hedging strategy for EUR as no hedging instrument used for this exchange rate. For the requirement in USD, AL can also use a long term forward contract and money market hedging as an alternative strategy considering to the company and market condition especially during current economic crisis.

It is recommended for AL to diversify the company's operation and to expand more to get higher matching currency cash flow, therefore, the operating exposure can be minimized. AL needs to further research other strategy than forward or swap and to forecast the exchange rate before selecting any hedging strategy. Other suggestion is to produce a policy about the tolerance percentage on the value of absolute forecast error as a percentage of a the realised value. It can help AL to evaluate the forecast performance.

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Daily Exchange Rates of the Australian Dollar Against USD and EURO
2003

Date	January			February			March			April			May			June			
	United States Dollar	Euro	Date	United States Dollar	Euro	Date	United States Dollar	Euro	Date	United States Dollar	Euro	Date	United States Dollar	Euro	Date	United States Dollar	Euro	Date	
	USD	EUR		USD	EUR		USD	EUR		USD	EUR		USD	EUR		USD	EUR		
2/01/2003	0.5634	0.5380	3/02/2003	0.5860	0.5459	3/03/2003	0.6065	0.5627	1/04/2003	0.6041	0.5544	1/05/2003	0.6271	0.5602	2/06/2003	0.6503	0.5544		
3/01/2003	0.5629	0.5422	4/02/2003	0.5851	0.5431	4/03/2003	0.6143	0.5628	2/04/2003	0.6035	0.5546	2/05/2003	0.6323	0.5628	3/06/2003	0.6582	0.5600		
6/01/2003	0.5696	0.5452	5/02/2003	0.5928	0.5448	5/03/2003	0.6171	0.5624	3/04/2003	0.6023	0.5590	5/05/2003	0.6314	0.5631	4/06/2003	0.6607	0.5641		
7/01/2003	0.5745	0.5504	6/02/2003	0.5894	0.5465	6/03/2003	0.6141	0.5601	4/04/2003	0.6015	0.5602	6/05/2003	0.6359	0.5635	5/06/2003	0.6628	0.5685		
8/01/2003	0.5737	0.5507	7/02/2003	0.5922	0.5472	7/03/2003	0.6142	0.5588	7/04/2003	0.5965	0.5613	7/05/2003	0.6421	0.5630	6/06/2003	0.6662	0.5624		
9/01/2003	0.5773	0.5490	10/02/2003	0.5916	0.5471	10/03/2003	0.6132	0.5565	8/04/2003	0.6000	0.5603	8/05/2003	0.6360	0.5613	10/06/2003	0.6575	0.5609		
10/01/2003	0.5759	0.5488	11/02/2003	0.5886	0.5488	11/03/2003	0.6141	0.5560	9/04/2003	0.6030	0.5607	9/05/2003	0.6431	0.5594	11/06/2003	0.6572	0.5612		
13/01/2003	0.5835	0.5521	12/02/2003	0.5924	0.5512	12/03/2003	0.6051	0.5489	10/04/2003	0.6059	0.5614	12/05/2003	0.6487	0.5609	12/06/2003	0.6647	0.5648		
14/01/2003	0.5863	0.5552	13/02/2003	0.5907	0.5491	13/03/2003	0.5926	0.5454	11/04/2003	0.6069	0.5627	13/05/2003	0.6487	0.5619	13/06/2003	0.6644	0.5643		
15/01/2003	0.5868	0.5562	14/02/2003	0.5958	0.5498	14/03/2003	0.5952	0.5509	14/04/2003	0.6048	0.5619	14/05/2003	0.6452	0.5609	16/06/2003	0.6678	0.5625		
16/01/2003	0.5869	0.5562	17/02/2003	0.5909	0.5509	17/03/2003	0.6011	0.5559	15/04/2003	0.6038	0.5614	15/05/2003	0.6438	0.5629	17/06/2003	0.6709	0.5659		
17/01/2003	0.5895	0.5553	18/02/2003	0.5911	0.5503	18/03/2003	0.5927	0.5570	16/04/2003	0.6086	0.5628	16/05/2003	0.6422	0.5633	18/06/2003	0.6701	0.5665		
20/01/2003	0.5904	0.5547	19/02/2003	0.5904	0.5513	19/03/2003	0.5928	0.5574	17/04/2003	0.6140	0.5611	19/05/2003	0.6564	0.5616	19/06/2003	0.6654	0.5726		
21/01/2003	0.5882	0.5525	20/02/2003	0.5952	0.5528	20/03/2003	0.5926	0.5597	22/04/2003	0.6144	0.5653	20/05/2003	0.6567	0.5626	20/06/2003	0.6706	0.5730		
22/01/2003	0.5899	0.5497	21/02/2003	0.5992	0.5537	21/03/2003	0.5933	0.5596	23/04/2003	0.6205	0.5653	21/05/2003	0.6588	0.5628	23/06/2003	0.6675	0.5763		
23/01/2003	0.5870	0.5480	24/02/2003	0.5987	0.5578	24/03/2003	0.5941	0.5604	24/04/2003	0.6208	0.5644	22/05/2003	0.6548	0.5624	24/06/2003	0.6643	0.5749		
24/01/2003	0.5931	0.5507	25/02/2003	0.6058	0.5612	25/03/2003	0.5963	0.5582	28/04/2003	0.6176	0.5583	23/05/2003	0.6563	0.5620	25/06/2003	0.6642	0.5771		
28/01/2003	0.5895	0.5441	26/02/2003	0.6044	0.5622	26/03/2003	0.5968	0.5601	29/04/2003	0.6203	0.5641	26/05/2003	0.6587	0.5572	26/06/2003	0.6688	0.5807		
29/01/2003	0.5888	0.5422	27/02/2003	0.6073	0.5628	27/03/2003	0.5998	0.5602	30/04/2003	0.6230	0.5601	27/05/2003	0.6589	0.5566	27/06/2003	0.6661	0.5823		
30/01/2003	0.5878	0.5431	28/02/2003	0.6054	0.5629	28/03/2003	0.5993	0.5608				28/05/2003	0.6568	0.5546	30/06/2003	0.6674	0.5840		
31/01/2003	0.5884	0.5439				31/03/2003	0.6036	0.5576				29/05/2003	0.6478	0.5508					
												30/05/2003	0.6522	0.5493					

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar Against USD and EURO
2003

Date	July			August			September			October			November			December		
	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date
1/07/2003	0.6732	0.5845	1/08/2003	0.6475	0.5774	1/09/2003	0.6475	0.5882	1/10/2003	0.6832	0.5853	3/11/2003	0.7078	0.6116	1/12/2003	0.7247	0.6031	
2/07/2003	0.6783	0.5869	5/08/2003	0.6474	0.5700	2/09/2003	0.6433	0.5886	2/10/2003	0.6859	0.5834	4/11/2003	0.6975	0.6096	2/12/2003	0.7292	0.6084	
3/07/2003	0.6807	0.5909	6/08/2003	0.6502	0.5704	3/09/2003	0.6376	0.5909	3/10/2003	0.6846	0.5854	5/11/2003	0.7097	0.6179	3/12/2003	0.7324	0.6058	
4/07/2003	0.6812	0.5938	7/08/2003	0.6452	0.5690	4/09/2003	0.6404	0.5913	7/10/2003	0.6860	0.5855	6/11/2003	0.7109	0.6215	4/12/2003	0.7341	0.6092	
7/07/2003	0.6845	0.5972	8/08/2003	0.6519	0.5735	5/09/2003	0.6429	0.5869	8/10/2003	0.6904	0.5854	7/11/2003	0.7072	0.6198	5/12/2003	0.7345	0.6078	
8/07/2003	0.6750	0.5959	11/08/2003	0.6541	0.5795	8/09/2003	0.6488	0.5852	9/10/2003	0.6936	0.5860	10/11/2003	0.7116	0.6176	8/12/2003	0.7385	0.6075	
9/07/2003	0.6620	0.5849	12/08/2003	0.6590	0.5799	9/09/2003	0.6485	0.5844	10/10/2003	0.6895	0.5880	11/11/2003	0.7149	0.6227	9/12/2003	0.7395	0.6051	
10/07/2003	0.6526	0.5756	13/08/2003	0.6536	0.5810	10/09/2003	0.6584	0.5869	13/10/2003	0.6905	0.5861	12/11/2003	0.7154	0.6182	10/12/2003	0.7402	0.6058	
11/07/2003	0.6587	0.5817	14/08/2003	0.6590	0.5823	11/09/2003	0.6593	0.5873	14/10/2003	0.6844	0.5893	13/11/2003	0.7190	0.6168	11/12/2003	0.7366	0.6045	
14/07/2003	0.6567	0.5829	15/08/2003	0.6576	0.5843	12/09/2003	0.6597	0.5899	15/10/2003	0.6906	0.5899	14/11/2003	0.7217	0.6123	12/12/2003	0.7411	0.6062	
15/07/2003	0.6564	0.5817	18/08/2003	0.6612	0.5887	15/09/2003	0.6624	0.5877	16/10/2003	0.6884	0.5911	17/11/2003	0.7140	0.6054	15/12/2003	0.7394	0.6058	
16/07/2003	0.6510	0.5839	19/08/2003	0.6547	0.5884	16/09/2003	0.6659	0.5890	17/10/2003	0.6898	0.5951	18/11/2003	0.7153	0.6074	16/12/2003	0.7441	0.6028	
17/07/2003	0.6544	0.5829	20/08/2003	0.6551	0.5899	17/09/2003	0.6597	0.5916	20/10/2003	0.6927	0.5958	19/11/2003	0.7230	0.6046	17/12/2003	0.7421	0.6022	
18/07/2003	0.6474	0.5766	21/08/2003	0.6582	0.5947	18/09/2003	0.6645	0.5896	21/10/2003	0.6943	0.5965	20/11/2003	0.7216	0.6058	18/12/2003	0.7416	0.5976	
21/07/2003	0.6475	0.5744	22/08/2003	0.6512	0.5956	19/09/2003	0.6690	0.5941	22/10/2003	0.6999	0.5990	21/11/2003	0.7216	0.6073	19/12/2003	0.7392	0.5955	
22/07/2003	0.6529	0.5762	25/08/2003	0.6511	0.5987	22/09/2003	0.6795	0.5929	23/10/2003	0.7036	0.5952	24/11/2003	0.7232	0.6072	22/12/2003	0.7345	0.5924	
23/07/2003	0.6515	0.5736	26/08/2003	0.6458	0.5949	23/09/2003	0.6776	0.5901	24/10/2003	0.7014	0.5933	25/11/2003	0.7203	0.6105	23/12/2003	0.7359	0.5934	
24/07/2003	0.6623	0.5768	27/08/2003	0.6442	0.5928	24/09/2003	0.6751	0.5896	27/10/2003	0.7014	0.5975	26/11/2003	0.7181	0.6080	24/12/2003	0.7395	0.5962	
25/07/2003	0.6630	0.5785	28/08/2003	0.6366	0.5862	25/09/2003	0.6792	0.5919	28/10/2003	0.7036	0.6008	27/11/2003	0.7239	0.6068	29/12/2003	0.7430	0.5965	
28/07/2003	0.6620	0.5768	29/08/2003	0.6400	0.5885	26/09/2003	0.6800	0.5923	29/10/2003	0.7060	0.6041	28/11/2003	0.7206	0.6047	30/12/2003	0.7447	0.5960	
29/07/2003	0.6646	0.5773				29/09/2003	0.6717	0.5863	30/10/2003	0.7050	0.6040							
30/07/2003	0.6604	0.5774				30/09/2003	0.6801	0.5847	31/10/2003	0.7046	0.6063							
31/07/2003	0.6529	0.5760																

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2004

January			February			March			April			May			June		
Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR
2/01/2004	0.7527	0.5990	2/02/2004	0.7615	0.6115	1/03/2004	0.7745	0.6195	1/04/2004	0.7618	0.6210	3/05/2004	0.7217	0.6025	1/06/2004	0.7160	0.5859
5/01/2004	0.7630	0.6025	3/02/2004	0.7604	0.6099	2/03/2004	0.7726	0.6212	2/04/2004	0.7648	0.6189	4/05/2004	0.7224	0.6046	2/06/2004	0.7087	0.5772
6/01/2004	0.7668	0.6048	4/02/2004	0.7635	0.6092	3/03/2004	0.7512	0.6169	5/04/2004	0.7576	0.6265	5/05/2004	0.7315	0.6037	3/06/2004	0.6925	0.5679
7/01/2004	0.7677	0.6034	5/02/2004	0.7610	0.6073	4/03/2004	0.7516	0.6176	6/04/2004	0.7526	0.6270	6/05/2004	0.7311	0.6009	4/06/2004	0.6909	0.5659
8/01/2004	0.7679	0.6098	6/02/2004	0.7634	0.6080	5/03/2004	0.7509	0.6156	7/04/2004	0.7588	0.6288	7/05/2004	0.7180	0.5958	7/06/2004	0.7004	0.5682
9/01/2004	0.7752	0.6079	9/02/2004	0.7762	0.6092	8/03/2004	0.7576	0.6123	8/04/2004	0.7666	0.6277	10/05/2004	0.6979	0.5891	8/06/2004	0.7040	0.5709
12/01/2004	0.7787	0.6062	10/02/2004	0.7791	0.6114	9/03/2004	0.7639	0.6140	13/04/2004	0.7671	0.6353	11/05/2004	0.6963	0.5869	9/06/2004	0.6970	0.5695
13/01/2004	0.7782	0.6096	11/02/2004	0.7796	0.6136	10/03/2004	0.7565	0.6142	14/04/2004	0.7429	0.6239	12/05/2004	0.7003	0.5898	10/06/2004	0.6906	0.5726
14/01/2004	0.7766	0.6099	12/02/2004	0.7871	0.6135	11/03/2004	0.7425	0.6089	15/04/2004	0.7367	0.6170	13/05/2004	0.6916	0.5822	11/06/2004	0.6939	0.5778
15/01/2004	0.7738	0.6116	13/02/2004	0.7908	0.6172	12/03/2004	0.7284	0.5930	16/04/2004	0.7422	0.6186	14/05/2004	0.6879	0.5816	15/06/2004	0.6847	0.5673
16/01/2004	0.7708	0.6128	16/02/2004	0.7902	0.6206	15/03/2004	0.7338	0.5999	19/04/2004	0.7476	0.6213	17/05/2004	0.6937	0.5799	16/06/2004	0.6941	0.5714
19/01/2004	0.7580	0.6122	17/02/2004	0.7932	0.6212	16/03/2004	0.7367	0.6008	20/04/2004	0.7405	0.6203	18/05/2004	0.6834	0.5701	17/06/2004	0.6839	0.5690
20/01/2004	0.7575	0.6122	18/02/2004	0.7972	0.6200	17/03/2004	0.7430	0.6053	21/04/2004	0.7310	0.6173	19/05/2004	0.6963	0.5809	18/06/2004	0.6819	0.5690
21/01/2004	0.7698	0.6097	19/02/2004	0.7930	0.6228	18/03/2004	0.7450	0.6070	22/04/2004	0.7294	0.6168	20/05/2004	0.6924	0.5794	21/06/2004	0.6883	0.5672
22/01/2004	0.7732	0.6100	20/02/2004	0.7885	0.6199	19/03/2004	0.7486	0.6039	23/04/2004	0.7346	0.6161	21/05/2004	0.6999	0.5830	22/06/2004	0.6864	0.5670
23/01/2004	0.7773	0.6118	23/02/2004	0.7729	0.6181	22/03/2004	0.7447	0.6081	27/04/2004	0.7339	0.6196	24/05/2004	0.6962	0.5819	23/06/2004	0.6900	0.5673
27/01/2004	0.7695	0.6174	24/02/2004	0.7725	0.6165	23/03/2004	0.7536	0.6101	28/04/2004	0.7318	0.6151	25/05/2004	0.7000	0.5814	24/06/2004	0.6894	0.5714
28/01/2004	0.7770	0.6170	25/02/2004	0.7803	0.6156	24/03/2004	0.7516	0.6101	29/04/2004	0.7179	0.6073	26/05/2004	0.7088	0.5853	25/06/2004	0.7003	0.5756
29/01/2004	0.7713	0.6191	26/02/2004	0.7731	0.6180	25/03/2004	0.7438	0.6133	30/04/2004	0.7220	0.6033	27/05/2004	0.7118	0.5857	28/06/2004	0.6964	0.5735
30/01/2004	0.7644	0.6157	27/02/2004	0.7708	0.6198	26/03/2004	0.7403	0.6096				28/05/2004	0.7189	0.5847	29/06/2004	0.6995	0.5751
						29/03/2004	0.7450	0.6162				31/05/2004	0.7143	0.5850	30/06/2004	0.6889	0.5702
						30/03/2004	0.7503	0.6154									
						31/03/2004	0.7569	0.6203									

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2004

Date	July			August			September			October			November			December		
	United States Dollar	Euro	EUR/USD	United States Dollar	Euro	EUR/USD	Date	United States Dollar	Euro	EUR/USD	Date	United States Dollar	Euro	EUR/USD	Date	United States Dollar	Euro	EUR/USD
1/07/2004	0.6994	0.5744	0.7013	0.5838	1/09/2004	0.7047	0.5785	1/10/2004	0.7265	0.5848	1/11/2004	0.7473	0.5846	1/12/2004	0.7767	0.5837		
2/07/2004	0.7038	0.5784	0.7025	0.5841	2/09/2004	0.7001	0.5749	4/10/2004	CLOSED	0.5846	2/11/2004	0.7449	0.5846	2/12/2004	0.7805	0.5841		
5/07/2004	0.7134	0.5791	0.7048	0.5846	3/09/2004	0.6975	0.5732	5/10/2004	0.7215	0.5876	3/11/2004	0.7459	0.5878	3/12/2004	0.7746	0.5831		
6/07/2004	0.7174	0.5824	0.7038	0.5825	6/09/2004	0.6916	0.5738	6/10/2004	0.7246	0.5881	4/11/2004	0.7564	0.5898	6/12/2004	0.7817	0.5813		
7/07/2004	0.7186	0.5814	0.7161	0.5832	7/09/2004	0.6938	0.5745	7/10/2004	0.7246	0.5891	5/11/2004	0.7572	0.5876	7/12/2004	0.7772	0.5791		
8/07/2004	0.7217	0.5833	0.7150	0.5828	8/09/2004	0.6901	0.5717	8/10/2004	0.7278	0.5907	8/11/2004	0.7605	0.5861	8/12/2004	0.7660	0.5734		
9/07/2004	0.7235	0.5828	0.7128	0.5823	9/09/2004	0.6935	0.5695	11/10/2004	0.7338	0.5916	9/11/2004	0.7565	0.5857	9/12/2004	0.7582	0.5696		
12/07/2004	0.7246	0.5845	0.7141	0.5835	10/09/2004	0.6886	0.5629	12/10/2004	0.7315	0.5920	10/11/2004	0.7602	0.5894	10/12/2004	0.7512	0.5680		
13/07/2004	0.7249	0.5864	0.7070	0.5785	13/09/2004	0.6966	0.5680	13/10/2004	0.7284	0.5918	11/11/2004	0.7595	0.5898	13/12/2004	0.7532	0.5672		
14/07/2004	0.7256	0.5880	0.7165	0.5799	14/09/2004	0.6990	0.5700	14/10/2004	0.7247	0.5868	12/11/2004	0.7648	0.5921	14/12/2004	0.7597	0.5716		
15/07/2004	0.7240	0.5853	0.7186	0.5816	15/09/2004	0.6983	0.5712	15/10/2004	0.7303	0.5892	15/11/2004	0.7695	0.5932	15/12/2004	0.7568	0.5689		
16/07/2004	0.7235	0.5850	0.7162	0.5798	16/09/2004	0.6948	0.5717	18/10/2004	0.7312	0.5858	18/11/2004	0.7704	0.5954	16/12/2004	0.7655	0.5709		
19/07/2004	0.7343	0.5897	0.7146	0.5792	17/09/2004	0.6986	0.5732	19/10/2004	0.7248	0.5812	17/11/2004	0.7736	0.5967	17/12/2004	0.7615	0.5741		
20/07/2004	0.7307	0.5871	0.7250	0.5858	20/09/2004	0.6991	0.5745	20/10/2004	0.7275	0.5820	18/11/2004	0.7816	0.5996	20/12/2004	0.7634	0.5730		
21/07/2004	0.7261	0.5893	0.7225	0.5872	21/09/2004	0.7001	0.5750	21/10/2004	0.7367	0.5854	19/11/2004	0.7755	0.5985	21/12/2004	0.7664	0.5724		
22/07/2004	0.7134	0.5821	0.7125	0.5862	22/09/2004	0.7048	0.5723	22/10/2004	0.7365	0.5842	22/11/2004	0.7820	0.5999	22/12/2004	0.7632	0.5716		
23/07/2004	0.7131	0.5827	0.7064	0.5848	23/09/2004	0.7078	0.5769	25/10/2004	0.7445	0.5837	23/11/2004	0.7791	0.5996	23/12/2004	0.7659	0.5703		
26/07/2004	0.7120	0.5867	0.7049	0.5847	24/09/2004	0.7129	0.5806	26/10/2004	0.7476	0.5839	24/11/2004	0.7858	0.6003	24/12/2004	0.7677	0.5687		
27/07/2004	0.7116	0.5865	0.7065	0.5827	27/09/2004	0.7114	0.5795	27/10/2004	0.7454	0.5846	25/11/2004	0.7868	0.5970	29/12/2004	0.7792	0.5726		
28/07/2004	0.7016	0.5814	0.6967	0.5803	28/09/2004	0.7145	0.5814	28/10/2004	0.7487	0.5887	26/11/2004	0.7937	0.5973	30/12/2004	0.7753	0.5687		
29/07/2004	0.6988	0.5792	0.7011	0.5806	29/09/2004	0.7165	0.5812	29/10/2004	0.7461	0.5857	29/11/2004	0.7867	0.5932	31/12/2004	0.7790	0.5717		
30/07/2004	0.6986	0.5802			30/09/2004	0.7147	0.5794				30/11/2004	0.7775	0.5858					

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2005

Date	January			February			March			April			May			June		
	United States Dollar	Euro	USD EUR	United States Dollar	Euro	USD EUR	United States Dollar	Euro	USD EUR	United States Dollar	Euro	USD EUR	United States Dollar	Euro	USD EUR	United States Dollar	Euro	USD EUR
1/01/2005	Closed			1/02/2005	0.7737	0.5929	1/03/2005	0.7869	0.5964	1/04/2005	0.7730	0.5962	2/05/2005	0.7802	0.6069	1/06/2005	0.7561	0.6133
2/01/2005	Closed			2/02/2005	0.7744	0.5921	2/03/2005	0.7830	0.5947	4/04/2005	0.7708	0.5975	3/05/2005	0.7767	0.6051	2/06/2005	0.7573	0.6150
3/01/2005	Closed			3/02/2005	0.7753	0.5955	3/03/2005	0.7818	0.5952	5/04/2005	0.7652	0.5970	4/05/2005	0.7775	0.6001	3/06/2005	0.7564	0.6148
4/01/2005	0.7788	0.5775	4/02/2005	0.7697	0.5935	4/03/2005	0.7826	0.5972	6/04/2005	0.7654	0.5943	5/05/2005	0.7793	0.6015	6/06/2005	0.7595	0.6193	
5/01/2005	0.7648	0.5765	7/02/2005	0.7724	0.6022	7/03/2005	0.7897	0.5968	7/04/2005	0.7687	0.5962	6/05/2005	0.7792	0.6022	7/06/2005	0.7659	0.6240	
6/01/2005	0.7637	0.5759	8/02/2005	0.7669	0.6010	8/03/2005	0.7928	0.5995	8/04/2005	0.7665	0.5978	9/05/2005	0.7732	0.6038	8/06/2005	0.7679	0.6232	
7/01/2005	0.7625	0.5778	9/02/2005	0.7638	0.5986	9/03/2005	0.7971	0.5973	11/04/2005	0.7721	0.5974	10/05/2005	0.7736	0.6024	9/06/2005	0.7670	0.6270	
10/01/2005	0.7583	0.5797	10/02/2005	0.7767	0.6061	10/03/2005	0.7960	0.5926	12/04/2005	0.7751	0.5974	11/05/2005	0.7757	0.6028	10/06/2005	0.7648	0.6257	
11/01/2005	0.7607	0.5793	11/02/2005	0.7818	0.6071	11/03/2005	0.7899	0.5983	13/04/2005	0.7777	0.6019	12/05/2005	0.7729	0.6044	14/06/2005	0.7641	0.6308	
12/01/2005	0.7605	0.5800	14/02/2005	0.7851	0.6070	14/03/2005	0.7929	0.5894	14/04/2005	0.7738	0.6009	13/05/2005	0.7647	0.6034	15/06/2005	0.7638	0.6341	
13/01/2005	0.7664	0.5783	15/02/2005	0.7846	0.6055	15/03/2005	0.7894	0.5905	15/04/2005	0.7667	0.5992	16/05/2005	0.7558	0.5996	16/06/2005	0.7679	0.6356	
14/01/2005	0.7591	0.5788	16/02/2005	0.7864	0.6039	16/03/2005	0.7901	0.5934	18/04/2005	0.7647	0.5932	17/05/2005	0.7574	0.5994	17/06/2005	0.7721	0.6380	
17/01/2005	0.7608	0.5802	17/02/2005	0.7849	0.6017	17/03/2005	0.7926	0.5915	19/04/2005	0.7675	0.5893	18/05/2005	0.7560	0.5995	20/06/2005	0.7774	0.6370	
18/01/2005	0.7528	0.5776	18/02/2005	0.7847	0.6004	18/03/2005	0.7929	0.5930	20/04/2005	0.7734	0.5915	19/05/2005	0.7592	0.5992	21/06/2005	0.7753	0.6388	
19/01/2005	0.7570	0.5811	21/02/2005	0.7877	0.6036	21/03/2005	0.7915	0.5970	21/04/2005	0.7758	0.5921	20/05/2005	0.7586	0.6001	22/06/2005	0.7782	0.6395	
20/01/2005	0.7611	0.5851	22/02/2005	0.7905	0.6013	22/03/2005	0.7844	0.5959	22/04/2005	0.7777	0.5961	23/05/2005	0.7565	0.6024	23/06/2005	0.7772	0.6418	
21/01/2005	0.7578	0.5850	23/02/2005	0.7928	0.5988	23/03/2005	0.7802	0.5963	26/04/2005	0.7808	0.6002	24/05/2005	0.7606	0.6049	24/06/2005	0.7778	0.6415	
24/01/2005	0.7696	0.5899	24/02/2005	0.7880	0.5953	24/03/2005	0.7734	0.5953	27/04/2005	0.7756	0.5995	25/05/2005	0.7606	0.6045	27/06/2005	0.7695	0.6344	
25/01/2005	0.7702	0.5915	25/02/2005	0.7852	0.5946	25/03/2005	Closed		28/04/2005	0.7772	0.6010	26/05/2005	0.7613	0.6065	28/06/2005	0.7682	0.6321	
26/01/2005	Closed		28/02/2005	0.7905	0.5961	28/03/2005	Closed		29/04/2005	0.7811	0.6036	27/05/2005	0.7597	0.6067	29/06/2005	0.7629	0.6323	
27/01/2005	0.7763	0.5937				29/03/2005	0.7707	0.5964				30/05/2005	0.7617	0.6081	30/06/2005	0.7637	0.6315	
28/01/2005	0.7753	0.5952				30/03/2005	0.7733	0.5968				31/05/2005	0.7557	0.6096				
31/01/2005	0.7744	0.5945				31/03/2005	0.7719	0.5973										

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2005

Date	July		August		September		October		November		December						
	United States	Euro	United States	Euro	United States	Euro	United States	Euro	United States	Euro	United States	Euro					
	Dollar	EUR	Dollar	EUR	Dollar	EUR	Dollar	EUR	Dollar	EUR	Dollar	EUR					
1/07/2005	0.7579	0.6294	2/08/2005	0.7637	0.6253	1/09/2005	0.7552	0.6122	4/10/2005	0.7637	0.6402	1/11/2005	0.7462	0.6230	1/12/2005	0.7385	0.6268
4/07/2005	0.7498	0.6287	3/08/2005	0.7634	0.6274	2/09/2005	0.7634	0.6112	5/10/2005	0.7601	0.6365	2/11/2005	0.7435	0.6174	2/12/2005	0.7427	0.6334
5/07/2005	0.7493	0.6296	4/08/2005	0.7718	0.6257	5/09/2005	0.7692	0.6118	6/10/2005	0.7580	0.6294	3/11/2005	0.7415	0.6143	5/12/2005	0.7458	0.6378
6/07/2005	0.7436	0.6232	5/08/2005	0.7697	0.6221	6/09/2005	0.7669	0.6130	7/10/2005	0.7606	0.6254	4/11/2005	0.7381	0.6185	6/12/2005	0.7512	0.6374
7/07/2005	0.7401	0.6207	8/08/2005	0.7645	0.6201	7/09/2005	0.7676	0.6152	10/10/2005	0.7582	0.6252	7/11/2005	0.7329	0.6203	7/12/2005	0.7492	0.6363
8/07/2005	0.7381	0.6185	9/08/2005	0.7653	0.6168	8/09/2005	0.7696	0.6193	11/10/2005	0.7575	0.6297	8/11/2005	0.7299	0.6225	8/12/2005	0.7456	0.6362
11/07/2005	0.7433	0.6191	10/08/2005	0.7626	0.6162	9/09/2005	0.7714	0.6202	12/10/2005	0.7515	0.6277	9/11/2005	0.7344	0.6243	9/12/2005	0.7518	0.6364
12/07/2005	0.7506	0.6173	11/08/2005	0.7696	0.6210	12/09/2005	0.7730	0.6265	13/10/2005	0.7517	0.6271	10/11/2005	0.7328	0.6233	12/12/2005	0.7518	0.6349
13/07/2005	0.7550	0.6185	12/08/2005	0.7728	0.6205	13/09/2005	0.7707	0.6265	14/10/2005	0.7518	0.6256	11/11/2005	0.7325	0.6262	13/12/2005	0.7561	0.6323
14/07/2005	0.7514	0.6227	15/08/2005	0.7716	0.6228	14/09/2005	0.7699	0.6266	17/10/2005	0.7534	0.6234	14/11/2005	0.7337	0.6236	14/12/2005	0.7541	0.6276
15/07/2005	0.7518	0.6209	16/08/2005	0.7672	0.6214	15/09/2005	0.7691	0.6291	18/10/2005	0.7475	0.6236	15/11/2005	0.7285	0.6230	15/12/2005	0.7547	0.6292
18/07/2005	0.7496	0.6219	17/08/2005	0.7648	0.6209	16/09/2005	0.7693	0.6260	19/10/2005	0.7476	0.6259	16/11/2005	0.7307	0.6237	16/12/2005	0.7454	0.6233
19/07/2005	0.7512	0.6256	18/08/2005	0.7602	0.6198	19/09/2005	0.7629	0.6294	20/10/2005	0.7492	0.6258	17/11/2005	0.7316	0.6267	19/12/2005	0.7460	0.6209
20/07/2005	0.7522	0.6230	19/08/2005	0.7520	0.6180	20/09/2005	0.7686	0.6327	21/10/2005	0.7510	0.6240	18/11/2005	0.7325	0.6249	20/12/2005	0.7390	0.6168
21/07/2005	0.7590	0.6246	22/08/2005	0.7532	0.6183	21/09/2005	0.7693	0.6311	24/10/2005	0.7482	0.6268	21/11/2005	0.7333	0.6224	21/12/2005	0.7346	0.6190
22/07/2005	0.7657	0.6291	23/08/2005	0.7557	0.6192	22/09/2005	0.7690	0.6297	25/10/2005	0.7504	0.6275	22/11/2005	0.7343	0.6261	22/12/2005	0.7336	0.6199
25/07/2005	0.7627	0.6326	24/08/2005	0.7522	0.6175	23/09/2005	0.7601	0.6254	26/10/2005	0.7563	0.6248	23/11/2005	0.7372	0.6241	23/12/2005	0.7306	0.6153
26/07/2005	0.7601	0.6312	25/08/2005	0.7580	0.6163	26/09/2005	0.7582	0.6300	27/10/2005	0.7568	0.6255	24/11/2005	0.7382	0.6247	28/12/2005	0.7272	0.6139
27/07/2005	0.7552	0.6292	26/08/2005	0.7584	0.6157	27/09/2005	0.7539	0.6273	28/10/2005	0.7563	0.6233	25/11/2005	0.7360	0.6252	29/12/2005	0.7290	0.6153
28/07/2005	0.7552	0.6260	29/08/2005	0.7563	0.6137	28/09/2005	0.7575	0.6296	31/10/2005	0.7487	0.6214	28/11/2005	0.7334	0.6271	30/12/2005	0.7337	0.6175
29/07/2005	0.7595	0.6262	30/08/2005	0.7486	0.6128	29/09/2005	0.7599	0.6304				29/11/2005	0.7399	0.6259			
			31/08/2005	0.7471	0.6121	30/09/2005	0.7615	0.6326				30/11/2005	0.7389	0.6274			

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2006

January			February			March			April			May			June		
Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR
3/01/2006	0.7377	0.6210	1/02/2006	0.7577	0.6233	1/03/2006	0.7430	0.6221	3/04/2006	0.7150	0.5933	1/05/2006	0.7814	0.6027	1/06/2006	0.7488	0.5861
4/01/2006	0.7427	0.6155	2/02/2006	0.7520	0.6235	2/03/2006	0.7454	0.6253	4/04/2006	0.7129	0.5867	2/05/2006	0.7581	0.6018	2/06/2006	0.7464	0.5825
5/01/2006	0.7475	0.6179	3/02/2006	0.7527	0.6225	3/03/2006	0.7447	0.6191	5/04/2006	0.7216	0.5882	3/05/2006	0.7674	0.6067	5/06/2006	0.7522	0.5910
6/01/2006	0.7472	0.6180	6/02/2006	0.7464	0.6210	6/03/2006	0.7446	0.6173	6/04/2006	0.7290	0.5934	4/05/2006	0.7675	0.6078	6/06/2006	0.7458	0.5780
9/01/2006	0.7533	0.6203	7/02/2006	0.7425	0.6204	7/03/2006	0.7380	0.6171	7/04/2006	0.7304	0.5984	6/05/2006	0.7681	0.6052	7/06/2006	0.7411	0.5783
10/01/2006	0.7483	0.6214	8/02/2006	0.7381	0.6167	8/03/2006	0.7342	0.6172	10/04/2006	0.7281	0.6010	8/05/2006	0.7713	0.6050	8/06/2006	0.7451	0.5828
11/01/2006	0.7504	0.6219	9/02/2006	0.7399	0.6179	9/03/2006	0.7358	0.6158	11/04/2006	0.7316	0.6032	9/05/2006	0.7689	0.6055	9/06/2006	0.7450	0.5892
12/01/2006	0.7553	0.6223	10/02/2006	0.7395	0.6170	10/03/2006	0.7345	0.6170	12/04/2006	0.7334	0.6036	10/05/2006	0.7720	0.6048	13/06/2006	0.7415	0.5894
13/01/2006	0.7559	0.6236	13/02/2006	0.7389	0.6193	13/03/2006	0.7333	0.6137	13/04/2006	0.7302	0.6034	11/06/2006	0.7713	0.6058	14/06/2006	0.7383	0.5874
16/01/2006	0.7559	0.6218	14/02/2006	0.7373	0.6193	14/03/2006	0.7335	0.6126	18/04/2006	0.7391	0.6031	12/05/2006	0.7789	0.6038	15/06/2006	0.7382	0.5853
17/01/2006	0.7478	0.6185	15/02/2006	0.7407	0.6213	15/03/2006	0.7391	0.6150	19/04/2006	0.7431	0.6019	16/05/2006	0.7704	0.5958	16/08/2006	0.7427	0.5873
19/01/2006	0.7465	0.6171	17/02/2006	0.7389	0.6216	17/03/2006	0.7359	0.6122	20/04/2006	0.7449	0.6030	16/05/2006	0.7828	0.5948	19/06/2006	0.7372	0.5853
20/01/2006	0.7488	0.6199	20/02/2006	0.7414	0.6193	20/03/2006	0.7282	0.5958	24/04/2006	0.7452	0.6029	18/05/2006	0.7600	0.5962	21/06/2006	0.7395	0.5860
23/01/2006	0.7539	0.6159	21/02/2006	0.7382	0.6191	21/03/2006	0.7203	0.5936	26/04/2006	0.7462	0.6005	19/05/2006	0.7633	0.5949	22/06/2006	0.7403	0.5845
24/01/2006	0.7507	0.6111	22/02/2006	0.7387	0.6197	22/03/2006	0.7175	0.5933	27/04/2006	0.7523	0.6040	22/05/2006	0.7507	0.5901	23/06/2006	0.7342	0.5840
25/01/2006	0.7515	0.6124	23/02/2006	0.7359	0.6178	23/03/2006	0.7178	0.5953	28/04/2006	0.7542	0.6020	23/06/2006	0.7538	0.5882	26/06/2006	0.7318	0.5847
27/01/2006	0.7521	0.6158	24/02/2006	0.7402	0.6207	24/03/2006	0.7111	0.5942				24/05/2006	0.7514	0.5880	27/06/2006	0.7338	0.5826
30/01/2006	0.7491	0.6197	27/02/2006	0.7386	0.6221	27/03/2006	0.7079	0.5873				25/05/2006	0.7520	0.5891	28/06/2006	0.7319	0.5821
31/01/2006	0.7510	0.6208	28/02/2006	0.7382	0.6225	28/03/2006	0.7103	0.5917				26/05/2006	0.7580	0.5942	29/06/2006	0.7284	0.5804
						29/03/2006	0.7021	0.5850				29/06/2006	0.7577	0.5947	30/06/2006	0.7433	0.5841
						30/03/2006	0.7103	0.5883				30/05/2006	0.7617	0.5943			
						31/03/2006	0.7158	0.5889				31/06/2006	0.7636	0.5932			

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2006

July			August			September			October			November			December		
Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR
3/07/2006	0.7423	0.5808	1/09/2006	0.7630	0.5992	1/09/2006	0.7650	0.5970	3/10/2006	0.7477	0.5861	1/11/2006	0.7739	0.6064	1/12/2006	0.7896	0.5958
4/07/2006	0.7442	0.5810	2/08/2006	0.7672	0.5984	4/09/2006	0.7704	0.5992	4/10/2006	0.7437	0.5845	2/11/2006	0.7721	0.6033	4/12/2006	0.7866	0.5906
5/07/2006	0.7465	0.5820	3/08/2006	0.7640	0.5988	6/09/2006	0.7701	0.6000	6/10/2006	0.7462	0.5874	3/11/2006	0.7743	0.6060	6/12/2006	0.7879	0.5912
6/07/2006	0.7421	0.5828	4/08/2006	0.7618	0.5950	6/08/2006	0.7684	0.5997	6/10/2006	0.7447	0.5870	6/11/2006	0.7698	0.6059	6/12/2006	0.7875	0.5910
7/07/2006	0.7464	0.5845	8/08/2006	0.7620	0.5943	7/09/2006	0.7664	0.5982	9/10/2006	0.7430	0.5897	7/11/2006	0.7736	0.6059	7/12/2006	0.7891	0.5930
10/07/2006	0.7519	0.5879	9/08/2006	0.7578	0.5915	8/09/2006	0.7566	0.5950	10/10/2006	0.7451	0.5915	8/11/2006	0.7716	0.6038	8/12/2006	0.7893	0.5940
11/07/2006	0.7487	0.5882	10/08/2006	0.7701	0.5980	11/09/2006	0.7522	0.5928	11/10/2006	0.7436	0.5927	9/11/2006	0.7667	0.6005	11/12/2006	0.7822	0.5946
12/07/2006	0.7544	0.5910	11/08/2006	0.7685	0.6013	12/09/2006	0.7528	0.5919	12/10/2006	0.7470	0.5959	10/11/2006	0.7877	0.5971	12/12/2006	0.7853	0.5922
13/07/2006	0.7556	0.5943	14/08/2006	0.7675	0.6021	13/09/2006	0.7507	0.5917	13/10/2006	0.7510	0.5974	13/11/2006	0.7873	0.5981	13/12/2006	0.7879	0.5932
14/07/2006	0.7506	0.5913	15/08/2006	0.7595	0.5860	14/09/2006	0.7515	0.5923	16/10/2006	0.7501	0.5987	14/11/2006	0.7846	0.5981	14/12/2006	0.7863	0.5950
17/07/2006	0.7509	0.5946	16/08/2006	0.7641	0.5974	15/09/2006	0.7560	0.5937	17/10/2006	0.7547	0.6018	15/11/2006	0.7654	0.5973	15/12/2006	0.7819	0.5947
18/07/2006	0.7490	0.5980	17/08/2006	0.7674	0.5971	18/09/2006	0.7523	0.5944	18/10/2006	0.7544	0.6010	16/11/2006	0.7863	0.5973	18/12/2006	0.7815	0.5969
19/07/2006	0.7451	0.5963	18/08/2006	0.7609	0.5928	19/09/2006	0.7555	0.5944	19/10/2006	0.7553	0.6026	17/11/2006	0.7664	0.5998	19/12/2006	0.7805	0.5984
20/07/2006	0.7500	0.5949	21/08/2006	0.7597	0.5920	20/09/2006	0.7525	0.5937	20/10/2006	0.7597	0.6016	20/11/2006	0.7687	0.5986	20/12/2006	0.7848	0.5933
21/07/2006	0.7493	0.5929	22/08/2006	0.7618	0.5920	21/09/2006	0.7567	0.5950	23/10/2006	0.7601	0.6029	21/11/2006	0.7895	0.6007	21/12/2006	0.7860	0.5958
24/07/2006	0.7513	0.5941	23/08/2006	0.7630	0.5965	22/09/2006	0.7581	0.5911	24/10/2006	0.7573	0.6042	22/11/2006	0.7721	0.6000	22/12/2006	0.7862	0.5959
25/07/2006	0.7561	0.5971	24/08/2006	0.7816	0.5983	26/09/2006	0.7522	0.5872	26/10/2006	0.7612	0.6058	23/11/2006	0.7749	0.5989	27/12/2006	0.7855	0.5981
26/07/2006	0.7559	0.6013	25/08/2006	0.7804	0.5956	26/09/2006	0.7550	0.5918	26/10/2006	0.7627	0.6040	24/11/2006	0.7751	0.5982	28/12/2006	0.7867	0.5996
27/07/2006	0.7515	0.5979	28/08/2006	0.7586	0.5928	27/09/2006	0.7507	0.5917	27/10/2006	0.7645	0.6018	27/11/2006	0.7784	0.5938	29/12/2006	0.7813	0.6012
28/07/2006	0.7625	0.6007	29/08/2006	0.7623	0.5945	28/09/2006	0.7502	0.5898	30/10/2006	0.7698	0.6047	28/11/2006	0.7788	0.5928			
31/07/2006	0.7658	0.6000	30/08/2006	0.7623	0.5939	29/09/2006	0.7480	0.5881	31/10/2006	0.7682	0.6051	29/11/2006	0.7825	0.5933			
			31/08/2006	0.7627	0.5947							30/11/2006	0.7850	0.5960			

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2007

January			February			March			April			May			June		
Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR
2/01/2007	0.7939	0.5997	1/02/2007	0.7751	0.5947	1/03/2007	0.7860	0.5944	2/04/2007	0.8139	0.6097	1/05/2007	0.8292	0.6075	1/06/2007	0.8295	0.6168
3/01/2007	0.7974	0.6002	2/02/2007	0.7730	0.5936	2/03/2007	0.7850	0.5960	3/04/2007	0.8144	0.6098	2/05/2007	0.8247	0.6068	4/06/2007	0.8333	0.6193
4/01/2007	0.7909	0.6006	5/02/2007	0.7733	0.5977	5/03/2007	0.7768	0.5909	4/04/2007	0.8120	0.6098	3/05/2007	0.8245	0.6059	5/06/2007	0.8354	0.6191
5/01/2007	0.7822	0.5985	6/02/2007	0.7749	0.5995	6/03/2007	0.7738	0.5906	5/04/2007	0.8167	0.6113	4/05/2007	0.8190	0.6040	6/06/2007	0.8436	0.6236
8/01/2007	0.7799	0.6000	7/02/2007	0.7770	0.5982	7/03/2007	0.7765	0.5914	10/04/2007	0.8233	0.6136	7/05/2007	0.8247	0.6061	7/06/2007	0.8466	0.6267
9/01/2007	0.7830	0.6004	8/02/2007	0.7815	0.6001	8/03/2007	0.7773	0.5889	11/04/2007	0.8245	0.6139	8/05/2007	0.8307	0.6100	8/06/2007	0.8424	0.6273
10/01/2007	0.7798	0.6011	9/02/2007	0.7806	0.5986	9/03/2007	0.7791	0.5923	12/04/2007	0.8246	0.6125	9/05/2007	0.8293	0.6122	12/06/2007	0.8435	0.6312
11/01/2007	0.7825	0.6040	12/02/2007	0.7739	0.5945	12/03/2007	0.7814	0.5959	13/04/2007	0.8324	0.6160	10/05/2007	0.8323	0.6144	13/06/2007	0.8412	0.6319
12/01/2007	0.7800	0.6046	13/02/2007	0.7730	0.5965	13/03/2007	0.7858	0.5959	16/04/2007	0.8315	0.6139	11/05/2007	0.8301	0.6158	14/06/2007	0.8386	0.6300
15/01/2007	0.7856	0.6073	14/02/2007	0.7800	0.5985	14/03/2007	0.7820	0.5927	17/04/2007	0.8323	0.6146	14/05/2007	0.8334	0.6153	15/06/2007	0.8368	0.6282
16/01/2007	0.7830	0.6050	15/02/2007	0.7839	0.5968	15/03/2007	0.7862	0.5944	18/04/2007	0.8363	0.6155	15/05/2007	0.8327	0.6150	18/06/2007	0.8428	0.6295
17/01/2007	0.7836	0.6062	16/02/2007	0.7846	0.5972	16/03/2007	0.7920	0.5959	19/04/2007	0.8322	0.6122	16/05/2007	0.8327	0.6120	19/06/2007	0.8437	0.6280
18/01/2007	0.7882	0.6077	19/02/2007	0.7875	0.5986	19/03/2007	0.7956	0.5980	20/04/2007	0.8342	0.6128	17/05/2007	0.8258	0.6105	20/06/2007	0.8468	0.6308
19/01/2007	0.7906	0.6082	20/02/2007	0.7867	0.5970	20/03/2007	0.7984	0.6008	23/04/2007	0.8344	0.6144	18/05/2007	0.8209	0.6088	21/06/2007	0.8458	0.6312
22/01/2007	0.7899	0.6089	21/02/2007	0.7873	0.5991	21/03/2007	0.8022	0.6024	24/04/2007	0.8250	0.6081	21/05/2007	0.8230	0.6090	22/06/2007	0.8472	0.6322
23/01/2007	0.7889	0.6095	22/02/2007	0.7910	0.6025	22/03/2007	0.8061	0.6021	26/04/2007	0.8332	0.6104	22/05/2007	0.8217	0.6102	25/06/2007	0.8488	0.6307
24/01/2007	0.7838	0.6014	23/02/2007	0.7884	0.6007	23/03/2007	0.8056	0.6047	27/04/2007	0.8250	0.6089	23/05/2007	0.8218	0.6105	26/06/2007	0.8474	0.6293
25/01/2007	0.7796	0.6015	26/02/2007	0.7919	0.6007	26/03/2007	0.8046	0.6063	30/04/2007	0.8268	0.6054	24/05/2007	0.8228	0.6114	27/06/2007	0.8412	0.6261
29/01/2007	0.7739	0.5997	27/02/2007	0.7940	0.6023	27/03/2007	0.8090	0.6070				25/05/2007	0.8199	0.6107	28/06/2007	0.8419	0.6294
30/01/2007	0.7732	0.5964	28/02/2007	0.7880	0.5959	28/03/2007	0.8049	0.6030				28/05/2007	0.8192	0.6089	29/06/2007	0.8487	0.6311
31/01/2007	0.7720	0.5957				29/03/2007	0.8070	0.6057				29/05/2007	0.8174	0.6083			
						30/03/2007	0.8070	0.6049				30/05/2007	0.8188	0.6091			
												31/05/2007	0.8244	0.6137			

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USD EURO
2007

Date	July			August			September			October			November			December		
	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date	United States Dollar USD	Euro EUR	Date
2/07/2007	0.8532	0.6303	1/08/2007	0.8454	0.6192	3/09/2007	0.8225	0.6027	2/10/2007	0.8860	0.6231	1/11/2007	0.9305	0.6435	3/12/2007	0.8797	0.5999	
3/07/2007	0.8567	0.6290	2/08/2007	0.8545	0.6254	4/09/2007	0.8268	0.6068	3/10/2007	0.8880	0.6269	2/11/2007	0.9168	0.6346	4/12/2007	0.8742	0.5960	
4/07/2007	0.8578	0.6298	3/08/2007	0.8578	0.6259	5/09/2007	0.8237	0.6066	4/10/2007	0.8811	0.6255	5/11/2007	0.9204	0.6351	5/12/2007	0.8706	0.5900	
5/07/2007	0.8581	0.6303	7/08/2007	0.8586	0.6220	6/09/2007	0.8233	0.6034	5/10/2007	0.8872	0.6280	6/11/2007	0.9224	0.6369	6/12/2007	0.8735	0.5976	
6/07/2007	0.8562	0.6303	8/08/2007	0.8565	0.6230	10/09/2007	0.8201	0.5951	8/10/2007	0.9030	0.6387	7/11/2007	0.9376	0.6406	7/12/2007	0.8774	0.6006	
9/07/2007	0.8591	0.6307	9/08/2007	0.8660	0.6272	11/09/2007	0.8270	0.5999	9/10/2007	0.8927	0.6365	8/11/2007	0.9244	0.6317	10/12/2007	0.8764	0.5985	
10/07/2007	0.8576	0.6303	10/08/2007	0.8410	0.6154	12/09/2007	0.8358	0.6028	10/10/2007	0.8987	0.6373	9/11/2007	0.9285	0.6309	11/12/2007	0.8886	0.6034	
11/07/2007	0.8607	0.6257	13/08/2007	0.8485	0.6200	13/09/2007	0.8392	0.6041	11/10/2007	0.8996	0.6350	12/11/2007	0.8924	0.6096	12/12/2007	0.8760	0.5975	
12/07/2007	0.8606	0.6255	14/08/2007	0.8387	0.6159	14/09/2007	0.8398	0.6054	12/10/2007	0.8984	0.6333	13/11/2007	0.8891	0.6102	13/12/2007	0.8827	0.5994	
13/07/2007	0.8671	0.6293	15/08/2007	0.8287	0.6145	17/09/2007	0.8439	0.6080	15/10/2007	0.9057	0.6388	14/11/2007	0.9026	0.6157	14/12/2007	0.8767	0.5995	
16/07/2007	0.8730	0.6331	16/08/2007	0.8057	0.6002	18/09/2007	0.8304	0.5994	16/10/2007	0.8998	0.6331	15/11/2007	0.9001	0.6134	17/12/2007	0.8618	0.5967	
17/07/2007	0.8738	0.6339	17/08/2007	0.7810	0.5821	19/09/2007	0.8524	0.6098	17/10/2007	0.8840	0.6235	16/11/2007	0.8856	0.6059	18/12/2007	0.8594	0.5968	
18/07/2007	0.8777	0.6354	20/08/2007	0.7959	0.5895	20/09/2007	0.8596	0.6149	18/10/2007	0.8934	0.6277	19/11/2007	0.8932	0.6092	19/12/2007	0.8628	0.5983	
19/07/2007	0.8776	0.6364	21/08/2007	0.8043	0.5969	21/09/2007	0.8692	0.6167	19/10/2007	0.8936	0.6244	20/11/2007	0.8836	0.6025	20/12/2007	0.8578	0.5967	
20/07/2007	0.8805	0.6380	22/08/2007	0.8011	0.5942	24/09/2007	0.8672	0.6142	22/10/2007	0.8882	0.6203	21/11/2007	0.8867	0.5975	21/12/2007	0.8621	0.6005	
23/07/2007	0.8827	0.6377	23/08/2007	0.8150	0.6015	25/09/2007	0.8657	0.6147	23/10/2007	0.8915	0.6274	22/11/2007	0.8753	0.5890	24/12/2007	0.8690	0.6041	
24/07/2007	0.8845	0.6399	24/08/2007	0.8211	0.6053	26/09/2007	0.8732	0.6175	24/10/2007	0.8974	0.6297	23/11/2007	0.8736	0.5854	27/12/2007	0.8756	0.6044	
25/07/2007	0.8867	0.6419	27/08/2007	0.8325	0.6086	27/09/2007	0.8783	0.6212	25/10/2007	0.9021	0.6325	26/11/2007	0.8839	0.5963	28/12/2007	0.8734	0.5980	
26/07/2007	0.8847	0.6447	28/08/2007	0.8232	0.6042	28/09/2007	0.8827	0.6232	26/10/2007	0.9119	0.6362	27/11/2007	0.8786	0.5909	31/12/2007	0.8816	0.5980	
27/07/2007	0.8707	0.6341	29/08/2007	0.8077	0.5946				29/10/2007	0.9242	0.6412	28/11/2007	0.8758	0.5910				
30/07/2007	0.8493	0.6225	30/08/2007	0.8152	0.5969				30/10/2007	0.9165	0.6368	29/11/2007	0.8830	0.5957				
31/07/2007	0.8572	0.6258	31/08/2007	0.8214	0.6010				31/10/2007	0.9216	0.6384	30/11/2007	0.8865	0.6014				

Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USDEURO
2008

Date	January		February		March		April		May		June						
	United States Dollar USD	Euro EUR	United States Dollar USD	Euro EUR	United States Dollar USD	Euro EUR	United States Dollar USD	Euro EUR	United States Dollar USD	Euro EUR	United States Dollar USD	Euro EUR					
2/01/2008	0.8797	0.6011	1/02/2008	0.8951	0.6022	3/03/2008	0.9336	0.6140	1/04/2008	0.9102	0.5770	1/05/2008	0.9377	0.6000	2/06/2008	0.9522	0.6130
3/01/2008	0.8832	0.6004	4/02/2008	0.9046	0.6106	4/03/2008	0.9271	0.6106	2/04/2008	0.9079	0.5824	2/05/2008	0.9318	0.6031	3/06/2008	0.9547	0.6138
4/01/2008	0.8806	0.5973	5/02/2008	0.9069	0.6121	5/03/2008	0.9254	0.6090	3/04/2008	0.9141	0.5845	5/05/2008	0.9405	0.6082	4/06/2008	0.9567	0.6189
7/01/2008	0.8729	0.5929	6/02/2008	0.8957	0.6117	6/03/2008	0.9352	0.6122	4/04/2008	0.9117	0.5821	6/05/2008	0.9444	0.6091	5/08/2008	0.9550	0.6188
8/01/2008	0.8771	0.5968	7/02/2008	0.8925	0.6106	7/03/2008	0.9289	0.6039	7/04/2008	0.9210	0.5880	7/05/2008	0.9463	0.6113	6/06/2008	0.9593	0.6151
9/01/2008	0.8821	0.5993	8/02/2008	0.8951	0.6179	10/03/2008	0.9280	0.6033	8/04/2008	0.9272	0.5890	8/05/2008	0.9400	0.6137	10/06/2008	0.9488	0.6089
10/01/2008	0.8840	0.6021	11/02/2008	0.9016	0.6201	11/03/2008	0.9197	0.5985	9/04/2008	0.9302	0.5823	9/05/2008	0.9373	0.6088	11/06/2008	0.9445	0.6101
11/01/2008	0.8953	0.6045	12/02/2008	0.9041	0.6229	12/03/2008	0.9315	0.6057	10/04/2008	0.9311	0.5873	12/05/2008	0.9373	0.6088	12/06/2008	0.9379	0.6063
14/01/2008	0.8952	0.6041	13/02/2008	0.9037	0.6200	13/03/2008	0.9357	0.6009	11/04/2008	0.9318	0.5906	13/05/2008	0.9465	0.6086	13/06/2008	0.9402	0.6088
15/01/2008	0.9002	0.6051	14/02/2008	0.9026	0.6196	14/03/2008	0.9434	0.6034	14/04/2008	0.9228	0.5868	14/05/2008	0.9381	0.6073	16/06/2008	0.9394	0.6101
16/01/2008	0.8845	0.5963	15/02/2008	0.9042	0.6177	17/03/2008	0.9267	0.5850	15/04/2008	0.9294	0.5867	15/05/2008	0.9336	0.6022	17/06/2008	0.9427	0.6071
17/01/2008	0.8800	0.6004	18/02/2008	0.9132	0.6219	18/03/2008	0.9217	0.5842	16/04/2008	0.9272	0.5858	18/05/2008	0.9449	0.6098	18/06/2008	0.9415	0.6084
18/01/2008	0.8765	0.5985	19/02/2008	0.9195	0.6271	19/03/2008	0.9325	0.5937	17/04/2008	0.9379	0.5887	19/05/2008	0.9551	0.6130	19/06/2008	0.9464	0.6082
21/01/2008	0.8762	0.6028	20/02/2008	0.9154	0.6219	20/03/2008	0.9154	0.5869	18/04/2008	0.9384	0.5901	20/05/2008	0.9586	0.6168	20/06/2008	0.9517	0.6129
22/01/2008	0.8577	0.5950	21/02/2008	0.9183	0.6241	25/03/2008	0.9116	0.5862	21/04/2008	0.9400	0.5938	21/05/2008	0.9587	0.6117	23/06/2008	0.9543	0.6120
23/01/2008	0.8638	0.5905	22/02/2008	0.9203	0.6217	26/03/2008	0.9164	0.5865	22/04/2008	0.9416	0.5937	23/05/2008	0.9644	0.6113	24/06/2008	0.9527	0.6137
24/01/2008	0.8746	0.5983	25/02/2008	0.9237	0.6236	27/03/2008	0.9205	0.5825	23/04/2008	0.9497	0.5945	23/05/2008	0.9580	0.6087	25/06/2008	0.9567	0.6143
25/01/2008	0.8847	0.5997	26/02/2008	0.9284	0.6262	28/03/2008	0.9225	0.5846	24/04/2008	0.9474	0.5976	26/05/2008	0.9615	0.6100	26/06/2008	0.9592	0.6117
29/01/2008	0.8870	0.6006	27/02/2008	0.9350	0.6235	31/03/2008	0.9180	0.5813	28/04/2008	0.9369	0.5982	27/05/2008	0.9635	0.6092	27/06/2008	0.9600	0.6103
30/01/2008	0.8881	0.6015	28/02/2008	0.9426	0.6237				29/04/2008	0.9356	0.5989	28/05/2008	0.9612	0.6115	30/06/2008	0.9626	0.6096
31/01/2008	0.8884	0.5987	29/02/2008	0.9466	0.6237				30/04/2008	0.9337	0.5991	29/05/2008	0.9613	0.6156			

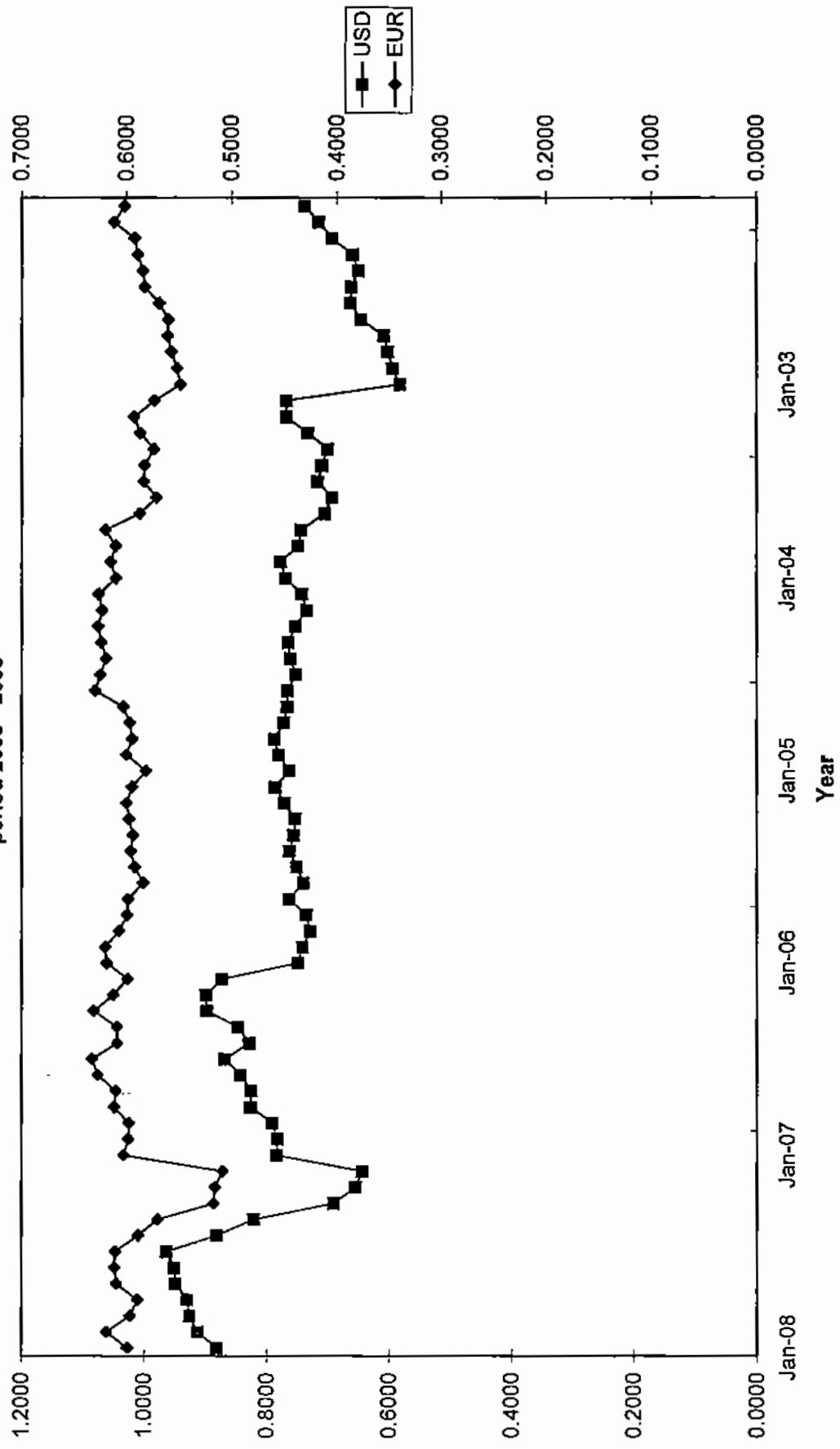
Source: Reserve Bank of Australia

Daily Exchange Rates of the Australian Dollar vs USDEURO
2008

July				August				September				October				November				December				
Date	United States Dollar		Euro		Date	United States Dollar		Euro		Date	United States Dollar		Euro		Date	United States Dollar		Euro		Date	United States Dollar		Euro	
	USD	EUR	USD	EUR		USD	EUR	USD	EUR		USD	EUR	USD	EUR		USD	EUR	USD	EUR		USD	EUR	USD	EUR
1/07/2008	0.9553	0.6057	1/08/2008	0.9374	0.6024	1/09/2008	0.8537	0.5834	1/10/2008	0.7962	0.5647	3/11/2008	0.6815	0.5308	1/12/2008	0.6481	0.5111							
2/07/2008	0.9599	0.6072	5/08/2008	0.9221	0.5936	2/09/2008	0.8465	0.5811	2/10/2008	0.7908	0.5664	4/11/2008	0.6644	0.5280	2/12/2008	0.6408	0.5066							
3/07/2008	0.9624	0.6065	6/08/2008	0.9179	0.5923	3/09/2008	0.8254	0.5719	3/10/2008	0.7804	0.5617	5/11/2008	0.6882	0.5356	3/12/2008	0.6454	0.5081							
4/07/2008	0.9620	0.6121	7/08/2008	0.9109	0.5998	4/09/2008	0.8335	0.5745	7/10/2008	0.7223	0.5324	6/11/2008	0.6730	0.5229										
7/07/2008	0.9606	0.6142	8/08/2008	0.8953	0.5879	5/09/2008	0.8164	0.5711	8/10/2008	0.7051	0.5175	7/11/2008	0.6724	0.5271										
8/07/2008	0.9543	0.6076	11/08/2008	0.8855	0.5918	8/09/2008	0.8348	0.5793	9/10/2008	0.6916	0.5060	10/11/2008	0.6869	0.5329										
9/07/2008	0.9515	0.6054	12/08/2008	0.8741	0.5894	9/09/2008	0.8050	0.5713	10/10/2008	0.6551	0.4841	11/11/2008	0.6730	0.5283										
10/07/2008	0.9603	0.6106	13/08/2008	0.8656	0.5800	10/09/2008	0.8065	0.5698	13/10/2008	0.6602	0.4883	12/11/2008	0.6597	0.5248										
11/07/2008	0.9602	0.6084	14/08/2008	0.8703	0.5853	11/09/2008	0.7962	0.5702	14/10/2008	0.7083	0.5184	13/11/2008	0.6393	0.5132										
14/07/2008	0.9682	0.6095	15/08/2008	0.8639	0.5845	12/09/2008	0.8048	0.5743	15/10/2008	0.6983	0.5142	14/11/2008	0.6568	0.5159										
15/07/2008	0.9750	0.6118	18/08/2008	0.8737	0.5923	15/09/2008	0.8257	0.5716	16/10/2008	0.6681	0.4996	17/11/2008	0.6472	0.5150										
16/07/2008	0.9786	0.6151	19/08/2008	0.8675	0.5916	16/09/2008	0.7905	0.5540	17/10/2008	0.6899	0.5116	18/11/2008	0.6462	0.5122										
17/07/2008	0.9773	0.6161	20/08/2008	0.8721	0.5904	17/09/2008	0.7990	0.5629	20/10/2008	0.7004	0.5189	19/11/2008	0.6441	0.5104										
18/07/2008	0.9724	0.6125	21/08/2008	0.8729	0.5902	18/09/2008	0.7936	0.5527	21/10/2008	0.6949	0.5214	20/11/2008	0.6351	0.5085										
21/07/2008	0.9754	0.6149	22/08/2008	0.8803	0.5912	19/09/2008	0.8127	0.5714	22/10/2008	0.6662	0.5201	21/11/2008	0.6186	0.4954										
22/07/2008	0.9754	0.6125	25/08/2008	0.8633	0.5867	22/09/2008	0.8315	0.5734	23/10/2008	0.6663	0.5205	24/11/2008	0.6310	0.4991										
23/07/2008	0.9687	0.6135	26/08/2008	0.8560	0.5840	23/09/2008	0.8429	0.5695	24/10/2008	0.6514	0.5083	25/11/2008	0.6429	0.5003										
24/07/2008	0.9587	0.6109	27/08/2008	0.8583	0.5840	24/09/2008	0.8366	0.5710	27/10/2008	0.6194	0.4919	26/11/2008	0.6458	0.4976										
25/07/2008	0.9584	0.6099	28/08/2008	0.8671	0.5866	25/09/2008	0.8372	0.5690	28/10/2008	0.6122	0.4911	27/11/2008	0.6503	0.5033										
28/07/2008	0.9541	0.6075	29/08/2008	0.8639	0.5857	26/09/2008	0.8311	0.5678	29/10/2008	0.6376	0.5030													
29/07/2008	0.9583	0.6085				29/09/2008	0.8280	0.5723	30/10/2008	0.6849	0.5186													
30/07/2008	0.9478	0.6088				30/09/2008	0.7996	0.5565	31/10/2008	0.6680	0.5223													
31/07/2008	0.9434	0.6051																						

Source: Reserve Bank of Australia

Daily Market Rate of RBA
Exchange Rate USD/AUD and EUR/AUD
period 2003 - 2008



Financial Year: 2008

Month	Amount of Operating exposure in USD Mn	Actual exchange rate	Cash flow in AUD Mn for USD exposure				
			with actual exchange rate	0.8	0.7	0.6	0.9
July 2007	13.32	0.8970	15.38	22.20	18.03	16.65	14.60
August 2007	12.51	0.8291	15.09	20.85	17.87	15.84	13.90
September 2007	17.87	0.8481	20.88	29.45	25.24	22.08	19.83
October 2007	15.19	0.8996	18.88	25.32	21.70	18.99	16.88
November 2007	20.24	0.8970	22.57	33.73	28.91	25.30	22.49
December 2007	22.38	0.8718	25.85	37.27	31.84	27.95	24.84
January 2008	18.82	0.8819	21.11	31.03	26.60	23.28	20.69
February 2008	18.02	0.9130	20.83	31.70	27.17	23.78	21.13
March 2008	21.89	0.9221	23.74	36.48	31.27	27.38	24.32
April 2008	28.31	0.9306	30.41	47.18	40.44	35.39	31.46
May 2008	13.87	0.9498	14.39	22.78	19.53	17.09	15.18
June 2008	23.58	0.9511	24.71	39.17	33.57	29.38	26.11
Total	228.30	10.7582	251.83	377.17	323.29	282.88	251.44
Percentage of sensitivity				48.85%	28.47%	12.42%	-0.68%
Average of actual rate		0.8968					

Financial Year: 2007

Month	Amount of Operating exposure in USD Mn	Actual exchange rate	Cash flow in AUD Mn for USD exposure		
			with actual exchange rate	0.7	0.8
July 2006	11.29	0.7528	15.00	18.13	14.11
August 2006	10.55	0.7631	13.83	15.07	13.18
September 2006	10.34	0.7554	13.89	14.77	12.93
October 2006	11.89	0.7539	15.77	16.89	14.85
November 2006	12.05	0.7729	15.59	17.21	15.06
December 2006	12.50	0.7858	16.81	17.86	15.63
January 2007	11.88	0.7828	15.18	19.97	14.85
February 2007	12.12	0.7832	15.48	17.31	15.15
March 2007	10.53	0.7932	13.28	15.04	13.18
April 2007	8.82	0.8273	11.57	14.03	12.28
May 2007	10.28	0.8251	12.43	14.68	12.83
June 2007	11.05	0.8423	13.12	15.79	13.81
Total	134.28	9.4377	171.13	191.83	167.85
Percentage of sensitivity				12.05%	-1.92%
Average of actual rate		0.7865			

Financial Year: 2006

Month	Amount of Operating exposure in USD Mn	Actual exchange rate	Cash flow in AUD Mn for USD exposure	
			with actual exchange rate	0.7
July 2005	6.66	0.7524	8.85	9.51
August 2005	7.42	0.7614	9.75	10.60
September 2005	7.25	0.7651	9.48	10.38
October 2005	7.83	0.7536	10.39	11.19
November 2005	8.20	0.7353	11.15	11.71
December 2005	9.26	0.7417	12.49	13.23
January 2006	8.56	0.7488	11.42	12.23
February 2006	7.89	0.7417	10.77	11.41
March 2006	8.28	0.7266	11.41	11.84
April 2006	9.88	0.7369	13.30	14.00
May 2006	10.17	0.7636	13.32	14.53
June 2006	10.22	0.7399	13.81	14.60
Total	101.65	8.9679	136.13	145.21
Percentage of sensitivity				8.57%
Average of actual rate		0.7473		

Financial Year: 2005

Month	Amount of Operating exposure in USD Mn	Actual exchange rate	Cash flow in AUD Mn for USD exposure	
			with actual exchange rate	0.7
July 2004	5.90	0.7111	8.30	8.43
August 2004	4.87	0.7028	5.79	5.91
September 2004	5.08	0.7337	6.92	7.28
October 2004	6.06	0.7337	8.26	8.66
November 2004	6.18	0.7697	8.00	8.60
December 2004	6.40	0.7675	8.34	9.14
January 2005	4.31	0.7668	5.82	6.16
February 2005	4.57	0.7812	5.91	6.60
March 2005	5.27	0.7848	6.72	7.53
April 2005	5.03	0.7738	6.50	7.19
May 2005	7.95	0.7661	10.38	11.36
June 2005	6.43	0.7667	8.39	9.19
Total	67.28	9.0679	89.13	96.11
Percentage of sensitivity				8%
Average of actual rate		0.7548		

Financial Year: 2004

Month	Amount of operating exposure in USD Mn	Actual exchange rate	Cash flow in AUD for USD exposure		
			with actual exchange rate	0.6	0.7
July 2003	2.03	0.6607	3.07	3.38	2.90
August 2003	2.25	0.6518	3.50	3.80	3.26
September 2003	3.40	0.6635	5.12	5.67	4.85
October 2003	3.18	0.6948	4.85	5.27	4.61
November 2003	2.99	0.7158	4.12	4.92	4.21
December 2003	2.49	0.7385	3.37	4.15	3.56
January 2004	4.67	0.7717	6.95	7.78	6.67
February 2004	3.97	0.7770	5.11	6.62	5.67
March 2004	3.24	0.7496	4.32	5.40	4.63
April 2004	3.83	0.7443	5.15	6.38	5.47
May 2004	4.55	0.7039	7.03	8.25	7.07
June 2004	5.01	0.6937	7.22	8.35	7.16
Total	41.88	8.5653	58.62	69.97	59.27
Percentage of sensitivity				19%	2%
Average of actual rate		0.7138			

Source: Calculation

Financial Year: 2008

Month	Amount of Operating exposure in EUR Mn	Actual exchange rate	Cash flow in AUD Mn for EUR exposure		
			with actual exchange rate	0.5	0.6
July 2007	9.05	0.83	14.32	18.19	15.08
August 2007	8.48	0.81	13.94	18.99	14.13
September 2007	8.39	0.81	13.80	18.78	13.98
October 2007	8.74	0.83	13.83	17.48	14.57
November 2007	7.66	0.81	12.37	15.12	12.60
December 2007	8.08	0.80	13.45	18.12	13.43
January 2008	7.20	0.80	12.02	14.40	12.00
February 2008	8.20	0.82	13.25	18.40	13.67
March 2008	9.85	0.59	16.24	19.30	16.08
April 2008	9.53	0.59	18.13	19.06	15.84
May 2008	8.15	0.61	13.38	18.30	13.58
June 2008	8.38	0.61	13.71	18.78	13.97
Total	101.39	7.3151	186.41	202.78	168.98
Percentage of sensitivity				21.85%	1.54%
Average of actual rate		0.6096			

Financial Year: 2007

Month	Amount of Operating exposure in EUR Mn	Actual exchange rate	Cash flow in AUD Mn for EUR exposure		
			with actual exchange rate	0.5	0.6
July 2006	9.48	0.5937	15.93	18.82	15.77
August 2006	8.89	0.5957	14.92	17.78	14.82
September 2006	8.80	0.5935	14.32	17.00	14.17
October 2006	8.04	0.5978	13.45	16.08	13.40
November 2006	7.28	0.5997	12.11	14.52	12.10
December 2006	6.08	0.5951	10.22	12.18	10.13
January 2007	6.45	0.6022	10.71	12.90	10.75
February 2007	5.66	0.5988	9.48	11.32	9.43
March 2007	5.05	0.5988	8.43	10.10	8.42
April 2007	5.97	0.6122	9.75	11.84	9.95
May 2007	6.13	0.6277	9.77	12.29	10.22
June 2007	6.51	0.6105	13.84	17.02	14.19
Total	85.00	7.2253	143.01	172.00	143.33
Percentage of sensitivity				20.27%	0.22%
Average of actual rate		0.6021			

Financial Year: 2006

Month	Amount of Operating exposure in EUR Mn	Actual exchange rate	Cash flow in AUD Mn for EUR exposure		
			with actual exchange rate	0.5	0.6
July 2005	7.16	0.6308	11.35	14.32	11.83
August 2005	8.87	0.6134	15.60	19.14	15.95
September 2005	8.53	0.6174	13.82	17.06	14.22
October 2005	9.14	0.6317	14.47	18.28	15.23
November 2005	9.74	0.6483	15.02	19.48	16.23
December 2005	9.35	0.6440	14.52	18.70	15.58
January 2006	7.32	0.6195	11.82	14.84	12.20
February 2006	8.24	0.6212	13.26	16.48	13.73
March 2006	9.80	0.6041	16.22	19.60	16.33
April 2006	8.23	0.6004	13.71	16.46	13.72
May 2006	8.52	0.5982	14.24	17.04	14.26
June 2006	9.19	0.5844	15.73	18.38	15.32
Total	104.79	7.4133	169.76	209.58	174.65
Percentage of sensitivity				20.46%	2.88%
Average of actual rate		0.6178			

Financial Year: 2005

Month	Amount of Operating exposure in EUR Mn	Actual exchange rate	Cash flow in AUD Mn for EUR exposure		
			with actual exchange rate	0.5	0.6
July 2004	5.78	0.5838	9.92	11.58	9.85
August 2004	7.11	0.5833	12.19	14.22	11.85
September 2004	7.18	0.5749	12.49	14.36	11.97
October 2004	8.19	0.5867	13.96	16.38	13.85
November 2004	5.41	0.5923	9.13	10.82	9.02
December 2004	5.78	0.5725	10.06	11.52	9.60
January 2005	5.41	0.5621	9.63	10.82	9.02
February 2005	5.33	0.5685	9.38	10.68	8.88
March 2005	5.36	0.5588	9.60	10.72	8.93
April 2005	5.42	0.5727	9.46	10.84	9.03
May 2005	6.28	0.6878	9.13	12.56	10.47
June 2005	7.05	0.6228	11.32	14.10	11.75
Total	74.29	7.0660	128.26	148.58	123.82
Percentage of sensitivity				17.68%	-1.94%
Average of actual rate		0.5888			

Financial Year: 2004

Month	Amount of Operating exposure in EUR Mn	Actual exchange rate	Cash flow in AUD Mn for EUR exposure		
			with actual exchange rate	0.5	0.6
July 2003	2.35	0.5821	4.04	4.70	3.92
August 2003	2.55	0.5841	4.37	5.10	4.25
September 2003	3.85	0.5890	6.54	7.70	6.42
October 2003	3.64	0.5921	6.15	7.28	6.07
November 2003	4.21	0.6115	6.88	8.42	7.02
December 2003	5.22	0.6020	8.67	10.44	8.70
January 2004	5.26	0.6108	8.61	10.52	8.77
February 2004	4.88	0.6147	7.94	9.76	8.13
March 2004	5.78	0.6114	9.42	11.52	9.60
April 2004	3.58	0.6208	5.73	7.12	5.93
May 2004	3.51	0.5866	5.98	7.02	5.85
June 2004	5.63	0.5711	9.86	11.26	9.38
Total	50.42	7.1759	84.19	100.84	84.03
Percentage of sensitivity				19.77%	-0.18%
Average of actual rate		0.5880			

Source: Calculation

Year	Month	AL rate	RBA rate	Variance	Absolute error	Average
2008	July 2007	0.8670	0.8680	(0.0010)	-0.112%	
	August 2007	0.8291	0.8285	0.0006	0.070%	
	September 2007	0.8461	0.8464	(0.0003)	0.032%	
	October 2007	0.8996	0.8973	0.0023	0.253%	
	November 2007	0.8970	0.8992	(0.0023)	-0.255%	
	December 2007	0.8718	0.8726	(0.0008)	-0.090%	
	January 2008	0.8819	0.8815	0.0003	-0.039%	
	February 2008	0.9130	0.9128	0.0001	0.015%	
	March 2008	0.9221	0.9260	(0.0039)	0.420%	
	April 2008	0.9309	0.9298	0.0011	-0.119%	
	May 2008	0.9498	0.9488	0.0009	0.099%	
	June 2008	0.9511	0.9508	0.0003	0.031%	0.0026%
2007	July 2006	0.7528	0.7514	0.0013	-0.179%	
	August 2006	0.7631	0.7630	0.0001	0.009%	
	September 2006	0.7554	0.7566	(0.0012)	-0.161%	
	October 2006	0.7539	0.7539	0.0001	0.009%	
	November 2006	0.7729	0.7715	0.0014	-0.187%	
	December 2006	0.7856	0.7861	(0.0005)	-0.062%	
	January 2007	0.7828	0.7839	(0.0011)	0.136%	
	February 2007	0.7832	0.7823	0.0009	0.112%	
	March 2007	0.7932	0.7912	0.0020	-0.248%	
	April 2007	0.8273	0.8263	0.0011	0.129%	
	May 2007	0.8251	0.8255	(0.0004)	0.045%	
	June 2007	0.8423	0.8423	0.0001	-0.010%	-0.0009%
2006	July 2005	0.7524	0.7524	(0.0001)	-0.010%	
	August 2005	0.7614	0.7620	(0.0006)	-0.075%	
	September 2005	0.7651	0.7655	(0.0003)	0.041%	
	October 2005	0.7536	0.7539	(0.0003)	-0.041%	
	November 2005	0.7353	0.7353	(0.0000)	-0.005%	
	December 2005	0.7417	0.7430	(0.0014)	0.185%	
	January 2006	0.7498	0.7498	0.0001	0.008%	
	February 2006	0.7417	0.7416	0.0001	0.012%	
	March 2006	0.7266	0.7291	(0.0026)	0.356%	
	April 2006	0.7369	0.7350	0.0018	0.249%	
	May 2006	0.7636	0.7634	0.0002	0.029%	
	June 2006	0.7399	0.7402	(0.0004)	0.051%	0.0042%
2005	July 2004	0.7111	0.7172	(0.0062)	-0.869%	
	August 2004	0.7028	0.7104	(0.0076)	-1.085%	
	September 2004	0.7337	0.7007	0.0330	-4.500%	
	October 2004	0.7337	0.7331	0.0006	0.081%	
	November 2004	0.7697	0.7685	0.0012	-0.160%	
	December 2004	0.7675	0.7678	-0.0003	0.036%	
	January 2005	0.7668	0.7636	0.0033	-0.428%	
	February 2005	0.7812	0.7807	0.0005	-0.061%	
	March 2005	0.7848	0.7873	(0.0025)	0.319%	
	April 2005	0.7738	0.7724	0.0013	-0.174%	
	May 2005	0.7661	0.7667	(0.0005)	0.071%	
	June 2005	0.7667	0.7667	(0.0000)	0.004%	0.0003%
2004	July 2003	0.6607	0.6627	(0.0020)	-0.297%	
	August 2003	0.6518	0.6512	0.0006	-0.095%	
	September 2003	0.6635	0.6605	0.0030	0.449%	
	October 2003	0.6948	0.6936	0.0012	0.178%	
	November 2003	0.7158	0.7159	(0.0001)	0.009%	
	December 2003	0.7385	0.7383	0.0002	-0.024%	
	January 2004	0.7717	0.7695	0.0022	-0.291%	
	February 2004	0.7770	0.7777	(0.0007)	0.095%	
	March 2004	0.7496	0.7493	0.0003	0.042%	
	April 2004	0.7443	0.7442	0.0001	0.015%	
	May 2004	0.7039	0.7054	(0.0016)	-0.222%	
	June 2004	0.6937	0.6942	(0.0005)	0.077%	0.0064%

Source: calculation

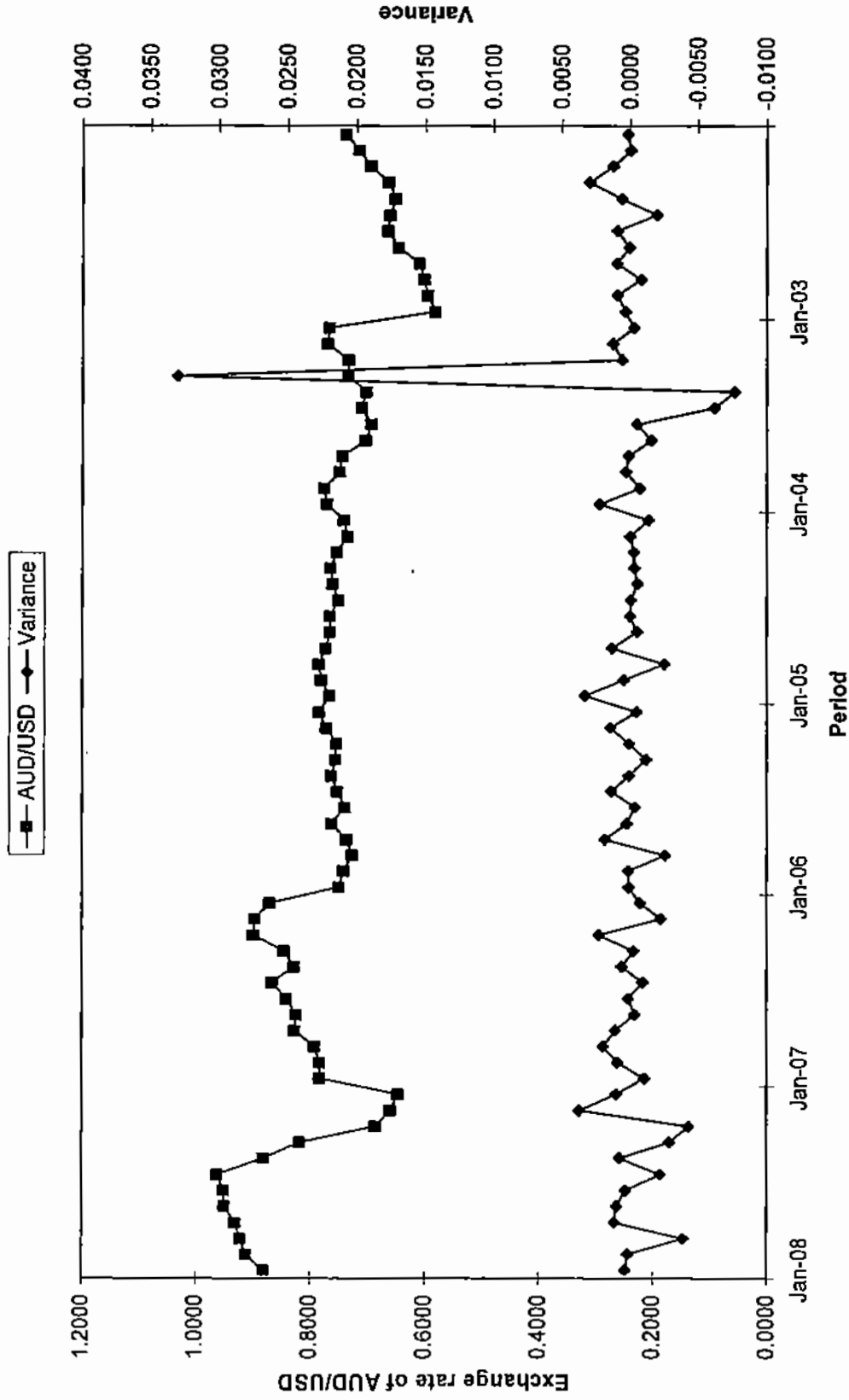
Period of financial year : 2004 - 2008

Exchange rate: EUR/AUD

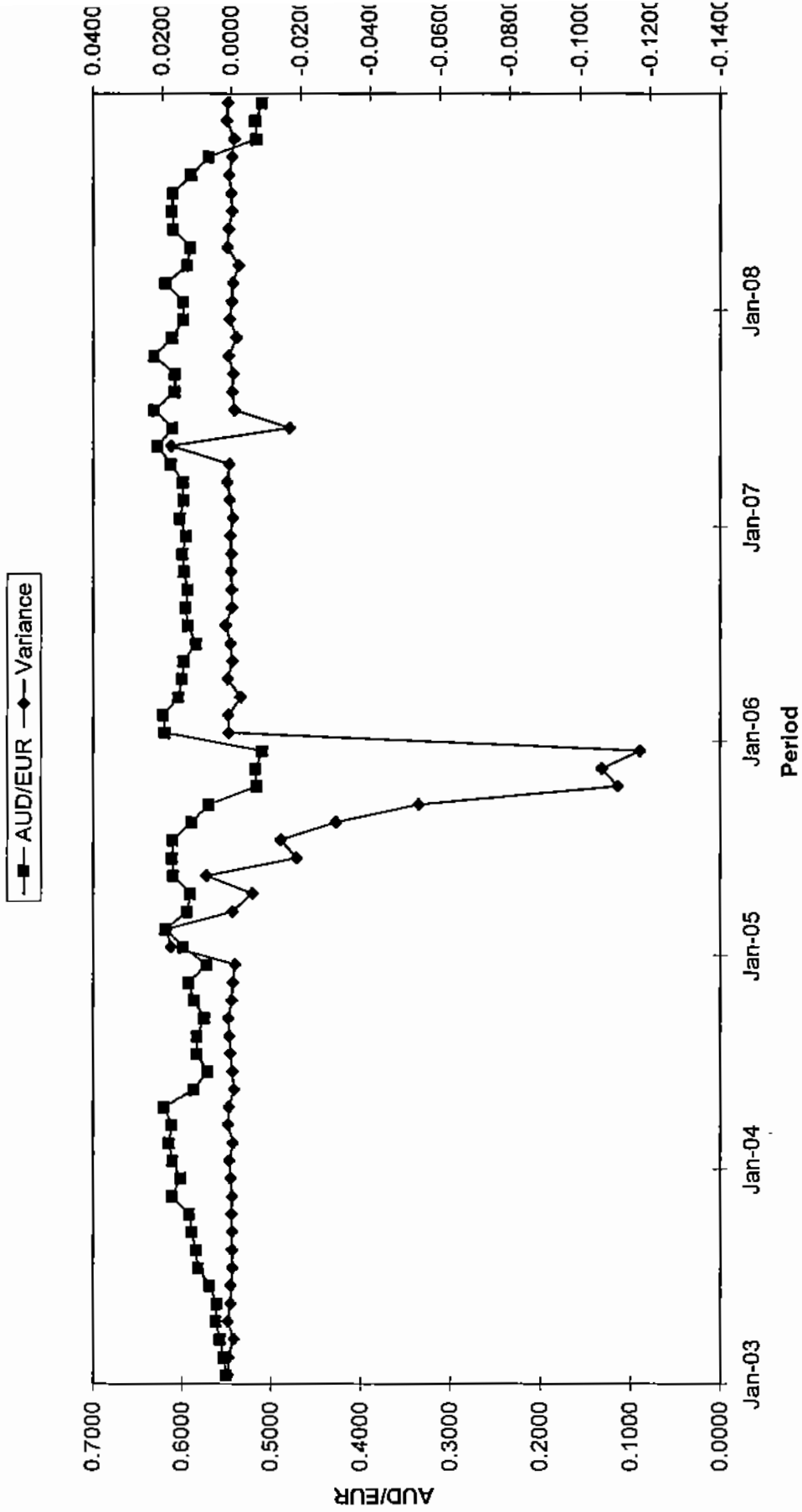
Year	Month	AL rate	RBA rate	Variance	Absolute error	Average
2008	July 2007	0.6319	0.6328	(0.0009)	0.146%	
	August 2007	0.6084	0.6087	(0.0003)	0.051%	
	September 2007	0.6082	0.6088	(0.0006)	0.096%	
	October 2007	0.6320	0.6312	0.0008	0.123%	
	November 2007	0.6111	0.6126	(0.0016)	-0.260%	
	December 2007	0.5991	0.5987	0.0004	-0.065%	
	January 2008	0.5992	0.5993	(0.0002)	0.027%	
	February 2008	0.6187	0.6192	(0.0005)	-0.076%	
	March 2008	0.5943	0.5964	(0.0022)	0.368%	
	April 2008	0.5909	0.5899	0.0011	-0.181%	
	May 2008	0.6102	0.6095	0.0007	0.110%	
	June 2008	0.6112	0.6116	(0.0004)	-0.065%	-0.0054%
2007	July 2006	0.5937	0.5920	0.0017	-0.284%	
	August 2006	0.5957	0.5959	(0.0002)	-0.034%	
	September 2006	0.5935	0.5938	(0.0003)	-0.045%	
	October 2006	0.5976	0.5975	0.0001	0.014%	
	November 2006	0.5997	0.5997	(0.0000)	-0.004%	
	December 2006	0.5951	0.5949	0.0002	-0.042%	
	January 2007	0.6022	0.6027	(0.0005)	0.076%	
	February 2007	0.5986	0.5981	0.0005	-0.078%	
	March 2007	0.5988	0.5976	0.0011	-0.189%	
	April 2007	0.6122	0.6117	0.0005	0.088%	
	May 2007	0.6277	0.6102	0.0175	-2.789%	
	June 2007	0.6105	0.6274	(0.0169)	-2.764%	-0.2304%
2006	July 2005	0.6306	0.6247	0.0059	0.942%	
	August 2005	0.6134	0.6196	(0.0062)	-1.008%	
	September 2005	0.6174	0.6240	(0.0066)	1.066%	
	October 2005	0.6317	0.6269	0.0048	0.756%	
	November 2005	0.6483	0.6232	0.0251	-3.876%	
	December 2005	0.6440	0.6265	0.0175	2.714%	
	January 2006	0.6195	0.6189	0.0007	0.108%	
	February 2006	0.6212	0.6203	0.0009	-0.146%	
	March 2006	0.6041	0.6069	(0.0028)	0.467%	
	April 2006	0.6004	0.5993	0.0010	0.173%	
	May 2006	0.5982	0.5986	(0.0004)	0.069%	
	June 2006	0.5844	0.5842	0.0002	0.031%	0.0026%
2005	July 2004	0.5838	0.5836	0.0002	0.037%	
	August 2004	0.5833	0.5828	0.0005	0.083%	
	September 2004	0.5749	0.5740	0.0009	-0.157%	
	October 2004	0.5867	0.5868	(0.0002)	0.032%	
	November 2004	0.5923	0.5928	(0.0005)	-0.081%	
	December 2004	0.5725	0.5735	(0.0010)	0.183%	
	January 2005	0.5621	0.5816	(0.0196)	3.484%	
	February 2005	0.5685	0.5999	(0.0313)	5.510%	
	March 2005	0.5586	0.5946	(0.0360)	6.440%	
	April 2005	0.5727	0.5971	(0.0244)	4.258%	
	May 2005	0.6878	0.6030	0.0848	-12.331%	
	June 2005	0.6228	0.6300	(0.0072)	1.153%	0.0961%
2004	July 2003	0.5821	0.5825	(0.0004)	-0.073%	
	August 2003	0.5841	0.5843	(0.0002)	0.032%	
	September 2003	0.5890	0.5893	(0.0003)	-0.046%	
	October 2003	0.5921	0.5922	(0.0001)	-0.013%	
	November 2003	0.6115	0.6118	(0.0003)	0.047%	
	December 2003	0.6020	0.6018	0.0002	-0.031%	
	January 2004	0.6106	0.6101	0.0005	0.084%	
	February 2004	0.6147	0.6152	(0.0005)	-0.081%	
	March 2004	0.6114	0.6104	0.0010	0.171%	
	April 2004	0.6208	0.6201	0.0007	-0.107%	
	May 2004	0.5866	0.5874	(0.0008)	0.136%	
	June 2004	0.5711	0.5714	(0.0003)	0.058%	0.0048%

Source: calculation

Average difference of AL monthly actual rate and market rate
Exchange rate of USD/AUD
Period: 2003 - 2008



Average difference of AL monthly actual rate and market rate
 Exchange rate of EUR/AUD
 Period: 2003 - 2008



CURRICULUM VITAE

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EDUCATION

1999 – 2001 : Extension Program, University of Indonesia. Faculty of Economy, majoring in Marketing Management.

1990 – 1993 : Tarakanita Secretarial Academy (DIII), majoring in French language.

WORKING EXPERIENCE

2005 – present : KAP Haryanto Sahari & Rekan, Jakarta

2003 – 2005 : PT Indopack Pratama (a corrugated carton box manufacturer)

2003 – 2003 : PT Persada Asri (consulting firm for oil company)

1995 – 2003 : PT Kalindo Deka Griya (developer of office condominiums)

1994 – 1995 : Femina Group (Female Magazines)

1993 – 1994 : Helios Foods (Consumer products, Biscuit and snacks division)

