ANALYSIS OF THE COFFEE CRISIS IN ZAMBIA.

Financial Distress and Commodity price

By

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18 December 2003

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Re: Confidentiality Clause

Due to the strategic importance of this research to the competitive position of the companies cited, it would be appreciated if the contents remain confidential and not be circulated for a period of two years.

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DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.

Signature: E. Hwenga

18 December 2003

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ABSTRACT

Coffee prices reached their lowest levels in 30 years in 2001 (and in 100 years in real terms). In almost all coffee producing countries, such prices are unable to cover production costs and have led to serious social and economic problems, including increased poverty, indebtedness and abandonment of coffee farms. The heavy reliance on coffee renders APC vulnerable to markets downturns and to the competitive pressures that exist in the industry. The coffee crisis has actually been "brewing" for some time now, but has recently percolated as the reality of far reaching structural changes in global coffee production and marketing are being recognized.

While there are strategies that could be taken by the coffee industry to improve on the current situation, these are unlikely to result in a quick recovery of world prices or farms' profitability. Coffee farmers face at least two distinct sets of problems associated with prices; the outright price level and volatility. Historically, coffee prices have been among the most volatile of all commodity prices. Cyclical price volatility, particularly within the crop season, can be managed through price risk management instruments. However, the secular price trend requires other longer-term elements, such as diversification or improvements in quality and productivity.

The paper concludes that debt within the financial structures of industry players is a result of the crisis and to solve the coffee crisis strategies focussed on raising and stabilizing incomes of coffee producers is the ultimate goal and not increasing production statistics.

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CHAPTER 1

1.1 INTRODUCTION

The decline of coffee prices in the international market below 60cents per lb have caused significant crisis in the Zambian Coffee Industry. The heavy reliance on coffee renders APC vulnerable to markets downturns and to the competitive pressures that exist in the industry. The coffee crisis has actually been "brewing" for some time now, but has recently percolated as the reality of far reaching structural changes in global coffee production and marketing are being recognized.

The current coffee crisis presents a major challenge for improving overall competitiveness of the countries' agricultural sectors in the global economy. While there are strategies that could be taken by the coffee industry improve on the current situation, these are unlikely to result in a quick recovery of world prices or farms' profitability.

As a result, producers are more directly exposed to changes in international coffee prices and there has been increased interest in identifying means to increase and/or stabilize coffee-related incomes (Giovanucci, 2002). "Diversification" is often been mentioned as a solution to the problems of low and/or fluctuation coffee prices. However, when the term is loosely used, it really means that producers need to "change" their existing activities. To identify appropriate strategies, it is important to understand the different ways that coffee producers can "diversify" or "change" their activities to achieve higher and/or more stable incomes. There are different ways to increase and stabilize incomes of farmers through diversification. It is possible to diversify *within* coffee and diversify *out* of coffee. Raising and stabilizing incomes of coffee producers is (are) the goal(s) and not increasing production statistics. Value to the farmer can be increased through quality improvements, improving financing and marketing arrangements and post-harvest practices.

Another point of clarification is that costs and benefits of specialization and diversification need to be considered at the farm/household level along with community/regional and national levels. It is also quite clear that specializing in a very profitable activity might make economic sense, while diversifying into activities with low profitability (like maize, wheat etc) is not such a good choice.

This research deals with analysing the coffee crisis in Zambia with particular attention to African Plantations Company Ltd currently the biggest player in the industry. The case study has been structured as follows:
Chapter 1 is giving all the background information about the coffee industry at global, national and company levels. The objective and motivation behind the study is also outlined in this first chapter. The problem statement has been stated and limitations to the study have also been outlined in chapter one of the study. Chapter 2 concentrate on literature review with special emphasis on Financial Risks as defined in Capital structure. Chapter 3 goes into African Plantations Company Ltd case study review giving details on operational, financial and marketing strategies of the company. Chapter 4 evaluates the case study and chapter 5 give various recommendations for APC and the industry at large on how to fight the coffee crisis. Chapter 6 give some spectacular conclusions.

1.2 BACKGROUND OF THE STUDY

(a) Global Coffee Industry

Coffee is an important commodity in the world economy accounting for trade approximately US$6billion in 2001. Like all agricultural commodities coffee suffers from sharp variations in supply that, at times can cause wide and violent fluctuations in price. The last twenty years demonstrate the recurrent boom and bust cycles that characterise the coffee industry. Related to these price fluctuations is the financial risk exposure of all coffee producers.

Prices boomed in 1986 & 1987 in response to a perceived shortage brought about by a drought in Brazil only to slump again in 1989 when International quota system collapsed. Prices remained depressed for the next four years until the next boom, induced by a general reduction in overall supply exacerbated by the 1994 frosts in Brazil. Over supply in 1996 forced prices sharply downwards but this was relatively short lived, prices boomed again in 1997 over fears of shortage of good quality arabicas following the poor harvests because of El Nino phenomenon (*UNCTAD/WTO 2002*)

(i) Nature of the Coffee Crisis

Over the past five years, the world coffee market has undergone important changes in the supply side which reflects a steady increase in world production and export levels. The current crisis in prices is not only part of a cyclical phenomenon; but also, it is direct consequence of the new structure of the market, which is exacerbating the problem for Zambian coffee producers.

The near term price projections are not encouraging. With demand growing slowly and global production still at high levels and still expanding, most analysts predict that coffee price recovery is likely to be slow, at least for the near term. This threatens the longer-term sustainability of coffee production in Zambia.

(ii) Structural changes in the World Coffee Market

In the 1990s, prices of coffee were mainly affected by shifts in Brazilian production (caused mainly by frosts), subsequent adjustments by coffee suppliers responding to price shifts and a slow but steady expansion of coffee production in other countries, especially Vietnam. This period contrasted to a generally downward trend in prices from highs in the mid 1970s. The loss of about 13 million bags of Brazilian production in the mid 1990s pushed prices to a high level.

By the end of the 1990s, however, Brazilian post-frost replanting – freed from government constraints on tree density and planting techniques, as well as the opening of new production areas – has increased production and hence, increased world supply. Brazilian cost of production have also declined through the adoption of improved technologies and in particular mechanized harvesting. In addition, new investments (plantings) in Vietnam and increasing production from other traditional producing countries led to a substantial coffee surplus.

During 2000 and 2001, worldwide supply caused coffee prices to drop to their lowest levels in 30 years – or to a 100-year low, if adjusted for inflation. Coffee prices have plummeted below the cost of production for many coffee producers, causing financial and social hardships to farmers and labourers.

Total current production of green coffee is about 115 million bags (60 kilo net). This exceeds consumption of about 105 million bags (80 million in importing countries and 25 million in producing countries). Over-production has led to the accumulation of inventories in producing and consuming countries, and the drop in world prices.

Apart from over-supply, two other principal factors are underlying the current crisis: structural changes in demand and changes in the nature of the supply of quality coffee from Brazil and Vietnam.

(iii) Changes in demand

Overall, world demand has recovered from the small drop that resulted from the price increase in 1994/1995. As a result of economic liberalization and growth in emerging countries, notably in Eastern Europe, part of Asia and Latin America (especially Brazil), world demand has reached about 105 million bags. This world total masks a number of trends: -

- Aggregate demand in the major importing countries is growing slowly, if at all. This suggests that increases in the high quality end of the market

are being partly offset by losses elsewhere. Meanwhile, new non-traditional markets are emerging and growing quickly, driven by the availability of cheap coffees in soluble form

- Roasters have learned to increase the absorption of natural and robusta coffees by such processes as steaming to remove the harshness of taste.
- Roasters have learned to work with lower stocks. This has increased the requirements of the logical capabilities on suppliers. This, in turn, has favoured large trading companies, and has led to the consolidation of the supply chain in fewer major traders.
- Roasters have become more flexible in their ability to make short-term switches between coffee types.
- The consolidation of roasters in periods of oversupply has led to a situation where prices at the retail level may not necessarily reflect the reductions in green coffee prices in world markets.
- A small but viable segment of the market has emerged that focuses on quality and product differentiation (specialty and gourmet coffees).

In addition to these trends, income effects are proving to be a significant factor in coffee consumption. Consumption in northern Europe, particularly in Germany, is stagnant, but is increasing somewhat in southern Europe and growing in much of Eastern Europe. However, the increase in consumption in Eastern Europe and in parts of Asia recovering from economic problems is being driven by the high availability of cheap robustas which have allowed roasters to make a product available at "affordable" prices. In Brazil, roasters have taken an opposite approach, concentrating on labelling and quality in the domestic market. This has allowed Brazil to increase domestic demand and become the world's second largest consumer.

(iv) Changes in quality

While supply has expanded, the quality of green coffee in some parts of the world has also been improving. Higher quality beans from Brazil, derived from better washing capabilities and quality controls, are intensifying the competition against "Extra Hard," "Prime," and "Extra Prime" coffees from Central America. Although Vietnam's coffee quality is still low, some quality improvements in Vietnam – as evidenced by some recent favourable grading results from the coffee future markets – are allowing roasters to use more of these (Brazilian and Vietnamese) coffees. At the same time, there are growing consumer markets for gourmet and other specialty coffees (gourmet, fair-trade, organic, eco-friendly, etc) that command a significant price premium.

(v) The impact of the coffee crisis on macroeconomics

During the 1999/2000 coffee in Central America accounted for about $1.7 billion, corresponding to about 11% in total export revenues. Coffee was an important source of export revenues in Guatemala, Nicaragua and Honduras, but less so in Costa Rica and El Salvador. However, during 2000/2001 the share of coffee in total exports has dropped to less than half of what it was in 1999/2000 mainly due to the price decline, ranging from about 3 – 4% for Costa Rica to 14% for Nicaragua.

At the macroeconomic level, national governments and banks are also affected by the loss of trade-generated earnings. Central America countries have suffered a 44 percent decline in revenue from coffee exports in one year. Export revenues from coffee dropped from US$1.7 billion to US$938 million from crop year 1999/2000 to 2000/2001 and are estimated to fall further to about US$700 million in 2001/2002. The decrease in exports hurts the balance of payments and significantly affects overall economic activity, particularly due to the broad impact of expenditures of coffee farmers and labourers. The coffee sector debt and past due loans hamper the financial sector, limiting banking activity and financing to other economic sectors.

(vi) The impact of the crisis on production

Lower prices usually induce producers, particularly the less competitive ones to reduce production. However, comparing coffee production and exports in Central America since 1990, it can be observed that during the period 1990 to 2001 coffee production has increased by about 14% and exports by about 22%. There have been several reports that due to low prices farmers do not tend their farms and apply less agro chemicals. Evidence indicates that between 2000 and 2001, overall coffee yields declined in Central America, with the largest declines registered in El Salvador (-25%), Nicaragua (-20%) and Honduras (-17%). Anecdotal evidence suggests that much of the decline is due to lower prices although it is possible that recent droughts and other climate-related effects have also played a role.

(vii) The impact of the coffee crisis on employment

Coffee is a very important source of employment for the rural sector in Central America. On average, over one quarter of the rural labour force is employed in the coffee sector. It is worth noting that in Nicaragua, 42% of rural labour is employed in coffee.

Low coffee prices are causing unemployment to reach critical levels in producer countries. In the last two crop seasons, seasonal employment has decreased by more than 20 percent, while permanent employment has plummeted by more than 50 percent. More than half the permanent labour force is now working at less than half capacity. Wages have also fallen as farms have received lower coffee revenues and the supply of labour has swelled through unemployment. CEPAL (2002) estimated that the loss of employment has resulted in a loss salary income of about $140 million for Central America as a whole, of which coffee workers in Guatemala have lost in salaries $62 million followed by Honduran coffee workers who lost $37 million.

The situation is especially critical because, unlike other crops, the majority of coffee producers are small holders living in remote rural areas who heavily depend on their own harvest and extra cash from temporary picking work. These growers depend on this cash income to pay for food and other essential items such as school fees and health care and they have no cash reserves on which to draw from in hard times. A crisis in the sector creates social imbalances, a general downturn in the rural economy, accelerated migration to urban areas and other countries and potential for instability.

Coffee is produced by many small farmers who account for only a small percentage of the total production. In contrast larger farmers, although a small percentage of the total farmers, account for most production.

(viii) Impact of Coffee Crisis on Environment

- Environmental issues are not of high priority to many producers struggling to cope with the coffee price crisis. Existing environmental problems have, in some cases, worsened. Meanwhile, some new environmentally related problems have intensified, such as destruction of shade forest followed by decreasing biodiversity and destruction of ecosystems and natural habitats.
- The crisis has led the reduction in the application of agro-chemical in almost all the Central American countries (Guzman 2002). This may have some beneficial short-term consequences for the environment (water contamination and soil) but it may lead to spread of diseases (e.g. leaf rust, CBD etc), and in the longer term the low profitability may induce farmer to switch to other crops.
- The low price of coffee especially places pressures on producers to grow other crops to supplement or substitute for coffee, in order to survive. The new crops might not be adequate for the soils and slopes in the coffee regions and introducing the inadequate crops could cause serious erosion problems. Furthermore, abandoning the coffee plantation and leaving cherries un-harvested can cause serious

plagues and infestations of pests the following year, making it difficult to reinitiate any agricultural production.

- The coffee crisis drives traditional coffee producers to cut down and sell the shade forest as timber or firewood. Introducing new crops as a substitute for coffee can motivate clearing of the coffee plants and surrounding areas, using slash and burn techniques.
- Over the past years, an increasing number of wet mills have implemented water and energy saving measures and promoted their mills as environmentally friendly or certified. The coffee crisis might prevent new mills from investments that implement such measures. There is some evidence (Guzman 2002) that in Central America countries with a possible exception Costa Rica, the current coffee crisis has led to a reduction of sound environmental practices at the level of wet milling.

(b) Zambia Coffee Industry

Coffee production in Zambia waited until the early 1980's and the first recorded exports date from 1985. Modest initial success coupled with the need to diversify Zambia's export base, resulted in the government seeking foreign donor assistance to promote commercial coffee in the country.

The country is well situated to irrigated coffee with production with ample land and water resources. The cost of production is comparatively low which compensate for the fact that the country is landlocked. From a very small base production of 330 tonnes in 1985 it has risen to over 5 700 tonnes in 2000 generating US$10 million. (Figure 1.1)

The area under coffee for the whole country is 4 500 hectares of which 125 hectares are owned by small scale -farmers. The rest is owned by large - scale farmers who are presently the mainstay of the industry. Zambia produces washed mild arabicas comparable to the better qualities grown in Kenya, Tanzania and Zimbabwe. Most Zambian coffees are exported to

Northern Europe with a small but increasing amount going to Japan and the USA.

The industry is regulated by a statutory Coffee Board whose members represent the government, small –scale farmers, large-scale, agricultural research and extension services. The Zambia Coffee Growers Association, ZCGA (the operative wing of the Coffee Board) provides coffee extension services, quality control and is responsible for all export marketing as per the Coffee Act of 1989. Membership is open only to registered coffee growers.

ZCGA sells coffee for its members through both spot tenders (auction systems) and forward sales. Certain members, very few corporate coffee growers, are authorized to market their crop independently, APC is allowed to own sell 70% of its production.

The Zambian economy consumes very little of its coffee production and as a result over 95% of it is exported. This leaves the industry players highly exposed to various risks, ranging from foreign exchange, commodity price, interest and financial distress risk caused by high debt levels. This research seek to identify, measure and propose ways to manage this risk, with specific focus on African Plantations Company, the current biggest coffee producer in Zambia.

(c) Background of African Plantations Company Ltd

Eight years ago several blue chip investors and coffee and tea experts set out to bring multiple estates together as one well managed group – maintaining diversity while making each of the estates more financially viable. Through acquisitions and joint development projects this group – African Plantations Corporation (APC) now owns and operate a diversified portfolio of premier coffee and tea estates in several sub- Saharan African countries. (http.//www: apc.cc)

APC has spent the past few years perfecting production methods and quality assurance systems. The individual estates enjoy a high level of self - sufficiency and protection against potential adverse local conditions. While the risks brought about by weather have been managed by putting adequate water security measures, there is still significant risk affecting the very existence of APC in Zambia. The production and management side of the company have been improved significantly but the company still face significant financial risk brought about by the introduction of debt in 2000.

The company still is exposed as well to price changes of its main inputs, (pesticides, herbicides, fungicides, fertilisers, fuel and spare parts) which are mainly imported.

The coffee price and debt burden are the two main variables which are the centre of this research.

We can not however ignore the contribution of business risk to the high level of borrowing in the coffee industry in Zambia. The industry is highly exposed to commodity price movements. For the past three years the price was highly depressed and the producers had no option expect to go borrowing with the hope the price will recover in the short term. The recovery did not come at the expected time leaving the entire industry highly exposed to financial distress risk.

In his chairman's report (Annual Report 2000) Mr Dekel Golan acknowledged that the slide in coffee prices can not be treated as a force of nature, there is high need than ever to put a hedging strategy in place if the company has to survive. The same echoes were made by the new chairman Mr Heinrich von Pezold in his opening remarks to the board on 26 June 2003, when he said "not to hedge coffee price is the highest speculation the company is taking", (board minutes no: 4/ 2003) this implies that the volatility of the coffee price is the greatest threat the company faces and to ignore a hedging strategy is self destructive.

With the political problems in Zimbabwe gaining momentum in 2001, the shareholders perceived some looming risk and they started dragging their feet in putting more money into Africa, more so in southern region. Private property was being expropriated in Zimbabwe and the shock waves extended to Zambia where history could become realty and could repeat itself. During the socialist era in Zambia private property was also nationalised and the risk of this happening again was quite fresh in APC investors' mind. By this time the Zambian operation was very young and developing and was still very dependant on shareholders money. The investors closed their doors and here we are, rational thinking tell us that what could they have done faced with all negatives, they made a decision to loose no more and get nothing back. They could not have increased their return to cover perceived risk because the operation besides being young, was facing two evils, depressed coffee price and the much dreaded debt in an unprofitable business.

One of the main objectives of APC was to increase shareholder value, the value of the firm could not increase when future cash flows are at the mercy of price risk and high interest rates brought about by high debt levels, to sustain the development of the project.

In 2000, International Finance Corporation (IFC) and Swiss development Finance Corporation AG (SDFC), introduced debt to APC balance sheet mainly to refinance the shareholders and also to provide working capital for Sub- region's biggest coffee project.

1.3 MOTIVATION FOR THE RESEARCH

African Plantations Corporation Ltd shareholders by end of 2001 had made a decision to close the business because the coffee price was unlikely to recover, not in the immediate future. The board of directors were instructed to put APC Zambia into receivership by February 2002. The shareholders had not received any dividend from their investment of about US$12 million. The company had also borrowed on the international market a total of US$

5.5million excluding interest which had accumulated. The coffee price had been blamed as the sole reason for this corporate failure. This is an example of a corporate failure and my research is motivated by finding out what exactly caused this problem for APC. Is it coffee price or there other factors. If it is coffee price then the company did not adequately strategise for the down side of the industry cycles. Could it be due to debt burden? IFC blocked all new loans which were breaching the covenants in terms of debt-equity ratio and the company could not raise any fresh loans.

1.4 VALUE OF THE PROJECT

This study is very important to the new APC management and shareholders. This study is going to explore whether it is debt (financial risk) or commodity price cycles (business risk) which caused the coffee crisis for APC and the industry at large. After establishing the impact of the coffee crisis on APC the study will propose ways of managing commodity price risk and how to reduce financial risks. The recommendations will also cover other areas where APC can improve in order to improve their cash flows.

1.5 PROBLEM STATEMENT

The decline of coffee prices in the international markets below USC50/Lb have caused significant crisis in the coffee sector in Zambia. Over the past five years the world coffee market has undergone important changes in the supply side, which reflects a steady increase in world production and export levels. The current crisis in prices is not only part of a cyclical phenomenon but also it is a direct consequence of the new structure of the market.

The heavy reliance on coffee renders APC vulnerable to market downturns and to the competitive pressures that exist in the industry.

The purpose of this research is to discover the impact of commodity price on African Plantations and measure the level of financial risk in the Zambian Coffee Industry.

What caused financial distress for African Plantations Company in 2001, was it due to high debt level, or coffee prices?

1.6 OBJECTIVES OF THE STUDY

The main objectives of this study are:

- To evaluate the impact of the coffee crisis on the Zambian coffee industry by using APC as a case study. APC has been selected since it is the industry leader in Zambia and Southern Africa region, it may the good characteristics of the industry.
- To determine the significance of debt and coffee price and their ultimate contribution to coffee crisis for both APC and the Zambian Coffee Industry. Whether the success or failure of APC is related to the movements in both debt level and or commodity prices. Which of the two variables have got more weight when defining the coffee crisis.
- To establish the relationship between coffee prices and the debt levels and the performance of the company. The coffee crisis can not be limited to these two factors only, there could be other variables which caused the crisis.

1.7 RESEARCH METHODOLOGY

(i) Sampling design

The sampling frame is the current four corporate coffee growers in Zambia, African Plantations Company Ltd, Mpongwe Development Company Ltd, Mubuyu Farms Ltd and Nanga Farms Ltd. Between these four 90% of Zambia coffee production is shared. The sample size shall be limited to one company

–African Plantations Company Ltd being the biggest producer of coffee in Zambia will thus be a representative sample for all coffee growers in the industry. It is noted that small scale coffee farmers may have different situations to corporate farmers but its not covered in this research. African Plantations Company produce more than 45% of the total national output and therefore is more exposed to risks under consideration thus a much more reliable representative of the industry.

(ii) Research Design

The design is a longitudinal, case study research design. The variables coffee price and debt are measured over time. The impact of these variables is analysed for one company APC. The emphasis is on acquiring detailed insights for problem solving, evaluation and strategy formulation. The research is essentially quantitative, involving collection of data from company records and also the financial market through review of literature, interviews and questionnaires. The collection of data will involve extraction of secondary statistical data from published documents, like financial statements, New York Board of Trade, International Coffee Organisation and other coffee organisations.

(iii) Data Collection

My knowledge about the company have complemented by interviewing industry experts, the CEO, Estate Managers of the company and Zambia Coffee Growers Association (General manager) and the largest customer (I & M Smith Pty Ltd). The records of the company have been used to extract most of the data. A formal authority to use the company records for study purposes was given by the Chairman of the Board. Board and management meetings minutes were also used to extract information.

Historical information on interest and exchange rates was obtained from company records about the same. The original source was Standard Chartered bank the company's bankers.

A list of coffee prices on the world market since 1996 was extracted from ICO publications and its impact on the performance of the company was analysed. Information about Zambia Industry statistics was obtained from Zambia Coffee Growers Association the controlling board in the country.

To gain a deeper understanding of the financial risks associated with the coffee industry, additional data shall be gathered through unstructured interviews from industry expects.

The New York Board of Trade web-site was used to provide additional industry statistics.

(iv) Data Analysis

The effects of debt –level and coffee price changes on the company are going to be measured and compared to the company's financial performance.

The financial statements for the company and other information are going to be used to determine the debt –equity ratios and the ultimate financial distress risk can be established. Line graphs, Histograms and other charts shall be used to express the findings

1.8 LIMITATIONS

- Since its inception APC have never produced a profit and as a result no dividend was ever paid to the shareholder. In such circumstances, the cost of equity is not available and for the purposes of the research 13% had been used, being the recent interest rate demanded by new shareholders on their interest bearing loans. This has been assumed to be applicable since 1997 for the purposes of this model.
- Due to the difficulties in getting the market value of APC equity the book values had been used in all cases. APC is not listed on any stock exchange and the only agricultural company listed on Lusaka Stock Exchange, Zambia Sugar PLC produces a different commodity altogether.

- As debt was introduced in APC financial Policy in 2000, according to MM theory the shareholders were supposed to increase their required return to compensate for the risk premium, but this could not be applied to APC since the shareholders did not get any return.
- The tax shelter brought about by debt reduces the cost of capital, however APC have not been profitable hence the effects of tax are limited in this case. I can not test MM's theory due to this limitation.
- Other contributions by Stewart Myers were not tested due to lack of market- to – book value ratios.

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CHAPTER 2 THEORIES ON FINANCIAL RISK

2. 1 Modigliani and Miller

Financial Risk is the additional variability in returns to shareholders that arises because the financial structure contains debt. (Arnold 2002). Financing a business through borrowing is cheaper than using equity, due to the fact that lenders require lower rate of return than ordinary shareholders. Debt finance has prior claims on income and in liquidation. In addition security is provided and covenants imposed give some form of certainty to the lender as result debt finance become cheaper. The cost of raising and servicing debt is generally less than for ordinary shares.

The introduction of interest –bearing debt gears up the returns to shareholders. If profits are high the geared firm's shareholder will experience a more than proportional boost in their returns compared to the un-geared firm's shareholders. This is because interest on debt is tax deductible. If profits turn out to be low the geared firm's shareholders will find their returns declining to an exaggerated extent. APC has not been profitable since it was

incorporated, so interest charges exaggerated the losses to the shareholders and also exchange loss on loans brought about by huge devaluations of the kwacha also increased the losses. By introducing debt the potential returns to shareholders have been geared up.

The increasing proportion of debt raises the firm's fixed financial costs. At high gearing levels there is an increased probability of the firm not only failing to make a return to the shareholders, but also failing to meet the interest cost obligation and thus raising the likelihood of insolvency.

Modigliani and Miller (1958) argues that the value of the firm remain constant regardless of the level of debt. They believed that when debt increases the equity holders will demand a risk premium for the financial risk brought about by debt. This increase in cost of equity exactly offset the benefit of cheaper Weighted Average Cost of Capital (WACC) brought about by cheaper debt. If WACC is constant then the only factor which influences the value of the firm is its cash flow generated from operations. They argued that the total market value of any company is independent of its capital structure, thus the total market value of the firm is the net present value of the income streams. By this they implied that business risk is the only one which affects the value of the firm.

Modigliani and Miller in their world of no taxes argued that as shareholders see the risk of their investment increase because the firm is taking more debt levels they demand a higher level of return. The geared firm pays a risk premium for financial risk.

In their 1963 model Modigliani and Miller introduced tax and the results were completely different. Tax shelter reduces the effective cost of debt capital. Now value rises as debt is replaced equity in the capital structure. The cost of equity rises with the introduction of debt but the extent of the rise is insufficient to exactly offset the cheaper debt.

Arnold 2002 noticed that in the real world companies do not generally raise their debt-to-equity ratios to very high levels. There must be some very important influences on capital structure not yet taken into account. Stewart Myers argued that our financial theories don't seem to explain the actual financing behaviour and it is presumptuous to advise firms on optimal structure when we are so far away from explaining the actual decisions. Besides the perceived benefits from debt many firms today seem to avoid very high gearing levels. The reason is high gearing brings financial distress risk. This is brought about by the fact that interest payments are regardless of the business cash flows.

The risk of cash flows from any asset reflects both business risk (profit fluctuations due to business conditions) and financial risk (increased profit fluctuations due to leverage). Servicing of Debt is a fixed cost, greater fixed cost makes profits more risky, but leverage increases equity risk.

There is no precise formula which can be employed to establish the best debt-equity ratio for firms in all circumstances. This depends on so many specific and often difficult to measure factors. (Arnold 2002.829). These factors include the tax position of the firm, the likelihood of financial distress, the type of business the firm is in, the saleability of its assets, the level of business risk and the psychology of the market.

Equity is soft, debt is hard, Equity is forgiving, Debt is insistent (Bennett Stewart 1990,580) implies that operating and strategic problems and inefficiencies are less likely to be attended to and corrected with capital base which is primarily equity. However the managers of a highly geared company are more likely to be attuned to the threat of falling efficiency and profitability.

The present value, which represents the contribution of debt financing to the market value of the firm, could be estimated simply by multiplying the company's marginal tax rate say 34% times the principal amount of outstanding debt (assuming the firm expects to maintain its current debt level).

The problem with this analysis, however, is that it overstates the tax advantage of debt by considering only the corporate profits tax. Many investors who receive interest income must pay taxes on that income. But those same investors who receive equity income in form of capital gains are taxed at a lower rate and can defer any tax by choosing not to realize those gains. Thus, although higher leverage lowers the firm's corporate taxes, it increases the taxes paid by investors. And because investors care about their after-tax returns, they require compensation for these increased taxes in the form of higher yields on corporate debt – higher than the yields on, say, comparably risky tax-exempt municipal bonds.

The higher yields on corporate debt that reflect investors' taxes effectively reduce the tax advantage of debt over equity. In this sense, the company's shareholders ultimately bear all of the tax consequences of its operations, whether the company pays those taxes directly in the form of corporate income tax or indirectly in the form of higher required rates of return on the securities its sells. For this reason alone, the tax advantage of corporate debt is almost certainly not 34 cents for every dollar of debt. Nor is it likely to be zero, however, and so a consistently profitable company that volunteers to pay more taxes by having substantial unused debt capacity is likely to be leaving considerable value on the table.

2.2 Contracting cost theory

Conventional capital structure analysis holds that financial managers set leverage targets by balancing the tax benefits of higher leverage against the greater probability, and thus higher expected costs, of financial distress. In this view, the optimal capital structure is the one in which the next dollar of debt is expected to provide an additional tax subsidy that just offsets the resulting increase in expected costs of financial distress.

To test the contracting cost theory, Stewart Myers et al attempted to determine the extent to which corporate leverage choices can be explained by

differences in companies' investment opportunities. As suggested earlier, the contracting cost hypothesis predicts that the greater these investment opportunities (relative to the size of the company), the greater the potential underinvestment problem associated with debt financing and, hence, the lower the company's target leverage ratio. Conversely, the more limited a company's growth opportunities, the greater the potential overinvestment problem and, hence, the higher should be the company's leverage.

To test this prediction, they needed a measure of investment opportunities. Because stock prices reflect intangible assets such as growth opportunities but corporate balance sheets do not, they reasoned that the larger a company's "growth options" relative to its "assets in place," the higher on average will be its market value in relation to its book value. They accordingly used a company's market-to-book ratio as a proxy for its investment opportunity set.

The results of their regressions provide strong support for the contracting cost hypothesis. Companies with high market-to-book ratios had significantly lower leverage ratios than companies with low market-to-book ratios. Moreover, such a negative relation between corporate leverage and market-to-book ratios appears to hold outside the U. S. as well.

In a 1995 study, Raghuram Rajan and Luigi Zingales examined capital structure using data from Japan, Germany, France, Italy, the UK and Canada, as well as the U. S. They found that, in each of these seven countries, leverage is lower for firms with higher market-to-book ratios and higher for firms with higher ratios of fixed assets to total assets.

2.3 Cost of Financial Distress

Although the direct expenses associated with the administration of the bankruptcy process appear to be quite small relative to the market values of companies, the indirect costs can be substantial. In thinking about optimal capital structure, the most important indirect costs are likely to be reductions

in firm value that result from cutbacks in promising investment that tend to be made when companies get into financial difficulty.

When a company files for bankruptcy, the bankruptcy judge effectively assumes control of corporate investment policy – and it's not hard to imagine circumstances in which judges do not maximize firm value. But even in conditions less extreme than bankruptcy, highly leveraged companies are more likely than their low-debt counterparts to pass up valuable investment opportunities, especially when faced with the prospect of default. In such cases, corporate managers are likely not only to postpone major capital projects, but to make cutbacks in R & D, maintenance, advertising, or training that end up reducing future profits.

This tendency of companies to under-invest when facing financial difficulty is accentuated by conflicts that can arise among the firm's different claimholders. To illustrate this conflict, consider what might happen to a high-growth company that had trouble servicing its debt. Since the value of such a firm will depend heavily on its ability to carry out its long-term investment plan, what the company needs is an infusion of equity. But there is a problem. As Stewart Myers pointed out in his classic 1977 paper entitled "Determinants of Corporate Borrowing" the investors who would be asked to provide the new equity in such cases recognize that much of the value created (or preserved) by their investment would go to restoring the creditors' position. In this situation, the cost of the new equity could be so high that managers acting on their shareholders' behalf might rationally forgo both the capital and the investment opportunities.

Myers referred to this as "the underinvestment problem." And, as he went on to argue, companies whose value consists primarily of intangible investment opportunities – or "growth options" as he called them – will choose low-debt capital structures because such firms are likely to suffer the greatest loss in value from this underinvestment problem. By contrast, mature companies with few profitable investment opportunities where most of their value reflects the cash flows from tangible "assets in place" incur lower expected costs

associated with financial distress. Such mature companies, all else equal should have significantly higher leverage ratios than high-growth firms.

2.4 The benefits of debt in controlling overinvestment

If too much debt financing can create under-investment problem for growth companies, too little debt can lead to an over-investment problem in the case of mature companies. As Michael Jensen has argued, large, mature public companies generate substantial "free cash flow" – that is, operating cash flow that cannot be profitably reinvested inside the firm. The natural inclination of corporate managers is to use such free cash flow to sustain growth at the expense of profitability, either by over-investing in their core businesses or perhaps worse, by diversifying through acquisition into unfamiliar ones.

Because both of these strategies tend to reduce value, companies that aim to maximize firm value must distribute their free cash flow to investors. Raising the dividend is one way of promising to distribute excess capital. But major substitutions of debt for equity (for example, in the form of leveraged stock repurchases) offer a more reliable solution because contractually obligated payments of interest and principal are more effective than discretionary dividend payments in squeezing out excess capital. Thus, in industries generating substantial cash flow can add value simply by forcing managers to be more critical in evaluating capital spending plans.

(a) Leverage Ratios:

Much of the previous evidence on capital structure supports the conclusion that there is an optimal capital structure and that firms make financing decisions and adjust their capital structures to move closer to this optimum. For example, a 1967 study by Eli Schwartz and Richard Aronson showed clear differences in the average debt to (book) asset ratios of companies in different industries, as well as a tendency for companies in the same industry to cluster around these averages. Moreover, such industry debt ratios seem to align with R & D spending and

other proxies for corporate growth opportunities that the theory suggests are likely to be important in determining an optimal capital structure.

In a 1985 study, Michael Long and Ileen Malitz showed that the five most highly leveraged industries – cement, blast furnaces and steel, paper and allied products, textiles, and petroleum refining – were all mature and asset-intensive. At the other extreme, the five industries with the lowest debt ratios – cosmetics, drugs, photographic equipment, aircraft and radio and TV receiving – were all growth industries with high advertising and R & D.

Other studies have used "cross-sectional" regression techniques to test whether the theoretical determinants of an optimal capital structure actually affect financing decisions. For example, in their 1984 study, Michael Bradley, Greg Jarrell and Han Kim found that the debt to (book) asset ratio was negatively related to both the volatility of annual operating earnings and to advertising and R & D expenses. Both of these findings are consistent with high costs of financial distress for growth companies, which tend to have more volatile earnings as well as higher spending on R & D.

Several studies have also reported finding that the debt ratios of individual companies seem to revert toward optimal targets. For example, a 1982 study by Paul Marsh estimated a company's target years. He then found that the probability that a firm issues equity is significantly higher if the firm is above its target debt ratio, and significantly lower if below the target.

Ross Watts (1995) attempted to add to this body of empirical work on capital structure by examining a much larger sample of companies that he tracked for over three decades. For some 6,700 companies covered by COMPUSTAT, they calculated "market" leverage ratios (measured as the book value of total debt divided by the book value of debt and preferred stock plus the market value of equity) over the period 1963 – 1993. Not surprisingly, he found considerable differences in leverage ratios, both across companies in any given year and in some cases, for the same firm over time. Although the

average leverage ratio for the 6700 companies over the 30-year period was 25%, one fourth of the cases had market leverage ratios that were higher than 37.5% and another one fourth had leverage ratio less than 10.3%.

(b) Debt Maturity and Priority

Most academic discussions of capital structure focus just on the leverage ratio. In so doing, they effectively assume that all debt financing is the same. In practice, of course, debt differs in several important respects, including maturity, covenant restrictions, security, convertibility and call provisions and whether the debt is privately placed or held by widely dispersed public investors. Each of these features is potentially important in determining the extent to which debt financing can cause, or exacerbate, a potential underinvestment problem. For example, debt-financed companies with more investment opportunities would prefer to have debt with shorter maturities (or at least with call provisions, to ensure greater financing flexibility), more convertibility provisions (which reduce the required coupon payments), less restrictive covenants and a smaller group of private investors rather than public bondholders (which makes it easier to reorganize in the event of trouble). By recognizing this array of financing choices, we can broaden the scope of our examination and raise the potential power of our analysis, while at the same time increasing the relevance of the analysis for managers who must choose the design of their debt securities.

Stewart Myers in his 1977 article described that one way for companies with lots of growth options to control the underinvestment problem is to issue debt with shorter maturities. The argument is basically this: a firm whose value consists mainly of growth opportunities could severely reduce its future financing and strategic flexibility – and in the process destroy much of its value – by issuing long-term debt. Not only would the interest rate have to be high to compensate lenders for their greater risk, but the burden of servicing the debt could cause the company to defer strategic investments if their operating cash flow turns down. By contrast, shorter-term debt, besides

carrying lower interest rates in such cases, would also be less of a threat to future strategic investment because as the firm's current investment beginning to pay off, it will be able over time to raise capital on more favourable terms.

When they tested this prediction (again using market-to-book as a measure of growth options), they found that growth companies tended to have significantly less debt with a maturity greater than three years than companies with limited investment opportunities. More specifically, their regressions suggest that moving from companies at the 10^{th} to the 90^{th} percentile of market-to-book ratios (that is from 0.77 to 2.59) reduces the ratio of long-term debt to total debt by 18 percentage points (a significant reduction, given a sample average ratio of 46%).

Moreover, it was also found that in the same study that the debt issued by growth firms is significantly more concentrated among high-priority classes. Consistent with the results indicating that firms with more growth options tend to have lower leverage ratios, it was found that changing the market-to-book ratio from the 10^{th} to the 90^{th} percentile is associated with reductions in leasing of 89%, in secured debt of 71%, in ordinary debt of 78% and in subordinated debt of almost 250%. The explanation for this is as follows: When firms get into financial difficulty, complicated capital structures with claims of different priorities can generate serious conflicts among creditors, thus exacerbating the underinvestment problem described earlier. And because such conflicts and the resulting underinvestment have the greatest potential to destroy value in growth firms, those growth firms that do issue fixed claims are likely to choose mainly high-priority fixed claims.

2.5 Information cost Theory

Corporate executives often have better information about the value of their companies than outside investors. Recognition of this information disparity between managers and investors has led to two distinct but related theories of

financing decisions – one known as "signalling," the other as the "pecking order."

(a) Signalling theory

With better information about the value of companies than outside investors, managers of undervalued firms would like to raise their share prices by communicating this information to the market. Unfortunately, this task is not as easy as it sounds; simply announcing that the companies are undervalued generally isn't enough. The challenge for managers is to find a credible signalling mechanism.

Economic theory suggests that information disclosed by an obviously biased source (like management, in this case) will be credible only if the costs of communicating falsely are large enough to constrain managers to reveal the truth. Increasing leverage has been suggested as one potentially effective signalling device. Debt contracts oblige the firm to make a fixed set of cash payments over the life of the loan; if these payments are missed, there are potentially serious consequences, including bankruptcy. Equity is more forgiving. Debt is insistent. Although stockholders also typically expect cash payouts, managers have more discretion over these payments and can cut or omit them in times of financial distress.

For this reason, adding more debt to the firm's capital structure can serve as a credible signal of higher future cash flows. By committing the firm to make future interest payments to bondholders, managers communicate their confidence that the firm will have sufficient cash flows to meet these obligations.

Debt and equity also differ with respect to their sensitivity to changes in firm value. Since the promised payments to lenders are fixed and shareholders are entitled to the residual (or what's left over after the fixed payments), share prices are much more sensitive than debt prices to any proprietary information about future prospects. If management is in possession of good news that

has yet to be reflected in market prices, the release of such news will cause a larger increase in share prices than in bond prices, and hence current stock prices (prior to release of the new information) will appear more undervalued to managers than current bond prices. For this reason, signalling theory suggests that managers of companies that believe their assets are undervalued will generally choose to issue debt – and to use equity only as a last resort.

Consistent with this theory, economists have documented that the market responds in systematically negative fashion to announcements of equity offerings, marking down the share prices of issuing firms by 3% on average. By contrast, average market reaction to new debt offerings is not significantly different from zero. The important thing to recognize is that most companies issuing new equity – those that are undervalued as well as those that are overvalued – can expect a drop in stock prices when they announce the offering. For those firms that are fairly valued or undervalued prior to the announcement of the offering, this expected drop in value represents an economic dilution of the existing paper, we refer to this dilution as part of the "information costs" of raising outside capital.

(b) The Pecking Order theory

Signalling theory, then, says that financing decisions are based, at least in part, on management's perception of the "fairness" of the market's current valuation of the stock. Stated as simply as possible, the theory suggests that, in order to minimize the information costs of issuing securities, a company is more likely to issue debt than equity if the firm appears undervalued, and to issue stock rather than debt if the firm seems to be overvalued.

The pecking order theory takes this argument one step farther, suggesting that the information costs associated with issuing securities are so large that they dominate all other considerations. According to this theory, companies maximize value by systematically choosing to finance new investments with the "cheapest available" source of funds. Specifically, they prefer internally

generated funds (retained earnings) to external funding and, if outside funds are necessary, they prefer debt to equity because of the lower information costs associated with debt issues. Companies issue equity only as a last resort, when their debt capacity has been exhausted.

The pecking order theory would thus suggest that companies with few investment opportunities and substantial free cash flow will have low debt ratios – and that high-growth firms with lower operating cash flows will have high ratios. In this sense, the theory not only suggests that interest tax shields and the costs of financial distress are at most a second-order concern; the logic of the pecking order actually leads to a set of predictions that are precisely the opposite of those offered by the tax and contracting cost arguments presented above.

(i) Leverage:

Signalling theory says that companies are more likely to issue debt than equity when they are undervalued because of the large information costs (in form of dilution) associated with an equity offering. The pecking order model goes even farther, suggesting that the information costs associated with riskier securities are so large that most companies will not issue equity until they have completely exhausted their debt capacity. Neither the signalling nor the pecking order theory offers any clear prediction about what optimal capital structure would be for a given firm. The signalling theory seems to suggest that a firm's actual capital structure will be influenced by whether the company is perceived by management to be undervalued. The pecking order model is more extreme; it implies that a company will not have a target capital structure, and that its leverage ratio will be determined by gap between its operating cash flow and its investment requirements over time. Thus, the pecking order predicts that company with consistently high profits or modest financing requirements are likely to have low debt ratios – mainly because they don't need outside capital. Less profitable companies, and those with large financing requirements will end up with high leverage ratios because of managers' reluctance to issue equity.

A number of studies have provided support for the pecking order theory in the form of evidence of a strong negative relation between past profitability and leverage. That is, the lower are a company's profits and operating cash flows in a given year, the higher is its leverage ratio (measured either in terms of book or market values.) Moreover, in an article published in 1998, Steward Myers and Lakshmi Shyam-Sunder added to this series of studies by showing that this relation explains more of the time-series variance of debt than a simple target-adjustment model of capital structure that is consistent with the contracting cost hypothesis.

Such findings have generally have been interpreted as confirmation that managers do not set target leverage ratios – or at least do not work very hard to achieve them. But this is not the only interpretation that fits these data. Even if companies have target leverage ratios, there will be an optimal deviation from those targets – one that will depend on the transactions costs associated with adjusting back to the target relative to the costs of deviating from the target. To the extent there are fixed costs and scale economies in issuing securities, companies with capital structure targets – particularly smaller firms – will make infrequent adjustments and often will deliberately overshoot their targets.

(ii) Maturity and Priority

Signalling theory implies that undervalued firms will have more short-term debt and more senior debt than overvalued firms because such instruments are less sensitive to the market's assessment of firm value and thus will be less undervalued when issued.

In sum, managers' use of financing choices to signal their superior information to the market are not robust and the economic effect of any such signalling on corporate decision-making seems minimal.

According to the pecking order theory, the firm should issue as much of the security with the lowest information costs as it can. Only after this capacity is exhausted should it move on to issue a security with higher information costs. Thus, for example, firms should issue as much secured debt or capitalized leases as possible before issuing any unsecured debt, and they should exhaust their capacity for issuing short-term debt before issuing any long-term debt.

To explain these more detailed aspects of capital structure, proponents of the pecking order theory must go outside their theory and argue that other costs and benefits determine these choices. But once you allow for these other costs and benefits to have a material impact on corporate financing choices, you are back in the more traditional domain of optimal capital structure theories.

African Plantations Company in their balance sheet show that they do not have any retained earnings in fact a huge loss is reflected. And according to the perking order theory the next source of less resistance is debt and that's why management decided to go for debt. Assuming the levels of growth APC had planned the perking order theory is again confirmed. APC had planned to plant 2000 ha and to produce 5 000 tonnes per annum had it not been for price this qualified APC as a high growth company from a production of as low as 130 tonnes in 1996 to 5 000 tonnes by 2004 is serious growth hence management argument to have high debt ratios.

2.6 The evidence on taxes

Theoretical models of optimal capital structure predict that firms with more taxable income and fewer non-debt tax shields should have higher leverage ratios. But the evidence on the relation between leverage ratios and tax-related variables is mixed at best. For example, studies that examine the effect of non-debt tax shields on companies' leverage ratios find that this effect is either insignificant, or that it enters with the wrong sign. That is, in contrast to the prediction of the tax hypothesis, these studies suggest that

depreciation; net operating loss carry-forwards and investment tax credits have, if anything, more not less debt in their capital structures.

But before we conclude that taxes are unimportant in the capital structure decision, it is critical to recognize that the findings of these studies are hard to interpret because tax variables are crude proxies for a company's effective marginal tax rate. In fact, these proxies are often correlated with other variables that influence the capital structure choice. For example, companies with investment tax credits, high levels of depreciation and other non-debt tax shields also tend to have mainly tangible fixed assets. And, since fixed assets provide good collateral, the non-debt tax shields may in fact be a proxy not for limited tax benefits, but rather for low contracting costs associated with debt financing. The evidence from the studies just cited is generally consistent with this interpretation.

Similarly, firms with net operating loss carry forwards are often in financial distress; and since equity values typically decline in such circumstances, financial distress itself causes leverage ratios to increase. Thus, again, it is not clear whether net operating losses proxy for low tax benefits of debt or for financial distress.

More recently, several authors have succeeded in detecting tax effects in financing decisions by focusing on incremental financing choices (that is, changes in the amount of debt and equity) rather than on the levels of debt and equity. For example, a 1990 study by Jeffrey Mackie-Mason examined registered security offerings by public US corporate and found that firms were more likely to issue debt if they had a high marginal tax rate and to issue equity if they had a low tax rate. In another attempt to avoid the difficulties with crude proxy variables, a 1996 study by John Graham used a sophisticated simulation method to provide a more accurate measure of companies' marginal tax rates. Using such tax rates, Graham also found a positive association between changes in debt ratios and the firm's marginal tax.

On balance, then, the evidence appears to suggest that taxes play at least a modest role in corporate financing and capital structure decisions.

CHAPTER 3 CASE STUDY REVIEW

From its inception African Plantations Company had the following objectives:

- To become the largest low cost producer of high quality premium coffee. (Operational Approach)
- Maximise shareholders value and provide high capital appreciation for its investors. (Financial Structure Approach)
- Approach the market directly by selling to roasters rather through Agents and Brokers (Marketing Approach)

3.0 SWOT ANALYSIS

3.0.1 Strengths

APC Zambia has strength in its ability to produce a consistent quality product which meets all normal quality standards world wide. The company has well experienced management in place to carry out its ambitions and policies as desired. There is plentiful supply of land and water to allow further expansion to the expected 2000 hectares. The current success of the company in terms of production and quality will attract further financial resources.

Weaknesses

APC Zambia has so far failed to reach its hectarage target of 2 000 and production tonnages predicted at its inception and also the revised targets given to the major lenders and shareholders in 2000 when the first restructuring was done to incorporate debt into the financial structure of the company.

The company also have the greatest disadvantage with the coffee berry disease (CBD) which no one else in the country experience at the same magnitude. This is further worsened by poor variety selection when the first plantings were done. The varieties in place are very susceptible to the CBD disease and this push up the cost of production while at the same time reduces yield.

Very little research and development have been done into areas of varieties and plant populations both by APC and the industry at large. Everything APC done was on trial basis but consuming huge sums of money.

APC is further disadvantaged by its location which is far away from both the sources of input supply and also the major output outlets. These attract additional cost compared to other producers in the country. This is further worsened by poor telecommunications and other infrastructure in an area with virtually no economic activity other than itself. This creates difficult logistics in all spheres of operation. No spares are immediately available for any machine in the company. Lead times are long and transport expensive.

3.0.2 Opportunities

APC Zambia has tremendous potential some of which are already bearing fruit now. As sub Saharan Africa's largest single coffee expansion it is in an excellent position to trade on this success and further expand its operations though not necessarily in coffee.

Opportunities exist mainly in the area of further expansion. Land is cheap and plentiful and with some of Africa's best irrigation potential the ability to produce high value commodity crops.

Structural changes in the supply chain of coffee creates more opportunities for APC if they can attain and maintain certain quality required. To achieve this APC need to change it's financing and marketing arrangement to be more attuned to market changes.

3.0.3 Threats

A minor (by the standards of the continent) political threat is always evident. It is however, controllable at the moment.
Brazil must be recognized as a threat. It will have to be APC's aim to be ahead of Brazil in as many spheres of the coffee production business as possible. Our ability to produce superior quality will be there for some time. Our ability to produce yield and quality will be the only two criteria which will allow APC to stay in business.

However, it must be recognized that we are facing the economic tiger of the next few decades with an economy based on tropical agriculture. Brazil's coffee growing is changing. The production is moving away from any frost area. We have witnessed frost in Brazil in 2000 which a decade ago would send world prices spiralling. A very brief jump in price was experience instead. Large scale development of coffee growing in conditions not too dissimilar to that of Northern Zambia is being done in the Bahia region of Brazil. A slow move is being made to wet processing using machinery identical to that we are currently installing. We will be able to combine production of quality with mechanical harvesting so too will Brazil.

Our cost of production will have to kept at the same level or lower than that of Brazil to enable the company to stay in business. Yield is the main driver in reducing that cost.

3.1 OPERATIONAL POLICY

To achieve its **low cost – high quality objective** APC planned to plant 2 000 hectares of coffee in Zambia and to produce 5 000 tonnes. Low cost is achieved through increased output and high quality is dependent on various factors as will be outlined in the following sections. It acquired four estates in Northern Zambia, and started expanding from 291 hectares in 1996 to 1290 hectares in 2001 and producing 3 000 tonnes in 2003. The following

considerations were given priority in order to meet the high objectives of the company.

If APC were to grow coffee that yielded when mature an average of 4 500kgs per hectare, fifty percent above our current predictions and in line with the better Brazilian producers, projected cost per kilo would drop by USC29. If this same coffee were resistant to CBD, and leaf rust and seventy five percent of the crop machine harvested costs would drop a further US$0.17 a kilo to US$0.81. A grade out of eighty percent of the top two grades (AA/AB), would improve average cup quality add an additional US$0.05 a kilo without any additional marketing effort. (COO report to the board Aug 2000) It seemed reasonable to expect that an R & D effort with the above goals could improve the margin on coffee by US$0.50 a kilo. APC expects to produce in excess of 5 million kilos of coffee by 2004.

3.1.1 Mechanization

This is the only viable way of properly maintaining and managing the current 1 290 ha and projected 2000 ha. Further acquisitions of sprayers , tractors and cultivators was put in place and a replacement policy adopted. A basic spray system per 500 ha estate consist of 3 by 1 500 litre sprayers for foliar application of fertilizer and fungicide, 3 by 1 500 litre sprayer for herbicide and ground application. Centre pivots were mounted with injector equipment to allow fertigation.

Partial and on an experimental area full mechanization of the harvesting was carried out. This is the only option available to properly harvest the considerable crop in 2003 and beyond. Projected daily cherry intakes could exceed 500 tonnes per day on the three Estates. Mechanical harvesting is the only way of taking these volumes of cherry off the trees. APC acquired Africa's first coffee harvester and the initial experiments showed promising results. The tree sustained minimal damage and picked an even standard. Further trial however proved different results. It was anticipated that it will be

possible to machine harvest at least seventy five percent of the area in Zambia.

Zambia		2001		2002		2003		2004		2005	
		Crop	Mandays	Crop	Mandays	Crop	Mandays	Crop	Mandays	Crop	Mandays
	Without harvester	1802	195217	3330	360750	4792	519133	5620	608833	5578	604283
	With harvester	1802	156173	3330	216450	4792	207653	5620	152208	5578	151071
	% area machine	20		40		60		75		75	

The figures for Zambia above roughly translate into the difference between employing 6 800 people a day on harvesting without the machine and 1700 a day with the machine.

Harvesters have been successfully used in Brazil for over twenty years, this however is on "natural coffees" where red, green and black (mbuni) cherry are all harvested together. Only in Hawaii are machines used to harvest red cherry. APC was to combine relatively cheap labour for picking together with the harvesters to optimize coffee quality.

The machine harvesting failed due to:

- Synchronised flowering in each block to achieve uniform ripening and spread flowering out between blocks, lengthening the harvesting season for better machine utilization was impossible given the climate in Zambia.
- There was pressure on management so much so that developing a measure to determine the ideal timing of harvesting with the emphasis on maximizing quality was not practical.
- The usage of harvesters required adjustments to pulpery (Wet Factory) layout and other processing facilities to allow synchronised production. This required additional capital

- Developing harvester operating and transport systems to maximise productivity was limited by other pressing production priorities.

Acquiring a harvester therefore was not well planned and was wastage of resources.

3.1.2 Factories

The eventual aim was to achieve as near as possible an automatic factory; feeding cherry in one end and with the minimum amount of handling green bean out the other.

To achieve this, considerable investment was required. Each estate will have its own milling facility allowing green bean to be produced and then transported to a centralized blending facility. This will reduce transport costs by 20% (as against parchment) and provide a portion of the fuel required by the driers in the form of parchment husk.

The location of the processing facilities played a vital role in the reduction of transport volume and distance. All factory elements will have to be mechanized including that of drying (in 2001 it was sun drying). Drying and driers represent the single largest investment in the factory system and was designed along the lines of a grain handling facility able to handle in excess of 5000 tonnes green bean equivalent over a four month period.

Marketing decided that we must be able to accurately blend various types of maximum value. With all varieties grown in all blocks this will only be possible with wet factories designed to accept separately all the various varieties, process them separately and finally blend them accurately. Each wet factory will require a number of lines of equipment and adequate storage to enable this separation to be maintained throughout the process. This will require a properly designed grain handling facility with all necessary loading and storage facilities.

Due to financial distress all the above good intentions were abandoned, varieties were mixed in the process and further automation of the factories was abandoned. Driers were done just to the minimum standards and in the end the quality gains from improved processing were lost.

3.1.3 Transport

The movement of goods in and out of Northern Zambia represents one of the biggest costs and most difficult logistics issues to face APC in Zambia. Transport represents fully one third of the fertilizer cost for the bulk commodity fertilizers. It would be the Tanzania link to Dar es Salaam that should be used to all Zambian imports and exports. However, it is universally recognized that Tazara is poorly managed with theft and pilferage sometimes on a grand scale being commonplace. Despite the above it is important that efforts continue to force Tazara to work for APC. APC need to consider acquiring its own handling facility in Dar es Salaam to process the import and export of our goods. The company may well have to consider the purchase of its own rolling stock and certainly container stock. Container stock into Zambia is restricted and the majority of the containers in Zambia seldom come into Northern Province.

In round figures the 2004 transport cost will be 5 000 tonnes of coffee out and 5000 tonnes of fertilizers and other imports in. Transport to Durban is about $150 per tonne and to Dar es Salaam $55 per tonne by rail. The potential saving is via Dar is in the region of $1,000,000 per annum.
APC will continue to pursue Tazara with the intention of using them. Privatization of this rail link might happen. However, with the line being jointly owned by Zambia and Tanzania this may take some time, if it ever happens.

There is recorded evidence that in the last year there is increased tonnage moving through Tazara however the most difficult and expensive part of the operation is moving the fertilisers to and from the rail head. The lack of any bulk handling equipment and large transport necessitated the entire consignment being offloaded manually both at railhead and on the farm.

3.1.4 Research and Development

APC is already co-operating with both local and regional research institutions. Contact is maintained with the Institute for Tropical and Subtropical Crops in South Africa to monitor their progress with micro propagation. The research station at Lyamungo in Tanzania has a huge library of Arabica varieties that we can access for use in our selection work. Scientists have developed successful CBD tolerant varieties such as Ruiru 11 in Kenya, a highbred where each and every seed is the result of hand pollination of an individual flower. Most new coffee varieties are tolerant of Leaf Rust and we are now seeing the first offerings claiming tolerance to both diseases. (COO's report 2000)

By nature the plantation business is "long term" and the amount of time needed to either improve or breed varieties explains the lack of progress in the coffee industry over the last 100 years. To enable management to priorities its R & D over time a discounting mechanism will be used to prioritise work that will give the quickest returns.

(a) Improving quality versus reducing costs

For any R & D program to have the maximum effect it is important to understand the economics of the production system used. In order that it prioritise the R & D effort effectively APC have attempted to demonstrate where the focus should be in order to achieve maximum return per dollar of R & D and the greatest benefit to APC's shareholders.

It is important to remember that while the results from costs reduction are tangible "in the bag" those from quality improvements are to some extent reliant on the market. For example, the premium for quality coffee over New York C in 2000 was US$0.40/kg less than it was in 1998.

(b) Priorities not driven directly by cost and quality

There are certain R & D priorities that are not driven directly by either cost or quality. Mechanical Harvesting is a good example, while there is no doubt that it will reduce the cost of production, will not physically be able to harvest the cherry on time with the labour available. In such instances R & D into the use of the machinery is a necessity. Irrigation efficiency especially where water storage is limited is another area which will require R & D, the implications of running short of water in low rainfall years are enormous in coffee, as with machine harvesting there is obviously a cost saving too when irrigation is optimized.

Machine harvesting – the performance of the harvester could be enhanced by clones that flower and ripen uniformly, irrigation also has potential to influence uniform ripening. Pruning systems may improve harvester performance. Negative effects on quality will have to be minimized.

Irrigation – optimized irrigation management will not only save water, it can also be used to bring on flowering, apply fertilizers and improve the vigour of the plantation.

Cost Yield – there are of course many influences on yield, even if you exclude genetics (varieties/clones), research into population, nutrition, disease control, pest control, pruning and irrigation will have positive effect on yield in only a few years.

Disease control – Coffee Berry Disease has already significantly reduced yields within APC plantations, disease tolerant clones are the long term solution, before then improved methods of spraying especially in the high density coffees and better pruning systems will aid control.

Quality Main grade % - primarily influenced by variety with climate and soil playing a role, low main grade percentage can significantly reduce average price received.

Cup quality – on commodity type coffees this has less influence, our coffee is already sold into the premium market. The exception being in Malawi where coffee is heavily discounted when compared to Zimbabwe and Zambia.

3.1.5 Genetics

It is clear from the analysis so far that plant selection and breeding (genetics) will impact on all areas identified as R & D priorities with the exception of irrigation.

Arabica coffee is a self-pollinator and natural coffee lines are therefore inbred and seeds of these lines are in theory true to type.

In the six years that APC has been planting coffee and from their inherited plantations it is clear that whilst the plants are similar there is variation in the seed grown varieties that it use, probably due to contaminated seed sources. It is also clear that even with the varieties that APC have, performance is different over comparatively short distances.

It is believed that as a first step they should adopt a dual approach to selection, on the one side selection based on yield will be specific to each location and on the other, known Rust and Coffee Berry Disease tolerant selections will be evaluated in each location for yield. Once high yielding, disease tolerant selections have been identified they will be screened for grade out percentage and cup quality before being released for extensive field production. The next 4 years cross breeding of the most successful lines will enhance their characteristics.

It is possible to carry out selections in the field and simply to reproduce these plants by taking seed; this has been the traditional route for selection and is how we currently select our seed. Obviously where hundreds of kilos of seed are required it is taken from many trees each giving an average of 0.6 kilos and this is where the variation starts. To reach a stage where APC could

have commercial areas of coffee genetically identical to selections that they are currently making will take **nine** years if they use seed and **five** if they use vegetative methods. This could be reduced to **four** years with the use of micro propagation methods currently under development in South Africa.

The principle reason for vegetative propagation not having been widely used in the past is that coffee reproduction from cuttings (VP) although tried often has not proved very successful. Cuttings are slow to root and develop inferior root systems restricting both nutrient and water uptake. In recent years, Dr James Voss at the Institute for Tropical and Subtropical Crops in South Africa, has been working on a method of rejuvenating mature coffee plants. With the rejuvenated cuttings the physiology of the material used is similar to that of a seedling with resources being channelled into developing root systems and a frame work of branches rather than into cellulose reserves and reproduction the priority of mature plants. At the Tea Research Foundation in Malawi where they have developed methods to screen very young seedlings to test their tolerance to disease, they have now taken the knowledge that cuttings from juvenile plants do better than those from mature and developed a vegetative propagation system that rapidly multiplies up the disease tolerant clones.

All APC estates will in 2003 formally adopt a common screening system that will identify high yielding plants on each estate and monitor them over the life of the cycle. They will also seek out improved plant material from around the world and assess its suitability in each of their locations. At the same time they will improve their knowledge of vegetative propagation with the use of high tech green houses to control temperature, humidity, radiation, etc. Methods of screening seedlings for disease tolerance will be investigated and trailed.

With financial distress all the above intentions did not take off and this affect the future of the company. 31% of the area under coffee today has varieties prone to CBD and are yielding 83% below the intended yield per hectare. Obvious this explains why APC can not meet its desired production levels.

3.1.6 Irrigation efficiency

In most of its operations APC has either inherited or developed irrigation water storage, in all cases historical climatic data has been analysed carefully to determine a theoretical yield for each reservoir. For example, they aimed to utilize between fifty percent of the capacity assuming that in low rainfall years the reservoir will not fully recharge and anticipating the need to carry a balance forward from good years. At the same time APC aims to maximize the irrigable arable area on each of its projects.

On some projects such as Kateshi where they do not have storage and rely solely on river flow the need for efficient irrigation is critical especially at the end of the dry season. In addition, more efficient irrigation will reduce costs. An important area for irrigation R & D will be its use to control flowering both to create uniform flowering and consequent even ripening and to spread the flowering out over a wider period of time leading to a reduced peak during harvesting.

Areas to be covered by R & D program will cover: -

- Improve irrigation management with the use of automated weather stations to calculate evapo-transpiration.
- Evaluate the use of mulch to reduce irrigation requirement.
- Compare coffee under different irrigation systems, for irrigation efficiency, plant growth and yield
- Use of irrigation to control flowering
- Nutrition application using different methods of irrigation
- Research electricity tariffs and optimize pumping.

Again due to financial restrictions all areas of R & D were suspended and this threatened the very existence of the company.

3.1.7 Yield

The influences on yield are many and far-reaching. The area of genetics has been covered above, in addition, population, nutrition, disease control especially CBD, pest control, pruning and irrigation all have a bearing on yield. The following priorities in addition to the selection and reproduction work outlined already.

Construct trials to evaluate effects of population on different varieties over time, this will be a more scientific analysis of what we are already doing in the field. When this was performed the results showed that high populations yielded reasonably in the first two years of production but are far low in the subsequent years. In 2003 the company went into uprooting additional rows to stimulate production.

(i) New chemicals and methods of application

The dwarf varieties planted by APC proved to be very susceptible to CBD, the yields expected were therefore reduced significantly. APC had been loosing 20% of its crop every year due to CBD.

The effectiveness of chemicals was also affected by the type of equipment used and the size of the bush. Huge investment went into spraying equipment but this did not reduce the impact of disease leaving the company to consider changing the varieties as the only viable option.

(ii) Disease control

Inability to control disease significantly impacts on yield and consequently cost. CDB control cost APC US$500 000 a year by 2003 on existing projects. Potential crop losses even with full spray control programs could amount to a similar figure.

3.1.8 Quality

From the economic analysis of the last two years actual grade out percentages and prices received it is clear that there is a significant advantage to improving main-grade percentage.

The potential to improve quality with better genetics is clear and screening for quality will certainly be part of the selection program. There are areas that APC can concentrate on immediately, these include a thorough understanding of the quality of our existing varieties in each location, the impact of better nutrition and irrigation on quality and a study on the cost of uncontrolled pest and disease outbreaks on quality. Severe antestia or CBD will significantly impact on grades and prices.

It is recommended that a complete review of quality, both grade percentages and liquor on all APC estates is carried out continuously this work must be checked against previous years and also in subsequent years as part of the quality control system. Findings will assist in determining varieties and later clones to be planted commercially. Quality will also be monitored in the nutrition and irrigation trials to determine effect.

3.2 FINANCIAL POLICY

The financial and ultimate goal for APC is to maximise shareholders value and provide high capital appreciation for its investors.

APC introduced debt into their capital structure in 2000 from International Finance Corporation (IFC) $2,5million and another $3million from Swiss Development Finance Corporation (SDFC). At the introduction of debt the total project cost was estimated at $15million and a total of 1 624 hectares were agreed to be planted in order to complete the project. These loans set the level of debt allowable to the company at 60:40 and the current ratio at 1.2: 1 and a debt service ratio of not more than 1.25. The debt ratio was defined in loan agreements as Long term debt over shareholders funds plus Long term debt. Shareholders funds include all reserves both capital and revenue. Current Ratio is defined as Current assets divided by Current liabilities.

At the time of these loan agreements, the shareholders had already put $10,8million into the business and so part of the loan proceeds was used to refund them. A total of $1,3million was refunded to the shareholders in order to achieve the new financial structure.

A total of $1,5million was received in June 2000 and it accrued interest of $72k in the P& L to December of the same year. The other loan of $3million was received on 27 December 2000 and therefore did not earn interest by the cut off date. Since 39% Debt was introduced into capital of the company the Weighted Average Cost Capital fell from 13% to 9% in 2000 (Fig 2.0). In the subsequent year 2001 the level of debt increased to $5.5million with an additional loan from IFC of $1 million. This increased the debt equity ratio to 50% and the cost of capital rose to 10%, the distortion is brought about by the timing of the additional loan. The 10% is still lower than 13%, had the capital structure was equity only. The depletion of equity due to accumulated losses is the sole reason why the debt equity ratio changed. This can be traced back to the poor coffee price. When the agreements were made the coffee price

was expected to remain at levels of above $2/kg. This did not happened prices fell to an average of $1.16/kg and the existing shareholders have to fund the cash flow deficit due to price fall. In 2001 shareholders came in with a short term loan of $1,6million with the hope that the business will be able to cover this from its turnover. The price crushed and this money was at risk. In a normal business additional equity would reduce the debt equity ratio but the losses incurred due to poor prices were very high and reduced the shareholders funds significantly and pushed the debt equity ratio to 50%. The coffee crisis for APC can therefore be attributable to the coffee price than the debt burden. Debt only accelerated the underlying industry problem.

3.2.1 Financial Distress Risks

APC started experiencing financial distress in 2001 when the debt level rose to 50%. In June 2001 the company defaulted on IFC loan repayment of $156 000. However it managed to pay SDFC their instalment in May. This was the beginning of the problems. The major disadvantages of taking on higher levels of debt were started to be felt company wide and this increased the risk of financial distress and ultimately liquidation. This had detrimental effects on both the equity and the debt holders. Due to the financial distress many obligations were not met or were met with difficulty.

Customers

I & M Smith has been always the biggest customer for APC taking more than 70% of the crop every year. They looked at the security of future supplies of the commodity and made alternative arrangement. They could not give any further forward contracts to the company. This removed the company from its hedged position creating further risk. Though the tonnage on forward contracts was very small the idea was self destructive.

Creditors

The balance sheet on table 2 shows that the highest creditor balance was in 2001 an indication of the financial distress. The company failed to pay most its suppliers and the results were predictable. Omnia Ltd and Sasol Ltd are the two biggest suppliers of fertilisers in Zambia, they decided to hold their supplies unless APC could pay all the outstanding amounts and interest. They demanded that all future purchases by the company must be on cash upfront basis. The relationship was damaged and up to now APC has not managed to repair the damage. APC could not get the much needed inputs on the market further destroying the very critical part of the business, the coffee fields. Once coffee is not fed at the right time it is very unforgiving crop and will punish you for the next two seasons. The very future of APC was doomed. Chemical suppliers stopped their supplies and crop management was affected and this led to lower yields and poor quality.

Employees

From October 2001 the company laid off most of the seasonal employees, outsourced workshop and other non core activities. The general employee morale was significantly affected. Management on the other hand were very de-motivated. The Managing Director resigned in November, following two other expatriate Estate Managers. Two more expatriate managers left in January 2002. The staff which remained was stressed up and holding more than one position. The finance decisions were hand to mouth while two options were being sought, one was waiting to effect the receivership of the company, and secondly to look for a medium to long-term finance, possibly a new investor. Managers spent most of the time fire fighting – dealing with day to day liquidity problems and focusing on short term cash flow rather than long term shareholder wealth creation.

Lenders

No bank was interested in giving short term finance, the shareholder have neglected the company and would not issue any guarantee for any loan short or long. Banks perceived high risk of default since the coffee price was showing no signs of immediate recovery. Due to covenants imposed by the IFC loan no additional debt was to be taken in order to maintain the agreed structure.

3.2.2 Weighted Average Cost of Capital (WACC)

At low levels of debt the major influence on the overall cost of capital is the cheaper after tax cost of debt. As gearing rises investors become more concerned about the risk of financial distress and therefore the required rate of return rise. The fear of loss factor becomes of overriding importance at high gearing levels. Most of APC shareholders by third quarter of 2001 were more worried about their exit route, than any return and they could not get this due to the specialised assets of the industry. They wanted to salvage something but the level of gearing was too high to guarantee them anything. They stopped the hand outs which they were giving to the Zambian operation and by November 2001 they threw their towel and decided to loose everything. The October 23, 2001 board meeting refused to approve the following year budget, a signal that they were no longer interested in the business. In normal circumstances shareholders demand a higher return when debt levels increase but for APC they could not demand anything. For the purposes of this paper the return on equity is assumed to remain constant at 13% since no information is available.

The WACC for APC does not agree with the financial theory that the cost of capital decreases as more debt is taken. At debt levels of 39% the WACC is 9%, however WACC increases as debt- equity ratio increase. It therefore follows that there is a certain level of debt which is health and acceptable to a typical industry. Debt level of 40% is ideal for the coffee industry. It must be

noted that the high debt levels for APC were due to losses incurred and not additional borrowing. The losses are a result of poor commodity price on the world market which reduced expected revenues.

The cost of debt has been calculated as the total interest charge in the Profit and Loss account divided by the outstanding loans in the balance sheet. However from the loan agreements loans had the following interest.

- International finance Corporations Libor + 4.5% pa floating
- Swiss development Finance Corporation 8% fixed pa
- Saxonian Estate Ltd 11% fixed pa

The IFC and SDFC loans are secured against Isanya and Ngoli Estates but the SEL loan have no security and it's on short term basis. The SDFC loan is subordinate to the IFC loan.

The factors which influenced different cost of debt can be found in the nature and the risks associated with the business as follows:

- APC revenues are very sensitive to the general movement of commodity prices, though it has achieved higher than average NYC coffee price. The shareholders and lenders have also perceived a greater risk of liquidation or distress hence their demand for higher returns in compensation for gearing. The business itself could not afford any additional cost of capital, restructuring was necessary.
- APC cost of production has a higher proportion of fixed costs, which means it is highly operationally geared and lenders and equity holders demand high returns. Once a plantation is established it has to be managed in terms of pests, weeds, diseases, you still have to fertilise and irrigate it whether it is producing or not. These costs are not directly related to volume of production. The variable costs are mainly in factories and distribution, but contribute very little to the final cost structure of the company

- The movable and non-movable assets of the company are specialised and are not very easy to dispose. This is further worsened by the fact that Agriculture in Zambia is not all that good, many property agents are sitting with a lot of farms in receivership and no-one in the market is willing to pick them up. Recently however the government have started encouraging Zimbabwe disposed farmers to come into Zambia. But the location of APC is not that attractive. Northern Province enjoys the best rainfall pattern in the country but it's located very far from the markets for low value crops like maize, wheat beans etc to be viable. All high value crops like tea need substantive investment which creates a barrier to entry and as result disposing assets for APC is very difficult. The lender seeing this risk obviously demands a higher return.
- The cash generating capability of APC is seasonal and unless debt repayments are structured to coincide with the seasonality of cash, it will pose a big cash flow problem. The two long term loans APC have did not take into account these very important factors which influence the risk of financial distress. Alternatively some additional crop like tea which is perennial could have been brought as product line to provide cash flow diversity.

- **Borrowing capacity.** At the time the company had mortgaged two of its prime estates to IFC and SDFC, the biggest estate Kateshi was free but income generation capacity of the whole company was hampered by the coffee price. At the time of restructuring only Kateshi was a genuine security the company can use for further borrowing.

3.2.3 FINANCIAL RESTRUCTURING (March 2002)

Operating and strategic decisions are generally the prime determinants of company value, and not financing decision. We have noted that the main problem was coffee price above and not the financing decision. Further arguments can be put on the viability of the project itself in the face of the commodity price crisis.

In 2002 due to the financial distress created by the coffee price, the capital was restructured. The main details of the new structure were as follows.

- IFC the leading lender forgave 50% of its principal debt outstanding and 50% of the accumulated interest. The interest rate and security remained as per the loan agreement.
- The new APC shareholders introduced equity to refinance the business. A total of $1 612 000 was issued to the new shareholders. This described as shareholders loans in the balance sheet. The loan has no interest charge, no security or repayment term, hence qualify to be equity in character and substance.
- The old APC shareholders also forgave 50% of their shareholders loans of $11 358 000 (Equity for this paper include share capital, shareholders loans and all reserves see Table 2).
- SDFC the subordinate lender agreed to capitalise its interest and forgave nothing, however agreed to receive interest only if the coffee price have reached a certain level. This understanding is a pointer to what the really factor behind the coffee crisis in Zambia.

This restructuring reduced the gearing ratio to 48% in 2002, and the slight reduction in debt –equity ratio increased the WACC to 11% from 10% in the previous year. The reduction of ratio again is attributable to the continued losses from the business which reduced the level of equity visa versa debt. Short term borrowings are not included for the purposes of this paper, since they are paid within twelve months.

It can be concluded that the shareholders value can be maximised at debt levels of below 40%, since that when the WACC is the lowest.

In 2003 more expensive debt was introduced from SEL to bring the ratio up to 53% but this did not change the WACC, because the cost of debt came at the same level as equity cost. Both debt holders and shareholders from this period onwards perceived the same financial distress risk and they ask higher returns to compensate for the risk.

As debt reduces the cost of capital start to reduce in 2004 and 2005. (projections are used here and can not be relied upon). At a debt level of about between 25% and 39% APC,s cost of capital is lowest. Implying that is the optimal capital structure for the company. The accumulated losses increased leverage ratio in APC capital structure.

3.2.4 Commodity Price

The historical figures on Fig 1.2 show that from 1996 when APC was incorporated the coffee price was at USC109/lb and at this price the industry was very attractive for new farmers to enter. The production world wide increased from 70million x 60kg bags to 90 million in 2002. The supply of coffee is the major influence to the price. As supply increased the price was decreasing from USC109/lb to USC48/Lb. The lowest price was recorded in 2001 and this is the year APC went into financial distress. There is a relationship between APC gearing ratio and the movement in coffee price. The low commodity price created a cash flow deficit which necessitated raising more capital either debt or equity for working capital for the plantations. The information cost of raising equity from shareholders forced the company to go for point of less resistance according to the pecking order theory. It is the commodity price which had more impact on the APC financial distress. Fig 2.0 shows that the debt ratio is low during the years when coffee prices are above cost of production. As long as the coffee industry does not make profit, the shareholder funds decrease against the debt creating an impression of

increase in debt. This is so because the cash short fall caused by low prices have to be financed by someone either debt or equity.

3.2.5 Currency Risk

World coffee trade is expressed in United States Dollars and many producing countries have their currencies unlinked to the dollar hence exporters are exposed to currency risk. Usually currency risk is limited by borrowing in the currency of the sale. African Plantations Company's cost of production is mainly US$ and the Zambian Kwacha is floated to the US$. All borrowings are in the US$ and this has created a disadvantage to the company. Many African currencies depreciate from time to time and this has traditionally given an advantage to international companies who export dollar commodity because the local currency loan will also depreciate with the currency. APC is not enjoying the same devaluation benefits of an exporting company.

APC have however enjoyed transactions advantages when they received their hard currency export proceeds. The company was exposed to translation risk for mainly US$ denominated loans. This have affected their balance sheet for the years until 2001 when the company changed its reporting currency to US$ and using a multicurrency account system. Though borrowing in hard currency helped to reduce the cost of debt compared to local currency, this did not give APC the much needed devaluation advantages.

The financial restructuring did not bring the solutions needed for the coffee crisis for APC and the industry at large. The solution does not come from a financing perspective but a closer look at the marketing perspective is required.

3.3 MARKETING APPROACH

Approach the market directly by selling to roasters rather than through Agents and Brokers.

It clear that the success of APC can be to a greater extend attributable to the success of their marketing strategy. The function was taken away from the company level and was done at group level to command high volumes of product. This left the management at operational level without experience to handle marketing of the product they produced. Before 2002 this function was handled by Head offices in Harare and London. The ultimate aim is to achieve a price above total cost of production. Commodity prices are still very low to cover cost of production. Table 3 (P& L) gives average prices achieved by APC over the past years. The price had been decreasing year after year irregardless of quality improving each year. Conventional thinking will say as quality improves the price of the commodity increase to compensate extra effort in producing high quality. This has not been with APC, while considerable effort was put to cover operational efficiency and consequently producing better quality year on year this has not been reflected in the prices achieved. A more coherent marketing policy is required to achieve a recognised market position in terms of quality and volume.

The general concept of building brand image in any given market, i.e. specially, quality supermarket, etc. remains the best way of moving our coffee at above market prices. APC needs to sell its coffee not as a commodity and to achieve this various strategies have been recommend in Chapter 5 of this research.

Chapter 4 Evaluation of APC Financial Policy

4.1 Does the financial policy create value?

From an investor standpoint the best financial structure must (a) maximise shareholder wealth (b) maximise the value of the entire firm and (c) minimise the firms weighted average cost of capital

Elements of Financial Structure	Current Structure 2002	Investor View	Evaluation/Comments
Mix	Debt /Equity= 48% WACC = 12% Debt/Assets= 47%	Maximise wealth and minimise WACC	• Tax shields can not be utilised due to huge losses. • Value is maximised at debt levels below 40% where WACC is 9%, hence financial distress have destroyed value • Cut-backs in plantation development, R&D, farm maintenance and marketing promotion reduced future profits potential and value • The inability of APC to carry out its long term investment plan due to financial distress created the under-investment problem. • The Capital Structure

			need to be adjusted to move closer to the optimum structure of 40%
Maturity	Ave. 4 yrs	Where value consist of growth opportunities lack of flexibility caused by long term loans can destroy value. High interest rates associated with long term loans increase the risk to shareholders. Short term debt has low interest and less risk	• The life of debt is not the same as the life of the assets. • Debt with short maturity, less restrictive covenants, security, more convertible and call provisions ensures greater financial flexibility. • IFC loans have too much restrictive covenants
Basis	62% of debt is fixed rate	Cost of debt too high therefore destroy value	In periods of declining interest rates like the past two years floating rates reduce the cost of debt hence create value The burden of servicing debt caused APC to defer its strategic investments in further plantation development.
Currency	Capital is in US$	Currency movements can destroy value especially transactional risk.	APC's choice of currency for debt does not take advantage of kwacha devaluations.
Exotica	Bank loans	Use of cheaper	Limited access to cheaper

	and shareholder loans, very little use of lease finance	financial instruments create value	financial instruments left the company with only one option to borrow from Banks
External Control	96% of debt is secured	All assets of the company are mortgaged	Lack of security capacity to borrow prevents further investments in projects which create value. Value can be created by increasing the area under coffee and bring in more disease tolerant varieties but it has no more debt capacity.
Distribution	No dividend paid so far	No return (income and capital) to shareholder destroys value	Value entails dividend streams to investor, so APC have destroyed value.

4.2 Does the financial policy create competitive advantage?

Financial structure can enhance or constrain competitive advantage mainly by opening or foreclosing avenues of competitive response over time. There is need to critically assess the strategic options created or destroyed by a particular financial structure. Knowing competitors financial structures give a good bench mark of evaluating APC position in the market however information gathering from competitors is beyond the scope of this research. For APC, as already outlined in Operational Review, the financial policy did not support the strategic goals of producing 5 000 tonnes of high quality coffee at a cheap price. Money run out and Research and Development which was key to achieving the objective of the company was abandoned. This destroyed value and made APC less competitive.

4.3 Does the financial policy sustain the vision of senior management

The internal perspective tests the appropriateness of a capital structure from a standpoint of the expectations and capacities of the corporate organisation itself. A good financial structure meets the classic maxim of corporate finance "Don't run out of cash" in other words the ideal financial structure adequately funds growth goals and dividends payouts of the firm without severely diluting the firm's current equity owners.

The long term goal APC was to plant 2000 hectares which will produce 5 000 tonnes of coffee in five years from 1999. The business plan for achieving this goal called for careful investment into mechanisation and crop genetics through R & D. But the financial policy of the company could not offer any flexibility to support this ideal model.

A good financial policy is concerned with (a) the preservation of the firm's financial flexibility, (b) the sustainability of the firm's financial policies and (c) the feasibility of the firm' s strategic goals.

Elements of Financial Structure	Current Structure 2002	Internal View	Evaluation/Comments
Mix	Debt /Equity= 48% WACC = 12% Debt/Assets= 47%	Target ratio is 40% at which cost of capital is cheapest. Management goal is to expand area under coffee and produce 5 000 t high quality coffee at low	Pecking order theory is applicable. No reserves are available and the next line of less resistance is debt. Issuing debt is not giving any signalling intentions but is the only available option at any cost. Cost of capital and financial distress cost brought about by the financial structure are

		cost.	contrary to management objectives.
Maturity	Ave. 4 yrs	Preference is to match Debt maturity to life of assets	As a strategy each plantation life is 7 years but the average debt life is 4 years, this means debt matures well before plantations can full produce to cater for repayments. The cash generating capacity of APC is seasonal but debt servicing is not structured to coincide with cash flows.
Basis	62% of debt is fixed rate	Preference would be floating rate	No financial flexibility at fixed rates when the general global interest rates trends are declining.
Currency	Capital is in US$	US$ loan are cheaper compared to kwacha	Devaluation of kwacha is certain and exchange gains are not taken advantage of. Since the first loan the kwacha devalued by 187% this could represent reductions in real loans if loans were in local currency
Exotica	Bank loans and shareholder loans, very little use of lease finance	Management preference could be simple and cheap instruments tied to revenue streams of the company	Choice is limited by macroeconomic stage of the nation.
External	96% of debt is	Equity is	This shows how APC is highly

Control	secured	forgiving but debt is not. Management would prefer equity and leave assets free for any opportunity	inflexible in terms of financing. The growth prospects are limited.
Distribution	No dividend paid so far	No profit	The self sustainable growth model is not applicable since no return on equity is available

Financial flexibility is measured by the excess cash and unused debt capacity on which the firm might call. In addition to this there may be other reserves such unused land or excess stocks of raw materials which can be liquidated at reasonable notice to exploit unusual surprising opportunities. APC do not have excess cash due to poor coffee prices and have no excess debt capacity. All the properties which are saleable have been mortgaged and seasonal crop have been committed to pre -season short term finance.

4.4 FRICT Analysis

Element of Evaluation	Comments
FLEXIBILITY	This implies ability to meet unforeseen financing requirements as they arise, these requirements maybe favourable or unfavourable. Flexibility may involve liquidating assets or tapping the capital markets in adverse market environment or both. APC has no saleable assets and have no debt capacity so it is financially not flexible. The company have consistently been making losses as a result high debt ratios are expected since according to perking order theory the capital structure of any given company is given by the gap between its operating cash flow

	and its investment requirements. In this case the commodity price has a much significant role in financial distress.
RISK	The predictable variability in the firm's business, such variability maybe due to both macroeconomic and industry or firm specific factors. The coffee price have been the industry's highest risk factor however high leverage in APC amplified the predictable business swings.
INCOME	APC revenues are very sensitive to the general movement of commodity price and no deliberate policy to manage this risk is clearly defined in the company. Income is coming from one single commodity whose performance is very poor therefore to diversify income source is very critical if capital is available. Less profitable companies with large financing requirements tend to have high leverage ratios.
CONTROL	Alternative financial structures may imply changes in control. From 1996 to 1999, APC was 100% equity financed and the shareholders full ownership of the company. From 2000 onwards control of the company was constrained by debt covenants. APC is restricted to pursue any projects that might increase value.
TIMING	Alternative financial structures available for adoption by any firm are depended on the capital market environment. Trends in treasury yield, interest rates etc give a signal of the timing of implementing a certain structure. APC borrowed 2000 when the interest rates were very high, (libor was 4% and its now 1.8%). This was a wrong timing of which going fixed rate was an additional error.

international coffee prices and there has been increased interest in identifying means to increase and/or stabilize coffee-related incomes (Giovanucci, 2002). "Diversification" is often been mentioned as a solution to the problems of low and/or fluctuation coffee prices. However, when the term is loosely used, it really means that producers need to "change" their existing activities. To identify appropriate strategies, it is important to understand the different ways that coffee producers can "diversify" or "change" their activities to achieve higher and/or more stable incomes.

There are different ways to increase and stabilize incomes of farmers through diversification. It is possible to diversify *within* coffee and diversify *out* of coffee. However, to avoid confusion with the term diversification, we will refer to diversification within coffee as "increased competitiveness" and diversification out of coffee as "diversification." Of course, it is also possible for coffee producers to opt for a diversified strategy that combines increased competitiveness within coffee long with the introduction of other activities.

An important aspect of strategies aimed at increased competitiveness and diversification is to increase the flexibility of crop and livestock systems and the allocation of household labour and capital so that changes in activities, technologies, enterprise mixes and financial and marketing arrangements can be undertaken in response to changing conditions at relatively low transaction costs (Barghouti, Timmer, Siegel, 1990; Timmer, 1992). As Timmer (1992, p. 37) notes: increased competitiveness and diversification are processes of change over time and not the setting of specific production targets.

Raising and stabilizing incomes of agricultural producers is (are) the goal(s) – not increasing production statistics. The processes of increased bottleneck is not usually supply constraints. Instead, the processes of increased value through quality improvements, improving financing and marketing arrangements and post-harvest practices. As a process of change over time, in the short-term is important to exploit the strengths of existing farming systems and introduce incremental changes before attempting to introduce radical far-reaching changes.

A point of clarification needs to be made between the terms diversification and specialization. One of the basic tenets of economic theory is the gains (i.e. increased returns) achieved through specialization according to comparative advantage. However, specialization (and higher returns) can lead to higher exposure to risks (e.g. greater variability of returns). Thus, there is a potential risk-return trade-off that might encourage some diversification and/or the use of some risk management strategies (see Siegel and Alwang, 1999, p. 23 – 41).

Another point of clarification is that costs and benefits of specialization and diversification need to be considered at the farm/household level along with community/regional and national levels. It is also quite clear that specializing in a very profitable activity might make economic sense, while diversifying into activities with low profitability is not such a good choice.

Finally, it is important to recognize that specialization and diversification strategies can have significant social and environmental impacts at the different levels. The potential dangers of specializing on one or a few agricultural commodity crops has long been recognized and efforts to promote diversification are not new to coffee producers. Over the last thirty years, efforts to promote diversification at different levels have been made and have had varying degrees of success in the region.

In this paper, attention is focused on producer (APC) efforts towards increased competitiveness and diversification (with most of the attention devoted to increasing competitiveness). It is critical to acknowledge that there are very different opportunities and constraints facing different producers in the Zambian Coffee Industry. Clearly, this justifies further analyses into issues of increased competitiveness and diversification.

5.1 DIVERSIFICATION

Diversification means changing what is produced on the farm – switching to alternative crop and livestock enterprises on the farm. But also, diversification means changing labour/capital allocation to off-farm activities – switching to agricultural and/or non-agricultural activities off the farm in the area or through migration (temporary or permanent).

Thus, diversification includes any agricultural activity or practical combination of activities not related to coffee production that will generate positive net income on the farm.

For non-competitive coffee producers, diversification could be a viable alternative to achieve economic sustainability in the medium to long run. The term "non-competitive" is used here to describe coffee farms that cannot compete in world markets, either because their agro-climatic conditions or cost structure does not allow them to be profitable when competing in the "commodity" segment of the market or because they cannot produce coffees to compete in the "high quality" segment of the market.

The actual strategy selected – either increased competitiveness of diversification – to be pursued in any country will depend on the structure of the coffee sector (e.g. producer profiles, technologies, skills mix of agricultural labourers), agro-ecological conditions of different producers, the public sector's agricultural support services (e.g. financial extension), transport and communication infrastructure, the private sector (e.g. financial and marketing sectors) and the regulatory environment, etc. It is critical to emphasize the dangers of adopting a strategy of "picking the winners" or equivalently, of "picking the losers" (see Barghouti, Timmer, Siegel, 1990). For example, there has been some discussion about trying to phase out coffee production at altitudes under 800 metres, or to try and promote vegetable and flower production as an alternative to coffee. It is important for governments to provide enabling conditions for producers to make the "right" decisions, while

eliminating distortionary signals and improving the overall competitive environment for the agricultural and rural sectors.

One issue to consider is that at this stage, it may be difficult to start considering the possibility of growing alternative crops that require different skills, machinery and equipment, support services, etc. Instead of the strategy should be to identify alternative markets for coffee and consider options for new markets, including transforming coffee into higher-value products. At this point in time it maybe more realistic to make incremental changes in farming and post-harvest practices (aimed at increasing productivity and the quality of outputs) and more sophisticated efforts in marketing and financial arrangements, including improved post-harvest processing, storage and transport technologies and arrangements.

For either improving competitiveness in coffee or diversifying out of coffee, the public sector can have an important role in providing public goods such as information (e.g. research and extension) and infrastructure. The private sector – both domestic and foreign – should take lead in identifying opportunities and facilitating the adoption of appropriate technologies and arranging for financial and marketing arrangements. What might be needed are *match-makers* (e.g. firms with knowledge of local conditions and links with domestic and foreign entrepreneurs) who can identify opportunities and help match private sector firms with producers and producer groups.

The public sector need to make sure that macroeconomic conditions and legal framework are conducive for domestic and foreign firms. Also, the public sector needs to continue investing in transport and communication infrastructure to lower transaction costs and increase competitiveness. Some of the investment in transportation and communication infrastructure could be coordinated at the community level, along with investments in infrastructure for improved water and sanitation and improved education and health as part of a comprehensive broad-based rural development strategy.

5.2 INCREASED COMPETITIVENESS

There are several options for increasing the competitiveness of producers by changing technologies mixes and marketing/financial arrangements and post-harvest practices. These options are not easy to carry out, but do have the advantage of allowing producers to continue "specializing" in coffee production.

Increased competitiveness can include activities such as: -

(a) Changing how coffee is produced – adoption of improved production technologies to increase productivity and/or quality of the product. Also, improving overall returns from land use through inter-planting with other crops and livestock.

(b) Changing business relationships in the financing and marketing of coffee – using alternative financing and marketing arrangements including alternative organizational structures (e.g. cooperatives, associations) to lower transactions costs and to increase value added received by producers. To this effect ZCGA need to be more commercially oriented than just a statutory body overseeing marketing of coffee. Also, use of risk management instruments to enhance financial and marketing arrangements.

(c) Changing the form of final coffee product – adoption of new and improved post-harvest technologies for coffee (e.g. processing, packing, storage, transport) that adds to the net value of coffee for producers.

(d) Identifying alternative uses for coffee – identification of processing technologies that convert coffee into new "coffee products" (e.g. iced coffee, coffee candies and confectionaries), eco-tourism based in coffee growing areas, or new products unrelated to coffee per se (e.g. using various coffee by-products).

5.2.1 Improving Quality

By adopting a quality orientation that differentiates their coffees, producers can improve their overall position in international markets through enhanced reputation and higher differentials relative to the New York Board of Trade "C" contract that sets the benchmark market price for these coffees. However, even with some improvements in quality, success is by no means guaranteed.

Many producers are struggling with the low market price that is now intrinsic to their common positions as raw material suppliers are seeking to advance in the same direction. Even Brazil, the world's largest supplier of coffee as a commodity, is consistently investing in improved quality. Any country strategy must take into account the competitive direction of market leaders.

Although quality may be the *sine qua non* for Zambia's coffee future, there are also other ways by which it can differentiate itself and seek competitive advantages. To be able to enter and develop the emerging higher revenue segments of the market with differentiated coffee requires the development of value-added strategies and marketing that distinguish Zambian coffee from those of other parts of the world. This will require a serious commitment to invest and move forward quickly in order to establish any early advantage over competitors before the field gets crowded. It will also require a wide scale sectoral commitment that includes both government and the private sector in order to maintain a consistent focus over the years it takes to build a unique position or "brand" recognition for the country. Before designing such strategies it is important to understand the characteristics and trends of the consuming markets and where demand is trending.

Currently the differentiated or specialty markets import roughly 6 – 8 million bags representing about 7 – 10% of the developed markets and slightly less of total world consumption. However, these coffees represent a much larger percentage of profits. In the U. S. for example, the specialty coffee markets accounts for less than 20% of actual green bean imports but nearly 50% of

coffee sector profits. A significant proportion of Central America's production could potentially access these markets. Although not all producers would be capable of participating, for some producers, especially smaller ones, the increased income – ranging from 5% to 100% above market prices – would be appreciable. Although at today's prices a producer that can sell certified organic and fair trade would double his income, these markets are still relatively small and such extra margins are unlikely to remain at that level for more than a few years.

Finally, an important issue related to improved competitiveness is the ability of farmers to deal with price uncertainty. Ways to reduce price uncertainty could be provide greater flexibility in marketing of coffee, improve access to financing and could also perhaps contribute to better terms of financing.

The structural nature of the coffee crisis and the impact of the crisis in the poverty of thousands of families in the rural areas make development of the rural economy the centre-piece of strategies to overcome the crisis. Supporting quality improvements in regions with potential is a centrepiece of a strategy to cope with the current crisis. This need to be supported with appropriate promotion and marketing and effective public policy and investment instruments, private investment and backing from civil society and NGOs.

A strategy that supports quality improvements is key for Zambia for several reasons.

First and foremost, because of the favourable agro-ecological conditions of the Northern Province highlands, the region has a comparative advantage in this segment of the coffee market. Second, consistent quality coffee fetches a price premium. Third, improvements in quality can also drive increases in consumption.

Finally, improvements in competitiveness, such as improving coffee quality, may have positive externalities in the agricultural and rural sector.

Improvements in quality can help Zambian national coffee sellers develop and strengthen their long-term relationships with exporters, importers and retailers and increase their ability to negotiate prices, including premiums for quality. Improving quality can also help ZCGA develop direct links and access to international markets.

In evaluating quality, a key issue according to the study by International Trade Centre (2002), is improved education of farmers and establishment of local cupping laboratories on producing regions or farms. Physical evaluation and cupping are procedures performed by coffee importers on samples that they receive before shipment. One key element to improving and maintaining quality is developing the capacity to evaluate coffee with the same standards as the buyers. In addition to this, assuring commercial consistency in lots and confidence in delivery, are essential to developing long-term relationship with buyers.

According to the same study, improving quality has two main areas; (a) improving quality in primary production; and (b) improving quality in coffee milling.

The key elements in improving quality in primary production involve: -

- **Adequate preparation of coffee before and during harvest**. This involves appropriate cultural and harvesting practices to ensure quality. Incentives for producing quality coffee in terms of a compensation system that recognizes and reward quality differences and effectively transmits price signals to producers.
- **Improvements in transportation so deter quality deterioration** during transport of cherries to the wet mills or coffee coming from wet mills

Support of producer organizations in developing organizational and cooperative approaches that will help improve managerial problems and

improve quality. For example, ZCGA can disseminate quality standards and best practices in coffee farm care and harvest. Support the production of differentiated coffees by supporting necessary extension, training and certification of these coffees.

The key elements in improving quality coffee in coffee milling include:

- Investments in appropriate equipment and practices to protect and enhance coffee quality.
- Cupping laboratories and training sessions established at the coffee mills to better evaluate the quality.
- Strengthening business and marketing practices at the mills so they better promote quality coffee and transmit rewards to farmers who deliver better quality.
- Improve the cup quality of Zambia's green coffee bean to be in higher demand by the bar/shop grinders, coffee roasters and green coffee traders/merchants.
- Identify and promote a coffee variety that gives the best cup quality, despite yield levels per tree. Arabica typical for Jamaica is low yielding but gives the best cup. Large quantities of coffee with poor cup only reduce the value of Zambia coffee.
- Identify specific geographic areas that consistently produce coffee of the highest cup quality. Legally define and recognize coffee from such areas by a special status that reflects the high quality. Rigorously control the quality. Coffee produced outside the geographic area, even if it came from the same variety should not be of the same status (as factors such as terrain, soil characteristics, elevation, rainfall) contribute to the cup quality.
- Encourage and teach smallholder farmers how to grow low yield coffee of the highest quality. Low yields ensure the intensity of aroma and a harmonious balance between the body of the coffee, on the one hand, and acidity and bitterness on the other that leads to a long aftertaste and the overall deliciousness and exciting flavour of the coffee cup.

5.2.2 Increased Value Added

For decades, most countries have passively accepted their role as a supplier of green bean in world coffee markets. Meanwhile, on the demand side of the market, roasters have shown a remarkable capacity to add enormous value to green beans, by targeting increasingly segmented and fragmented consumer markets. As a result, multinationals and firms in consuming nations have captured huge downstream margins. Meanwhile, producers' share of total value has declined considerably; from approximately 30 percent to less than 10 percent in the last two decades (Giovannucci 2002). To increase their share of total value and to add value, producers need to simultaneously develop downstream supply chain linkages and pursue promotion strategies that feature their coffee's comparative advantages. Following are some approaches and some cautions for all Zambian producers to consider:

(i) Working with retailers.

Certain countries could work directly with retailers. Indeed, retailers' ability to develop private labels and otherwise bypass the traditional trading channels is fast emerging as a critical competitive factor. Such labels are taking a fast increasing share of grocery sales, even at the high-end of the market. Moreover, they do not require costly market entries or direct competition with current buyers. But there are demanding requirements in terms of quality, packaging and "just in time" fulfilment that could be a difficult hurdle. Thus, only the more organized, companies, producer groups and associations will have the capacity to deal with retailers directly.

(ii) The specialty market

It is often neither viable nor possible to add value to green coffee by processing at origin. Many coffees are suitable only for blending or processing into neutral or anonymous end products. For such coffees it is not

possible to add monetary value as prices are determined solely by market conditions. However, reliable and consistent grading procedures, strict compliance with contractual obligations and regular delivery will add value in the sense that the product will be preferred by primary buyers over those from less consistent origins. Certain growths of coffee may be highly prized for their flavour characteristics and attract a suitable premium. Examples include Jamaican Blue Mountain, Hawaii Kona, Top Kenya AA and Guatemalan Antiguas.

Some of these growths attract extremely high premiums. Jamaican Blue Mountain attracts such a large premium that the unit value of coffee exported from Jamaica in 2001 was over 13 times higher than the average of all 'other mild producers and more than 16 times higher than the average achieved by all origins. The top Kenyan grades regularly achieve prices more than double that achieved by other growers. Colombia has adopted an active marketing and publicity policy which has resulted in many brands throughout the world being labelled as 100% Colombian. Besides the promotional effort, the availability, reliable quality, regular delivery of Colombian green coffee, and on occasion price guarantees have assisted sales, as has consumer acceptance of its taste characteristics. APC could adopt strategies such as those below.

- Since their coffee is of outstanding flavour and quality, sales should be directed to roasters who buy direct from origin (or through a suitable agent) and who retail single origin coffee either in their shops or through other retail outlets. It should be noted that sales of roasted coffee by producing countries direct to foreign retail outlets are generally expensive and difficult.
- APC coffee is of satisfactory quality, and is suitable for drinking unblended and can be marketed in the premium or gourmet market, therefore sales should be directed to roasters who buy direct from origin or agents. The company should try to ensure that the label always carry their brand name for identification. Unfortunately, very few roasters are actually willing to do this. In any case, a roaster who

markets such a coffee will need to be assured of consistent quality and regular delivery.

Consumer awareness of the origins they drink does lead to product loyalty and the development of a brand image. This results in some protection from the vagaries of the market. If roasters are unable to obtain regular supplies from one exporter, they will of course be encouraged to seek alternative sources.

The term 'specialty coffee' originated in the United States. It was initially used to describe the range of coffee products sold in dedicated coffee shops, in order to differentiate these coffees from coffee generally available through supermarkets and other retail outlets. The term 'gourmet' is also but is now applied to so many products that it has lost all relevance.

Specialty today refers both to whole bean sales and to coffee beverages sold in coffee bars and cafes (as opposed to restaurants and other catering establishments). The range includes higher quality coffees, both single origin and blends, unconventional coffees such as flavoured coffees and coffees with an unusual background or story behind them. However, with the rapid growth in the number of specialty coffee retail outlets and more particularly the expansion of the specialty coffee product range into more mainstream outlets such as supermarkets, the term has become much looser. It is fair to say that 'specialty coffee' has become a generic label covering a range of different coffees, which either command a premium price over other coffees or are perceived by consumers as being different from the widely available mainstream brands of coffee. The term has become so broad that there is not universally accepted definition of what constitutes 'specialty coffee,' and it frequently means different things to different people.

Given this lack of precision in definition it is extremely difficult to describe the market in a global way. The best approach appears to be to look at the specialty market from different country or regional viewpoints. However, the very notion 'gourmet' or 'specialty' suggests some degree of exclusivity. It is

unlikely that one could market thousands of tons of a particular coffee and still call it 'exclusive.'

The first lesson to be learned therefore is that one should not 'overdo it.' It is, and always has been a mistake to consider specialty coffee a different industry from the rest of the coffee business. Supply and demand will not only determine the general level of coffee prices, but will also determine the premium paid for 'quality.'

The second lesson is that producers need to target any special coffee very carefully because the term 'specialty' covers a large and growing number of different products, each of which has its own niche.

Premiums for specialty coffee can be considerable at the retail level but the premiums available for producers are inevitably much lower, although they can still be significant. It is sobering to realize that mainstream qualities, including robusta, account for an estimated 85% - 90% of world coffee consumption, while the share of exemplary and high quality coffee is no more than 10% or perhaps 15% of the world market. This suggests that for many producers it would be inadvisable to ignore the mainstream market altogether. Instead they should concentrate on both: specialty for their top quality and mainstream for the remainder of their production.

A further point to note is that sales to small roasters are mostly on extended credit terms, something only an importer can easily afford. Inventory costs, late payment costs and even the risk of payment defaults are therefore part of the cost equation. Also, most roasters purchase subject to approval of the quality on delivery which means the importer will be left with any coffee that does not meet the roaster's expectations. In other words, the premium for specialty coffee at the wholesale level includes many more factors than just the quality.

(iii) Niche Marketing

A niche combines a set of conditions that enable a single species or a single product to thrive within the greater ecological or commercial environment. While much of global coffee production consists of mainstream type coffee, there are many other coffees, often of limited availability, with greatly varying taste characteristics that appeal to different groups of consumers and which sell at a premium over mainstream coffees. Simply put, where the producers or exporters of such a coffee and such a group of consumers get together, a niche market is created.

Two main factors determine whether a coffee can find a niche market: **quality and availability**. 'Availability' is easily understood, but 'quality' is a subjective term which means different things to different people.

- High quality or premium brands, good cupping coffees, well presented, but not necessarily visually perfect. Retailed both as straight origins and as blends. Includes quality, well prepared organic coffees, and washed as well as superior quality natural robustas. The market for this quality band is much broader and includes a good percentage of today's specialty coffee. Also produced by leading multinational coffee companies and marketed through normal retail outlets such as supermarkets.

- Mainstream quality, average quality, reasonably well presented but certainly not visually perfect. Will offer a decent, clean but not necessarily impressive cup.

In today's specialty market all three types of coffee are represented: exemplary and high quality coffees either as stand-alone or as a named blend component and mainstream quality in many of the ready-to-drink and flavoured drinks that are sold alongside filter coffee and espresso.

Obviously, for smaller exporters of top quality coffee the exemplary segment initially offers more promise. However, producers or exporters of good quality coffee have three basic options open to them.

- Sell to the leading roasters (through the usual trade channels), if volume sales are required and the coffee sold lacks the flavour characteristics necessary to be marketed on its own;

- Sell to the specialty roasters either direct or through importers or agents. The latter in most cases is the more realistic option as these importers or agents have a wide coverage of the small roasters and other retail outlet which are too small to import direct;

- Focus on specialty coffee retailers either by selling direct (for roasting in store) through specialty wholesalers or by selling through specialty roasters. The number of specialty coffee retailers importing direct is extremely small, however.

(iv) Reducing dependence on middlemen.

Among the various methods to increase the overall share of value added, one of the simplest and most frequently discussed is the reduction of intermediation – depending less on the middleman. While this has obvious appeal, inexperienced farmers or farmer groups should consider it with caution. Middlemen, although often derived, have been shown to perform valuable and sometimes very cost-effective functions by providing credit, agglomerating volume, finding buyers and providing transport – all with considerably more efficiency and tolerance for risk than many farmers. Many producer organizations often do not have the skills, capital or dedicated personnel to take on the market oriented roles of middlemen. Although training individuals in such organizations may be helpful in terms of achieving market transparency it is often a difficult and lengthy process for them to become effective at other market intermediation roles. An alternative could be to combine the resources of more than one organization into a second-tier or

apex group that can then hire the person(s) with the appropriate skills, dedication and time available to conduct those functions as a formal business.

(v) Capturing product-oriented value by marketing processed or transformed coffee

For example, soluble or roast and grind, require considerable expertise and investment, particularly if the target market is overseas. Process-oriented value (Organic or Eco-certification) can be less costly and in the long run has the distinct advantage of providing a higher percentage of benefits and income directly to the producer. This is because, whether a coffee is roasted domestically or overseas rarely affects the price the producer receives. Another producer-oriented way of capturing value is to exploit Geographic Indications of Origin (GIO) or appellations that distinctly connect quality/value to a particular and specific origin. Often large companies and multinational are involved in the transformation and distribution of processed coffee and products and appropriate alliances could be one way to go. Some companies in Central America are entering the markets for processed coffee products, such as for example Costa Rica's Café Britt. Colombia's launch of its soluble coffee and soft drink type of products can also serve as useful example of the process and investments necessary for the successful launch of processed coffee products.

V (a) Soluble coffee

The soluble coffee market is dominated by two multinational firms: Nestle and Kraft Foods. One or the other or both have a presence in every main consumer market and indeed probably in many producing country markets as well. In addition, there is often a third large supplier in each main market. For example, in the United States Procter & Gamble enjoys a reasonably large share of the market while the Ueshima Coffee Company (UCC) is of some significance in Japan. The larger companies manufacture soluble coffee in their own plants and rarely obtain soluble coffee from outside suppliers.

Nestle also operates a small number of soluble processing plants in producing countries, primarily aimed at supplying the domestic market there, but also nearby regional markets.

The scope for outside manufacturers lies in supplying product for: -

- Secondary (own label) brands that have no manufacturing facilities (although this market tends to be rather sluggish) and
- Specialist packers of own label coffee consuming countries.

Most supermarket chains prefer to buy from a specialist packer rather than direct from origin and usually insist that bulk supplies are repacked in retail jars. For all practical purposes, an origin supplier seeking to enter the own label market would be best advised to trade through a specialist packer in a consuming country, especially as in most cases the finished retail product is a blend of coffee from several sources.

There are several specialist packers of soluble coffee for own label product in consuming countries. Some operate their own processing plants, but also often purchase soluble coffee for blending from other sources to fulfil contracts that are beyond capacity or when imported soluble is cheaper than their own product. Other specialist packers have no processing capacity of their own and merely blend and repack product from other sources.

The retail market for soluble coffee has three general segments: -

- **Premium brands of freeze-dried soluble.**

  Nestle and Kraft Foods dominate in this segment but there is some significant participation by other brands, particularly supermarkets' own labels. Both Brazil and Colombia supply freeze-dried soluble coffee to this market which is still growing. Although not the most popular form of soluble coffee, in general freeze-dried coffee is gaining market share in every consuming country at the expense of other types of soluble coffee.

It has obtained just under 40% of the soluble coffee market in Japan and the United States, a little over 30% in Spain and the United Kingdom and around 20% in Australia. Extra premium blends of freeze-dried coffee composed solely or mainly of arabica and sometimes from a single origin are also marketed in this sector.

- **Standard brands of spray-dried soluble.**

These generally consist of coffee that has been agglomerated. Agglomeration is a process that not only improves solubility but also transforms the coffee powder into more attractive granules. Agglomerated coffee is the most popular form of soluble coffee. It accounts for more than half the sales in the majority of consuming markets, although it is losing market share to freeze-dried.

- **Cheap blends of spray-dried powder.**

This is often soluble coffee that has been imported from origin and repacked. Considerable excess manufacturing capacity has resulted in extreme price competition and although is by far the cheapest type of soluble coffee available in many markets, it is losing market share to all other types of instant coffee. It does, however constitute the larger share of the market in Russian Federation and many other Eastern European and Asian markets as well as in producing country markets.

The total market for soluble coffee has been relatively flat over the past decade. Estimated consumption in countries that do not produce coffee was just over 20 million bags GBE, of which 17% was manufactured in producing countries.

The bulk of the soluble coffee exported from producing countries is spray-dried powder. Brazil accounts for just under half of all soluble coffee exports. Intense price competition coupled with diminishing demand has led to a marked reduction in the spray-dried powder manufacturing capacity in many

consuming countries, although a significant proportion of that reduced capacity has been transferred to other, usually emerging, markets. It does not appear, therefore, that there is a very secure future for new entrants planning to supply spray-dried powder.

Freeze-dried soluble continues to make significant progress, although processing is comparatively expensive and the product quality demands a high proportion of the more expensive arabica. The process is therefore unsuitable for countries that produce only robusta. The market has primarily been developed by Nestle and Kraft Foods, although a number of other companies are actively involved in the sector, particularly those producing own labels. Brazil and Colombia are important suppliers and while the market for freeze-dried coffees is growing there are concerns that there is already quite some manufacturing overcapacity in both Brazil and a number of consuming countries such as Germany. Freeze-dried coffee accounts for around 30% of all sales of soluble coffee. Trade opinion suggests that the market for soluble coffee as a whole is likely to grow only slowly over the next ten years; by contrast the market for freeze-dried coffee is expected to continue growing at a much faster rate.

The opportunity for new suppliers must be weighed against current excess manufacturing capacity, which is probably sufficient to cover most, if not all, the anticipated increase in demand for a number of years. Although most exports of soluble coffee are as finished product (in primary, not retail, packaging) some sales are made as frozen concentrate fro finishing in the country of destination. Most of the coffee exported was produced in the country of shipment.

Trade sources suggest that the cost of manufacturing plants for soluble coffee is considerable, ranging from around US$ 10 million for an annual capacity of around 1,800 tons of spray-dried or 600 tons of freeze-dried coffee, to around US$ 20 million for an annual capacity of 8,500 tons of spray-dried or 1,500 tons of freeze-dried coffee. By far the greatest proportion in the investment

would be taken in foreign exchange. Without an assured year-round production programme, operating costs would be excessive.

V (b) Decaffeinated coffee

The decaffeination process is applicable to both soluble coffee (spray-dried and freeze-dried) and roasted coffee. Decaffeinated coffee enjoyed a considerable rise in popularity during the 1980's, especially in the United States, but its performance has not been very strong. Decaffeinated coffee is seen as having to compete with other specialty coffees and although consumers of decaffeinated coffee tend to be very loyal to the product, caffeine no longer appears to be an issue that most consumers are particularly concerned about. Despite technological improvements in the decaffeination process over the last fifteen years and in particular the development of what many see as better processes which use water and carbon dioxide rather than methyl chloride, the product is losing market share. It is estimated that decaffeinated coffee currently accounts for around 10% of all coffee sales. Usually, it commands only a small premium over non-decaffeinated coffee and frequently is sold for the same price: consequently the economics of the decaffeination are tight. In early 2002, trade sources estimated that the cost of the process ranged from US$ 0.50 – 0.60 per kg of green bean, for the cheapest process using methyl chloride, to about double that for the more expensive methods. Incidentally, there is a substantial market for extracted crude caffeine in industries such as pharmaceuticals and soft drinks.

V (c) Roasted coffee

The market for roasted coffee is somewhat less concentrated than that for soluble coffee. Although market concentration in the roast and ground sector increased significantly, particularly during the 1980's and in the late 1990s, the development of the specialty sector has slowed the trend and the number of small roasters operating worldwide did increase significantly for a while.

Small roasters rarely buy direct from origin, but make their purchases through importers who are able to offer some security of supply and cost savings for small lots. In many cases importing direct from origin involves buying a full container load of around 300 bags (18 tons) which is simply too large an order for most small roasters.

As a result of the development of the specialty and gourmet sectors in many countries single origin roasted coffee are now widely available. However, blends of roasted coffee from different origins remain the most predominant roasted coffee product in the overall market today and this makes it difficult for producers to enter the retail market on their own. The trade in roasted coffee from origin is limited: in 2000 only 11,800 bags were exported from origin in roasted form compared to 4.3 million bags GBE of soluble and 84.4 million bags of green coffee. In total, roasted coffee accounted for just 0.13% of all coffee exports.

There are several obstacles to exporting roasted coffee from origin. None of them are insurmountable but together they form a significant barrier to this trade. Roasted coffee rapidly loses its flavour unless it is vacuum packed or gas flushed. A supplier wishing to export must therefore install an appropriate packing facility.

Furthermore, consumers are becoming increasingly sophisticated and demand high quality packaging that requires a significant level of investment. Additionally, legislation in importing countries frequently insists that packs are marked with a 'sell by' or 'use by' date. Transporting the product to market from origin can take a considerable amount of time and this puts the exporter at a disadvantage compared to a more local roaster who is able to offer the retailer a product with a longer shelf life. Exporters of roasted coffee therefore need to develop speedy distribution systems in order to minimize this disadvantage. This usually requires the active collaboration of agents or specialized importers or roasters in the target market (s).

V (d) Ready-to- drink and extracts or concentrates

Canned, ready-to-drink (RTD) coffee was originally developed by the Ueshima Coffee Company. By 2001, it accounted for 17% of total consumption in Japan, where it is sold mainly through vending machines and accounts for more than a third of all soft drink sales. RTD coffee in plastic bottles, cartons and other packs is becoming increasingly popular and is generally sold in supermarkets. Canned coffee products are also finding a good market in many emerging markets in Asia, particularly in China, although the success of the product depends very much on its availability in vending machines. RTD coffee products are particularly suitable for iced coffee drinks, and as such are beginning to make inroads in the North America and Western European markets. Originally the obvious requirement for success was access to vending machines and vending sites and as a result soft drink manufacturers currently dominate this sector of the market. But the major roasters are now pushing hard as well, not least because market sources consider the prospects for RTD coffee excellent because of its convenience. Sales of shelf-stable (i.e. not refrigerated or frozen) iced coffee products are the most likely area of growth because such products can be sold off supermarkets shelves like any other dry goods. Another potential winner could be concentrated liquid coffee. The frozen concentrate is designed for commercial and out-of-home consumers such as hotels, restaurants and offices for whom, it is reported it will produce a 'fresh' cup of coffee in a few seconds.

How much these developments do for coffee consumption or indeed coffee quality is debatable – the coffee content is usually not very high and the coffee taste is often masked by flavouring. Nevertheless, it is a new and growing niche market. Brazil and Colombia are the main manufacturers of concentrate at origin. Unfortunately, it is difficult to see how smaller producers without a substantial home market to support a manufacturing capability can participate.

5.2.3 Downstream Value Creation

Downstream processing is often seen as a way of adding value to a raw product at origin. Unfortunately this is not as straightforward as it at first appearance: if it were, there would be a far greater trade in processed coffee products from origin than there is today. In 2000/2001 just 5.4% of all coffee exports from producing countries were processed coffee. This is slightly higher than 10 years ago but virtually identical to the proportion achieved 20 years ago. Producer exports of processed coffee have not exceeded 6.5% of world exports in any year since 1980, and the bulk of this is instant coffee. Roasted coffee exports have never exceeded 0.2% of total coffee exports from producing countries.

The consuming market for coffee is dominated by a few very large companies, mainly multinationals, which sell there product by promoting their brand name and image through large-scale advertising. Normally advertising expenditure is equivalent to between 3% and 6% of sales revenue. Most coffee is sold through supermarket chains, which in general, stock a relatively limited range of brands that meet their criteria for sales per unit of shelf space. In that environment it is difficult and costly for new brands and new suppliers to penetrate the market but it is not impossible as there are always some openings for new suppliers.

Smaller packers and roasters however have managed to secure a place in practically every consuming country to a greater or lesser degree, often either selling coffee under their own brand names or providing supermarket chains with own label (also known as private label) coffee to be sold under the brand name of the supermarket. Own label or secondary brands generally sell at a substantial discount and are not usually advertised in the press or television. Instead they are promoted in store.

In the past such brands were usually considered to be inferior in quality but that is not the case any more and as a result own label coffees have been able to capture a significant share of the market. The own label area offers

the best opportunity for coffees processed at origin because such coffees cannot afford large advertising expenditure. But with increasing concentration at the retail level the scope for new entrants is becoming more limited and furthermore the own label market is fiercely price competitive. Soluble coffee packed for supermarkets retails at a discount of 10% - 30% (in some cases even more) on the price of the leading comparable brands. For spray-dried soluble coffee the retail market is not only oversupplied but is also shrinking as consumers switch to better quality freeze-dried and agglomerated soluble coffees.

5.3 GROWING ORGANIC COFFEE

Organic coffee is grown as part of an intensive, holistic agricultural production management system that includes the composting of organic materials, mulching, shade regulation and biological pest control. Such a system is based on the principle that a value corresponding to that harvested should be returned to the soil. It excludes the use of agro-chemicals. For the product to be marketed as organic, it must be certified as such by a third party. Western countries have developed extensive legislation for organic products.

The conditions that must be met before coffee may be marketed as organic are both comprehensive and well defined. No coffee may be brought to the marketplace and labelled organic unless it is proved to conform to the regulations. In other words, coffee can be marketed as organic only when it is certified as such by a recognized organization or certifier, based on regular inspection of all stages of production, processing, transporting and roasting of the coffee.

Many consumers are increasingly concerned with the content of their daily intake of food and beverages: organic foods are perceived as healthier. This motive is less important for coffee than it is for some other crops in that roasted coffee hardly ever contains harmful residues.

Although the quality of organic coffee is not necessarily better than that of conventional coffees, the market for organic coffee is increasingly demanding higher quality, which is why organic coffees are often positioned in the specialty segment.

In principle producers are motivated by the same concerns, but in addition they want to secure their social and cultural future by realizing the premium that certified organic coffee obtains. This benefit depends on the demand for organic coffee, which in turn determines the amount of the premium that can be obtained and the extra costs involved in organic production.

Growing any organic product, including organic coffee, is more than just leaving out fertilizers and other agro-chemicals. Coffee produced in this way should instead be called 'natural' coffee and, to the surprise of many, the industry looks upon this as non-sustainable production. This is because, in the long run, the soil will be depleted by natural production, which is often referred to also as 'passive cultivation' or 'organic by default.'

To achieve sustainable production it is necessary to make active use of various organic agriculture techniques including the composting of organic material, mulching of the soil under the trees with organic material, use of biological pest control, and investing in shade regulation. The principle of sustainable agriculture is that a value corresponding to that harvested should be returned to the soil. All possible methods have to be used to enhance the fertility of the soil. This is why passive production of coffee, even when no chemicals are used, is viewed as non-sustainable and not as organic

Not only coffee cultivation, but all subsequent steps in the production chain have to be certified. On-farm processing, storage, transport, export processing, shipping, export, import, roasting, packaging, distribution and retailing all have to be certified organic. Contact with conventionally produced coffee must be excluded and so there has to be a separation in space and/or time. Spraying or fumigation with toxic agents is never permitted and special measures must be taken to prevent contact with areas where fumigation has

taken place. Adequate records are to be kept of incoming and outgoing coffee so that the entire product flow can be documented and accounted for, often referred to as traceability. All the steps in the chain should therefore be documented and administered in a way that makes it possible to trace back the origin of the product from one step to the next (track and trace), ensuring that no contamination with conventional coffee has occurred. This traceability minimizes the risk of fraud at all stages and is a very important part of the inspection process by certifying organizations.

5.4 BRAND RECOGNITION

This is a valuable asset in an increasingly competitive coffee market. Brands are essentially a symbolic embodiment of reputation. Indeed some countries have taken great pains to be perceived as a brand. Colombia is the perfect example and its logo and trademarks are widely recognized. Colombia's achievement was not a simple one. It has involved 50 years of coordination at the level of field quality, national policy, and consistent promotion. It has further involved a long-term commitment to multimillion dollar promotion budgets. But programs do not need to be so grandiose in order to be successful. Several smaller Central American brands have already achieved a measure of market recognition and success.

There are some clear rules and lessons of brand development. They require long-term investment and a strong commitment from all of the stakeholders involved in developing them. For producers that feature coffees with Geographic Indications of Origin, this means a coordinated quality commitment throughout the appellation that is necessarily born of a strong organizational structure. That structure is vital in order to provide adequate information and technical training to the farmers in that circumscribed area and to monitor compliance with the quality requirements of the appellation or brand. Government needs to support the mapping and development of adequate geographic indicators and must also enforce the regulations protecting them.

Appellation-based brands initially require considerably more work to develop than a label or logo drawn up by a marketing agency. For example, appellations require terrain analysis, stakeholder negotiations, legal definitions and regulations all of which take patience, resources, and commitment. However, in the long run, they may also be more beneficial to the local farmers who share upon and like fashions, can come and go. Appellations on the other hand are the property of local owners who can therefore capture much of the value themselves in this feature, perhaps more than any other, may make them more sustainable

5.5 PROMOTION OF COFFEE

The promotion of coffee consumption world wide is vital. Competition from other beverages is intense and the total amount of money spent on advertising soft drinks, for example, far exceeds the amount spent on coffee. Well coordinated national and international generic (general) campaigns are necessary not only to encourage people, particularly in emerging markets, to take up coffee drinking, but also to retain the loyalty of existing consumers. This is not to ignore the fact that roasters worldwide invest tens of millions of dollars in brand promotion, the costs of which are estimated to be between 3% and 6% of total sales. Although such promotion is not generic, it does encourage consumption of coffee in general. Nevertheless, there is a distinct need for the entire industry to engage in generic promotion of the type as undertaken by the ICO, most recently in the Russian Federation and China. (NYBT 2002)

5.5.1 Generic versus brand (or type) promotion

There are several methods of categorizing promotional activities depending upon the ultimate objective. Promotion conducted with respect to a basic product such as coffee for the purpose of enlarging the total market for the product is termed *generic promotion.* For example the ICO campaigns in China and the Russian Federation did not focus on any one brand or indeed

type of coffee but promoted all types and brands of coffee simultaneously. This helps the entire industry rather than just one segment or company.

Brand promotion on the other hand is conducted with the objective of gaining a greater market share for a particular brand of coffee, rather than enlarging the market for every brand. Even if the promotion results in an overall increase in the market as a whole it still represents brand rather than generic promotion, as this was not the original intention. When individual producing countries use promotion to encourage demand for their own coffee, this cannot be considered generic either as it is merely attempting to influence decisions within the existing market about the composition of supply rather than attempting to enlarge the market for all producers.

Necessity for generic promotion

As first glance, it may seem that generic promotion of coffee is unnecessary. The widespread consumption of coffee suggests that demand for the product is practically guaranteed. But there is a real need to educate potential consumers on emerging markets. Demand for coffee can decline.

There is now a very real danger that as the initial enthusiasm for specialty wears off, and with the growing corporatisation of the specialty sector, the generic content of any promotion will diminish quite rapidly. There is therefore a need to replace this with an ongoing generic campaign in order to ensure that any gains are not only held on to but also built upon.

In most countries coffee faces immense competitive pressures from the strong and ingenious generic promotional efforts of such beverages as tea and milk as well as from the many well-financed campaigns promoting various brands of soft drink and juice. These industries would like to convince coffee drinkers to switch to their products. Coffee drinkers need reassurance that coffee is the right drink for them. In addition, new potential consumers need very basic information about coffee to allay any fears they might have about coffee and

to learn the best ways of preparing the beverage. This is best achieved through generic promotion.

Who are the customers

It is helpful in developing a generic promotion campaign to understand the primary characteristics of the people who drink coffee as well as to discover what benefits they derive from coffee consumption. With this information, promotional messages are more likely to be relevant and believable.

One purpose of generic promotion is to keep existing customers satisfied and perhaps to encourage them to consume more coffee. The other purpose of generic promotion is to encourage people who do not drink coffee to try the product and also to create a positive attitude towards coffee in order to improve the chances of their liking their first tastes of the beverage.

People have different reasons for choosing to drink or not to drink coffee. It may therefore be necessary to divide the total potential market into broad segments, called target markets, each requiring a different promotional message or even a differentiated product or distribution channel.(www.ncausa.org)

Given limited promotional resources and the changing levels of competition, marketing efforts must be judiciously targeted and professionally developed. The most efficient approaches focus on relationships such as roaster visits and trade shows, rather than on untargeted advertising. Some useful promotional strategies such as E-Trade and business development, internal consumption campaigns, and Market Information Systmes (MIS), are already being tested and utilized in the coffee trade.

5.5.2 E-trade, auctions and the "Cup of Excellence" competition

Internet-based coffee auctions have been tested for two years with some notable success, albeit on a very limited scale. In the most notable B2B trade

to date a Norwegian firm paid $11.00/lb for a small lot of Las Nubes green beans (winner Cup of Excellence, Guatemala 2001) and the 2002 Nicaraguan auction brought an even higher price for one of its coffees. Brazil's e-auction of 54 tons of its better coffees fetched prices as high as $2.60/lb last year. Brazil, Colombia, Guatemala, Nicaragua, Panama and Uganda have been early leaders in this field that is about to get bigger. Businesses like Comdaq are providing solution platforms for developing coffee e-commerce. Experience with the "Cup of Excellence" program is the most extensive and it is one template available to producing countries that want to encourage quality improvements and quality recognition for their coffee producers.

The cup of excellence is recognized internationally as a coffee cupping event that is designed to identify and promote the best coffees (within a given country) through a series of blind cupping conducted by national and international judges. The judges evaluate every detail of the coffee from aroma, acidity, to body and balance. Such competitions are a testimony that emphasis on coffee quality through improved farm practices combined with the installation of model cupping laboratories can lead to significant behavioural changes. Competitions like the Cup of Excellence can improve the image of a country in international markets. Three cup of excellence competitions have been conducted so far in Brazil, Guatemala (2001) and Nicaragua (2002) with more countries negotiating to do so in the future. It worth noting that the tonnages involved in this promotional activity are very low to achieve the basic strategy of increasing revenues for the producers today.

The internet can be used for more than just traditional marketing. The ability to share new forms of information can expand the possibilities to include support systems for land use monitoring, certification and Geographic Indications of Origin (GIOs) or Appellation. One pilot program funded by USAID/Peru is successfully testing this denomination of origin/marketing partner project.

5.5.3 Market Information System

Information is the lifeblood of efficient agricultural markets. The availability of accurate price and other market information helps reduce risks and transaction costs and better enables market participants to plan and coordinate their production and trading activities. Market information is a public good and offers valid arguments for it to be ump-started with public funds. However, around the world, many efforts to develop public sector Market Information Systems (MIS) have failed. Most MIS's have lacked commercial utility and have been unsustainable (Giovannucci, 1999).

A good example of a sophisticated MIS is an evolving project that is developing information on "green" markets and is operated by Centro de Inteligencia Sobre Mercados Sostenibles (CIMS). It is based in San Jose, Costa Rica under the aegis of INCAE, one of Latin America's leading academic institutions. All Central American countries can use this system and even a more modest coffee-oriented system could also be effective.

Organizations like ZCGA and trade associations can be excellent conduits of specialized market information, particularly if they are trained to manage and disseminate it. Indeed, this is a significant service they can provide their constituents, but one that has proven difficult to manage and sustain without efficient organizations. Valuable market information is also passed through market alliances and is another reason to support integrated supply chain development.

5.5.4 Increasing domestic promotion and consumption

One of the opportunities that emerge from a low price global market is the development of domestic markets. With adequate stimulus, the results can be very worthwhile. A prime example is Brazil. It struggled for years with modest per capita consumption rates. In the early 1990s some of the lower quality coffee that was commonly sold throughout the country began to be replaced with smoother and more flavourful coffee. Until then, much of the available

domestic coffee was sold primarily on a price basis and often included triage, coffee hulls and assorted non-coffee fillers. This change in product quality was accompanied by a series of promotional campaigns directed at various segments of society, including the young. Domestic consumption responded dramatically. Now Brazil has increased its per capita consumption and has increased its domestic markets so successfully that is second only to the United States among the world's major consumers of coffee. Brazil's per capita coffee consumption is at 4.6kg, compared to 2.3kg for Colombia and 2.1kg for Central America as an average (but nothing that per capita coffee consumption in Costa Rica is as high as 3.7kg). In Zambia local consumption hardly exceed 200 tonnes per annum. Coffee is regarded as a luxury among the general poor population of the country.

Moreover, among the many direct and indirect participants in the coffee industry increased internal consumption of better quality coffee can improve familiarity with the characteristics of good coffee. This can arguably help contribute to improvements in production quality. This explains why coffee quality will remain a specialty business in Zambia.

The good news is that consumption can certainly be improved and there is some evidence that better quality is associated with higher consumption rates. Unfortunately modest attempts to pursue this model in Colombia have not proven to be very successful. This could be due to Colombia's already relatively high quality of domestic consumption and that the modest attempts were made during a period of economic recession and during a period of high global prices when much of the focus was on moving good coffee out of the country.

5.5.5 Producer oriented promotion

Improved market prices and market access are not the most important basis for deciding to adopt improved or differentiated production methods. Indeed, it is vital that promotional policies focus on the local benefits rather than the price premium or market benefits which may be evanescent. Organic, Fair

Trade and eco-friendly coffee can offer considerable environmental, social and even health benefits to growers and their communities. These include:

(a) shade trees, use of organic fertilizers and composing to help preserve the soil structure, thereby preventing erosion and protecting watersheds;

(b) organic husbandry supports biodiversity especially in microbial life that provides natural control of pests and pathogens;

(c) organic methods improve nutrient recycling and enhance soil quality/fertility and

(d) soil management and localized input methods provide very useful risk management especially for poor rural small holders.

5.6 HEDGING

Hedging offers definite advantages to commodity producers and costs comparatively little. Hedging with futures allows a producer to lock in a price that reflects the producer's business goals (a profit). The producer should therefore determine the actual price available in the futures market that will support the cost of production plus a profit. If prices fall, the producer still achieves something near the originally intended pricing goals. If prices rise, the producer foregoes a larger profit margin.

The loss of this potential (speculative) extra profit is balanced by the protection afforded against dramatic and damaging declines in the market. There are also other advantages in addition to this price-insurance aspect of hedging.

First, hedging offers a flexible pricing mechanism. Anyone who feels they have made the wrong decision on the exchange can have an alternative order executed easily and immediately. Second, hedging operations involve only small initial outlays of money. If the price of futures goes up, the producer

who has sold futures may be asked to pay additional margins; but the price of their physicals will also have risen. Third, because a futures contract provides considerable price protection, banks and other financial institutions are more likely to finance producers, exporters and traders who hedge their crops and positions than those who do not.

Finally, commodity trade banks and risk solution providers put together different *risk mitigation instruments* that are *tailored* to a client's requirements. For example, a put option can be graduated to extend over the usual marketing season by spreading equal portions over two or three futures trading positions, at different strike prices if so wished. Each individual portion can then be exercised individually. Alternatively, a solution provider may simply guarantee a minimum price. For payment of a premium, they undertake to make good any shortfall between the insured price (the minimum price the producer wishes to secure) and the price ruling for the stated futures trading positions (New York or London), either at a producer buys a 'floor:' a guaranteed price minus the cost of the premium.

5.6.1 Managing price risk and volatility

Of all coffee producing countries only Brazil has been able to establish a successful internal futures market for coffee, the Brazilian Mercantile and Futures Exchange. Growers in all other producing countries must look abroad, directly, if they wish to make use of futures markets. In many countries small growers and smallholders are mostly locked out of risk management markets anyway, for reasons that include a lack of knowledge, high costs and inappropriate contract sizes. (Note though that the LIFFE futures exchange robusta contract size is just 5 tons and new NYBOT mini arabica contract is 12,500 lb, or 5.7 tons.)

Just as for gaining access to credit, potential solutions include the aggregation of production and financial capacity through the establishment of cooperatives or other forms of producer groupings. Such groups can then decide how they approach price risk management: simply as an insurance that they purchase

or as part of the marketing process. (It should not be ignored here that in a number of countries the performance record of cooperatives has been less than impressive.)

Coffee farmers face at least two distinct sets of problems associated with prices; the outright price level and volatility. Historically, coffee prices have been among the most volatile of all commodity prices. Price volatility was particularly pronounced during the 1990s and is expected to continue, together with the downward tendency in coffee prices. Volatility is the result of an inelastic demand curve and supply shocks, mainly caused by past production disruptions in Brazil (mainly because of frosts), production adjustments in response to price increases and policy changes (such as the suspension of the economic clauses of the International Coffee Agreement).

Cyclical price volatility, particularly within the crop season, can be managed through price risk management instruments. However, the secular price trend requires other longer-term elements, such as diversification or improvements in quality and productivity.

Speculative behaviour also needs to be addressed. This was one of the sources of the banking problem. In the past, many farmers chose not to fix coffee prices, even after their crop was exported; rather, they retained speculative futures-linked positions with exporters (GTC arrangements). The lack of coverage in a period of decreasing prices led to the reduction in their ability to repay their loans.

Tools to manage price volatility already exist. However, small and medium-size agricultural producers in developing countries are, in general, unable to access them. Impediments to their use by producers include inappropriate instruments to suit their needs, high transaction costs, and little understanding of their use. Additionally, in the developed world, many producers frequently do not access risk management instruments directly, instead they access them indirectly through processors and traders. Some options to manage lower and volatile prices are described below.

Ways in which coffee producers can get access to risk management markets are the focus of studies underway in El Salvador and Nicaragua. Two key issues are to develop competent aggregators of risk management instruments and to examine ways in which risk management instrument can help improve access to credit. Local aggregators for demand for risk management instruments could be producer organizations, cooperatives, rural credit institutions and traders. Preliminary results indicate that it is critical to strengthen the capacity of producer organizations and cooperatives to deal with price risks and improve their marketing of coffee. Approaches being explored are:

(a) Linking price insurance to a loan agreement

A farmer who borrows with price insurance should be a better credit risk that one who borrows without it. From the perspective of the lender; a portfolio of debt that is insured should strengthen the lending institution. It should also improve the flow of credit for farmers who agree to buy price insurance. This arrangement may be useful to countries seeking to improve the flow of credit to coffee (and other agricultural) sectors.

(b) Adopting sales management techniques

Like hedging strategies, cooperatives that manage sales on behalf of their members can use these techniques. These techniques could have a double benefit. They enable a cooperative to pay a higher initial proportion of the market value of the coffee to a producer. They also protect the ability of the cooperative to make payments in the future. Both APC and ZCGA need to adopt a hedging strategy, well defined for each season

(c) Using inventory management.

Cooperatives and other producer organizations may not wish to sell all their coffee immediately after harvest. This way, they can spread their sales more evenly throughout the crop year and take advantage of price rises later on. This provides a level of flexibility in selling. Price risk management could allow producers to protect the value of their inventories from unexpected price declines during the crop year. Holding costs and pressure to repay crop facility loans would prohibit this strategy for APC.

(d) Aggregating quantities for hedging

Farmers with a relatively small quantity of a commodity can enter into purchase contracts using this method. Processors, traders and cooperatives can play a useful role in this regard. Tools like this have arisen in developed countries, along with sophisticated purchasing contracts that have risk management tools embedded in them. Entries able to provide this type of purchasing arrangement rarely exist in the developing world. The potential for developing them needs to be discussed.

(e) Using guarantee contracts.

There are arrangements in place between farmer organizations and users that provide price protection to these farmers; Fair Trade is one of them. Fair Trade guarantees a price to farmers that is not only higher (around $1.20 to $1.30 per lb; when prices are $0.50 to $0.60 per lb) but also fixed. This is another effective way to provide price protection to coffee producers.

5.6.2 Buying put options

This is the right to sell futures at a stated price at some point in the future, and is much simpler than hedging. The cost that needs to be financed is known up front and no margin calls need to be faced. The premium will depend on circumstances, but can at times be very substantial. Even so, it may be

easier to raise finance for this than for straight hedging. As always, the provider will still need to be reassured about how the cost of the option will eventually be recouped.

5.6.3 Tailored solutions

Risk solution providers *tailor* risk instruments to client's requirements. For example, options can be *graduated* to extend over the usual marketing season by spreading equal portions over two or three futures trading positions, if so wished, at different strike prices. Each individual portion can then be exercised individually.

Alternatively the solution provider may simply guarantee a *minimum price*. Against payment of a premium, they undertake to make good any shortfall between the insured price (the minimum price the growers wish to secure) and the price ruling for the stated trading positions in New York or London, either at a given date or based on the average price orver a number of days. The producer has bought a 'floor': the guaranteed price less the cost of the premium. (Consumers would buy a 'cap' to protect themselves against future price rises.)

5.6.4 Swap agreements.

Producers can also 'swap' price risk by giving up the benefits from future price rises in exchange for a guaranteed minimum price. Swap agreements could also cover more than one year, with tonnages and settlement dates set for each quarter. The concept is nothing new and has been extensively used to limit exposure to currency and interest rate fluctuations. Innumerable variables are possible, making it impossible to provide a standard model.

5.7 Price risk management as part of marketing

5.7.1 Forward sales of physical coffee at a fixed price

This is the most straightforward form of price risk management as part of marketing. The size of the expected crop is reasonably well known, prices are satisfactory and buyers have enough confidence in the seller to commit to them on a forward basis. This is perhaps the ideal situation but it is seldom encountered nowadays. And when prices are very low, fixed price forward contracts look attractive only to the buyer.

5.7.2 Selling physicals forward PTBF buyer's call

PTBF – Price To Be Fixed

This means growers lose all control over the fixation level and therefore the price unless they simultaneously also sell a corresponding amount of futures. But this would expose them to margin calls and potential liquidity problems, assuming they could even find the funds to finance the initial deposits.

5.7.3 Selling physicals forward PTBF seller's call

This might appear to be the answer but is not necessarily so either. Unless the seller *fixes immediately*, all such deals establish is a contractual obligation to deliver and accept physical coffee.

The PTBF sales sets the differential the buyer will pay in relation to the underlying futures position(s), but the general price risk and the decision when to fix remain entirely open. In other words, the PTBF sale does not mean the seller has made a price decision – that will only be the case once they fix. Many sellers are unable to bring themselves to fix at unattractive levels, and in falling markets a good number even roll fixations from one futures position to the next, preferring to pay the cost (usually the difference in price between the two positions) to gain more time in the hope that prices will eventually rise.

This does not happen only when prices are generally low. In a falling market it is sometimes very difficult for sellers to accept that today they must fix at less than they could have done yesterday or the day before. To avoid such fixation traps one should set internal 'stops' so that fixing takes place automatically when a certain price (up or down) is reached. Such orders to fix can be given to whoever is responsible for the actual execution, basis GTC or 'good till cancelled.'

When fixed price sales are not feasible the simple alternative is to sell PTBF and to fix immediately, thereby fixing both the base price and the differential which, together, make up the final sales price. If there are concerns about 'fixing too early' or 'what if the market goes up,' then one also buys a call option accepting that the cost of this of course comes out of the sales price for the physicals.

5.7.4 Alternative solutions

In many countries growers can and do sell basis PTBF to local exporters and so they do not necessarily need to have direct access to the overseas market for this type of operation. But if to access price insurance they must sell locally then their bargaining position may be weakened. And in countries with indirect marketing systems, such as central auctions, the grower has no direct access to the exporter in any case so this option is not available.

Together with the international banking system, institutions such as the United Nations Conference on Trade and Development (UNCTAD), the International Coffee Organisation, the World Bank and the Common Fund for Commodities (CFC) are actively and imaginatively seeking new credit and risk insurance solutions for small growers, through pilot projects in a number of countries. The ever-lower coffee prices have in recent years starkly demonstrated the need for such initiatives, but the unprecedented scope of those price falls has also made it more difficult to mobilize the resources and motivate the active grower participation necessary for these initiatives to be launched.

5.7.5 Collateral management

Using United States experience and systems as a basis, pilot projects in Uganda and Tanzania have been financed by CFC and implemented by the United Nations Office for Projects Services (UNOPS). They are setting some of the stage through the drafting and introduction of specific national legislation dealing with all aspects of collateral management for the coffee industry, including addressing the vexed question of how lenders can legitimately and efficiently turn collateral into true collectables. This is a step in a lengthy process that must also include providing the necessary expertise to being prepared in both Uganda and Tanzania. A further CFC financed project, dealing specifically with price risk management for smaller growers, commenced work in March 2002 to compliment the collateral management initiative with which it will be linked in due course.

5.7.6 Price risk management summary

The International Task Force on Commodity Risk Management in Developing Countries (ITF) was first converted in January 1999. It comprises major international institutions, producers' and consumers' groups, major commodity exchanges, commodity trading firms, academia and private sector entities. Its work is carried out by the Commodity Risk Management Group of the World Bank. The ITF aims to provide smallholder producers in developing countries with access to the same risk-management instruments available to producers in industrialized countries. This involves identifying rural institutions to serve as local transmission mechanisms for such insurance. The ITF provides technical assistance, training and 'honest broker' services to local institutions (e.g. cooperatives, domestic banks, or traders) in the use of price risk management instruments and serves as an honest broker for the delivery of these instruments to smallholder producers.

CHAPTER 6: SUMMARY AND CONCLUSIONS

"There is no simple solution, there is no silver bullet. There is a consensus that an integrated package which includes improvement in coffee quality, increase in consumption in non-traditional markets, strengthening of the bargaining and marketing powers of producing countries and support to diversification should be implemented," said Kelvin Cleaver, Director of the Agriculture and Rural Department (ARD) of the World Bank.

Innovative solutions such as facilitation of access to price risk management products to groups of small farmers in several Latin American and African countries and new marketing strategies for quality improvement and increase of consumption were also showcased.

Coffee prices reached their lowest levels in 30 years last year (and in 100 years in real terms) and have risen only slightly with the ICO composite indicator price at 52.89 US cents/lb on 16 May 2003. In almost all coffee producing countries, such prices are unable to cover production costs and have led to serious social and economic problems, including increased poverty, indebtedness and abandonment of coffee farms.

The World Bank and the International Coffee Organisation (ICO) have been working together to analyze the problems arising from the present coffee crisis in line with the preoccupations of governments and civil society groups.

"We will need to decide whether there is still a role for supply management to address the crisis. In the light of the universal acknowledgement of an imbalance in the market, we will also need to pursue the promotion of consumption through various means, including the improvement of quality, and reduce dependence through diversification," said Nestor Osorio, ICO Executive Director. "We will need to establish the capacity of international agencies and the private sector to work on concrete actions in areas like private sector management, and what measures can be taken to bring

producers once again into the profit-zone. The ICO is ready to coordinate the successful implementation of these ideas."

It has been noted that at debt levels of 40% the company has the lowest cost of capital and also that the financial distress risk was least therefore it can be concluded that there is an optimum financial structure for each industry. For the coffee industry 40% debt can be concluded to be the ideal capital structure.

The impact of commodity price has been reflected in the profitability of APC year after year (table 3), with continued losses the capital structure was further weakened creating further financial distress risk. It can be concluded that business risk can trigger financial risk. Firms operating with net loss carry forwards like APC are often in financial distress, and since equity values typically decline in such circumstances, financial distress itself causes leverage ratios to increase. Therefore net operating losses caused by commodity prices are a proxy for low tax benefits of debt and also financial distress.

It is also very important to look at price risk management tools, however if prices remain low for a period of years, commodity price risk management instruments will have limited use. These instruments are better suited for temporary shocks rather than persistent ones.

- TOO BRIEF
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Appendices

Table 1

African Plantations Company Ltd

Coffee Production & Exports Table 1 (a)

Crop Year	Production (MT)	Exported (MT)	Average Price US$/MT	Average APC
1984	-			
1985	397	377	2,678	
1986	618	598	3,761	
1987	515	499	2,256	
1988	450	432	2,813	
1989	261	245	1,939	
1990	1,313	1,294	1,550	
1991	1,329	1,309	1,857	
1992	1,792	1,772	1,495	
1993	1,530	1,514	1,527	
1994	1,582	1,536	1,973	
1995	1,231	1,195	3,856	
1996	1,580	1,544	2,485	1,764
1997	2,167	1,884	2,574	4,652
1998	2,628	2,285	3,529	3,241
1999	3,450	3,358	2,810	2,271
2000	2,200	2,180	2,041	1,896
2001	5,868	5,832	1,542	1,168
2002	5,000	4,531	1,250	1,213
2003	6,500	6,036	1,135	1,433

Table 1 (b)

Year	Supply Million Bags	Price USC/lb	APC price
1996	70	109	80
1997	75	126	211
1998	78	116	147
1999	79	93	103
2000	89	73	86
2001	89	48	53
2002	90	50	55
2003	89	60	65
2004	88	75	80

APC ZAMBIA

Currency: usd' 000

Balance Sheet	1997 Actual	1998 Actual	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Proj	2004 Forecast	2005 Forecast	2006 Forecast	2007 Forecast	2008 Forecast
Capital Employed												
Share Capital	14	9	8	5	5	5	5	5	5	5	5	5
Capital Reserves	-	-	-			5,401	5,401	5,401	5,401	5,401	5,401	5,401
Shareholder's loans	4,195	6,276	9,744	10,220	11,359	7,014	7,014	7,014	7,014	7,014	7,014	7,014
Revaluation Reserves	2,601	3,272	4,906	5,357	5,236	5,134	5,134	5,134	5,134	5,134	5,134	5,134
Accumulated Reserves	(1,401)	(2,791)	(4,431)	(8,647)	(11,121)	(11,254)	(11,616)	(11,050)	(9,721)	(7,434)	(3,969)	637
Total Shareholders Funds	5,409	6,766	10,227	6,935	5,478	6,300	5,938	6,504	7,833	10,120	13,584	18,190
Long term loans												
IFC Loan (Libor + 4.5%)		-	-	1,500	2,500	1,442	1,094	720	360	0	0	0
SDFC Loan (8%)		-	-	3,000	3,000	3,380	3,380	3,380	3,380	3,380	0	0
SEL loan (11%)		-	-	-	0	250	946	946	946	0	0	0
EDP Loan (Libor + 5%)		-	-			750	1,250	750	250	0	0	0
	5,409	6,766	10,227	11,435	10,978	12,122	12,608	12,300	12,769	13,500	13,584	18,190
Employment of CAPITAL												
FIXED ASSETS												
Fixed Assets	3,290	5,118	7,525	6,591	7,421	7,038	6,732	6,432	6,132	5,832	5,532	5,232
Development expendilure	501	918	2,278	3,524	4,048	4,251	4,442	4,681	4,681	4,681	4,681	4,681
Total Fixed Assets	3,791	6,036	9,803	10,115	11,469	11,289	11,174	11,113	10,813	10,513	10,213	9,913
Current Assets												
Future crop expenditure	176	158	176	314	977	1,036	1,036	1,036	1,036	554	554	554
Stocks	513	368	408	1,221	1,104	2,558	280	280	280	280	280	280
Debtors	218	272	241	406	393	600	600	600	326	326	326	326
Bank	144	231	208	1,006	10	4	822	830	1,774	3,287	3,574	8,383
Inter Company Balances	1,154	362	213	(750)	(1,639)	-	0	0	0	0	0	0
						-						
Total Current Assets	2,205	1,391	1,246	2,197	846	4,198	2,738	2,746	3,416	4,447	4,734	9,543
Current Liabilities												
Creditors	519	658	822	870	1,326	1,104	1,104	1,460	1,460	1,460	1,362	1,265
Terminal benefits		-	-	-	-	261	200	100	-	-	-	-
Standard Chartered Bank Overdraft		-	-	-	-	2,000	-	-	-	-	-	-
Taxation	68	3		7	11	-	-	-	-	-	-	-
Total current liabilities	587	661	822	877	1,337	3,365	1,304	1,560	1,460	1,460	1,362	1,265
Net current assets	1,618	730	424	1,320	(491)	833	1,434	1,186	1,956	2,987	3,372	8,278
Total employment of capital	5,409	6,766	10,227	11,435	10,978	12,122	12,608	12,299	12,769	13,500	13,585	18,190

APC ZAMBIA

Currency Usd' 000

PROFIT AND LOSS ACCOUNT

PARTICULARS	1996 Actual	1997 Actual	1998 Actual	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Proj	2,004 Forecast	2,005 Forecast	2,006 Forecast	2,007 Forecast	2,008 Forecast
Turnover: Coffee		806	839	512	573	1,769	1,482	6,428	5,400	6,210	7,142	8,213	9,445
Cost of Sales		(535)	(371)	(759)	(1,168)	(3,159)	(1,590)	(5,692)	(3,895)	(3,895)	(3,895)	(3,895)	(3,895)
Goss Profit/(Loss) Total	-	271	468	(247)	(595)	(1,390)	(108)	736	1,505	2,315	3,246	4,318	5,550
Admin Overheads		(765)	(931)	(553)	(571)	(735)	(567)	(391)	(380)	(380)	(380)	(380)	(380)
Redundancy costs			-				(261)						
Debt forgiveness			-				1,245						
Operating profit/loss	-	(494)	(463)	(800)	(1,166)	(2,125)	309	345	1,125	1,935	2,866	3,937	5,169
Interest - IFC					(72)	(182)	(76)	(85)	(55)	(28)	0	0	0
Interest - SDFC					-	(213)	(254)	(265)	(250)	(122)	0	0	0
Interest - SCB					-	(78)	(87)	(261)	(140)	(140)	-	-	-
Interest - SEL							(169)	(96)					
Interest other		(55)	(14)	(1)			(20)						
Total Interest	-	(55)	(14)	(1)	(72)	(473)	(606)	(707)	(446)	(290)	0	0	0
Net Profit before Tax & Exchange losses	-	(549)	(477)	(801)	(1,238)	(2,598)	(297)	(362)	679	1,645	2,866	3,937	5,169
Exchange loss			(1,992)	(1,403)	(7,246)	0	0						
Taxation		(3)				0	0	0	(114)	(316)	(579)	(473)	(563)
Net Profit after Tax	-	(552)	(2,469)	(2,204)	(8,484)	(2,598)	(297)	(362)	566	1,329	2,287	3,464	4,606
Stock Movement Coffee:(kgs)													
Opening Stock			-	*30*	*19*	665	420	1,641	-	-	-	-	-
Total Production	130	227	*250*	*248*	*949*	1,285	2,385	2,743	3,000	3,000	3,000	3,000	3,000
Sales	124	227	*220*	*261*	*303*	1,530	1,164	4,384	3,000	3,000	3,000	3,000	3,000
Closing Stock			*30*	*19*	*665*	420	1,641	-	-	-	-	-	-
Selling Price - Average / kg	1.77	4.66	*3.2*	1.96	1.89	1.16	1.27	1.47	1.80	2.07	2.38	2.74	3.15
Cost of sales / kg			*1.4*	*2.92*	*3.72*	2.06	1.37	1.30	1.30	1.30	1.30	1.30	1.30
Interest cost/kg			*0.06*	*0.00*	*0.24*	*0.31*	*0.52*	*0.16*	*0.15*	*0.10*	-	-	-
Total cost/kg			*5.98*	*5.03*	*5.98*	*2.85*	*2.60*	*1.55*	*1.57*	*1.52*	*1.43*	*1.43*	*1.43*
Exchange rate - average	1,098	1,356	1,709	2,400	3,910	4,210	4,233	4,600	5,290	6,084	6,996	8,045	9,252
Depreciation			*248*	*365*		405	511	503	503	503	503	503	503
Total Hectares under crop	291	462	847	1,266	1,266	1,290	1,290	1,390					

APC ZAMBIA

Cash Flow Summary

Currency: usd '000

Particulars	1999 Actual	2000 Actual	2001 Actual	2002 Actual	2003 Proj	2,004 Forecast	2005 Forecast	2,006 Forecast	2007 Forecast	2,008 Forecast
Opening Cash Balance	231	208	1,006	10	4	822	830	1,774	3,287	3,574
Turnover	512	1,768	1,784	457	4,796	5,400	6,210	7,142	8,213	9,445
Debtors	7	2	25	927	1,666		-			
External Loan	-	4,500	1,000	750	500	(500)	(500)	(250)		
TOTAL	**519**	**6,270**	**2,809**	**2,134**	**6,962**	**4,900**	**5,710**	**6,892**	**8,213**	**9,445**
Operational Payments										
Operating costs	(860)	(1,455)	(3,670)	(3,334)	(3,961)	(3,772)	(3,773)	(3,773)	(3,773)	(3,773)
Interest payments	-	(71)	(258)	(168)	(372)	(446)	(290)	0	0	0
Total	**(860)**	**(1,526)**	**(3,928)**	**(3,502)**	**(4,333)**	**(4,218)**	**(4,062)**	**(3,773)**	**(3,773)**	**(3,773)**
Non Operational										
Capital Expenditure	(3,182)	(2,158)	(1,711)	(324)	(306)	(300)	(300)	(300)	(300)	(300)
Taxation				-	-	-	-	-	(473)	(563)
Redundancy				-	(61)	(100)	(100)			
Lease repayments		(30)	(193)	(63)	(9)	-	-	-	-	-
IFC Loan repayment			-		(348)	(374)	(360)	(360)	-	-
SDFC Loan repayment			-	-	-	-	-	-	(3,380)	-
Standard Chartered Bank O/D				2,000	(2,000)					
Nedbank O/D			1,927	(2,013)	-	-				
Holding Company	3,500	(1,758)	100	1,112	50	100	56			
SEL medium term			-	650	863	-	-	(946)	-	-
Total	**318**	**(3,946)**	**122**	**1,362**	**(1,811)**	**(674)**	**(704)**	**(1,606)**	**(4,153)**	**(863)**
TOTAL Cash required	(542)	(5,472)	(3,806)	(2,140)	(6,144)	(4,892)	(4,766)	(5,379)	(7,926)	(4,636)
Net Cash For Period	(23)	798	(996)	(6)	818	8	944	1,513	287	4,809
Closing Balance	208	1,006	10	4	822	830	1,774	3,287	3,574	8,383

Value of Business	16,670
Number of shares	25,500,000
Price /Share	0.65

Fig 1.1

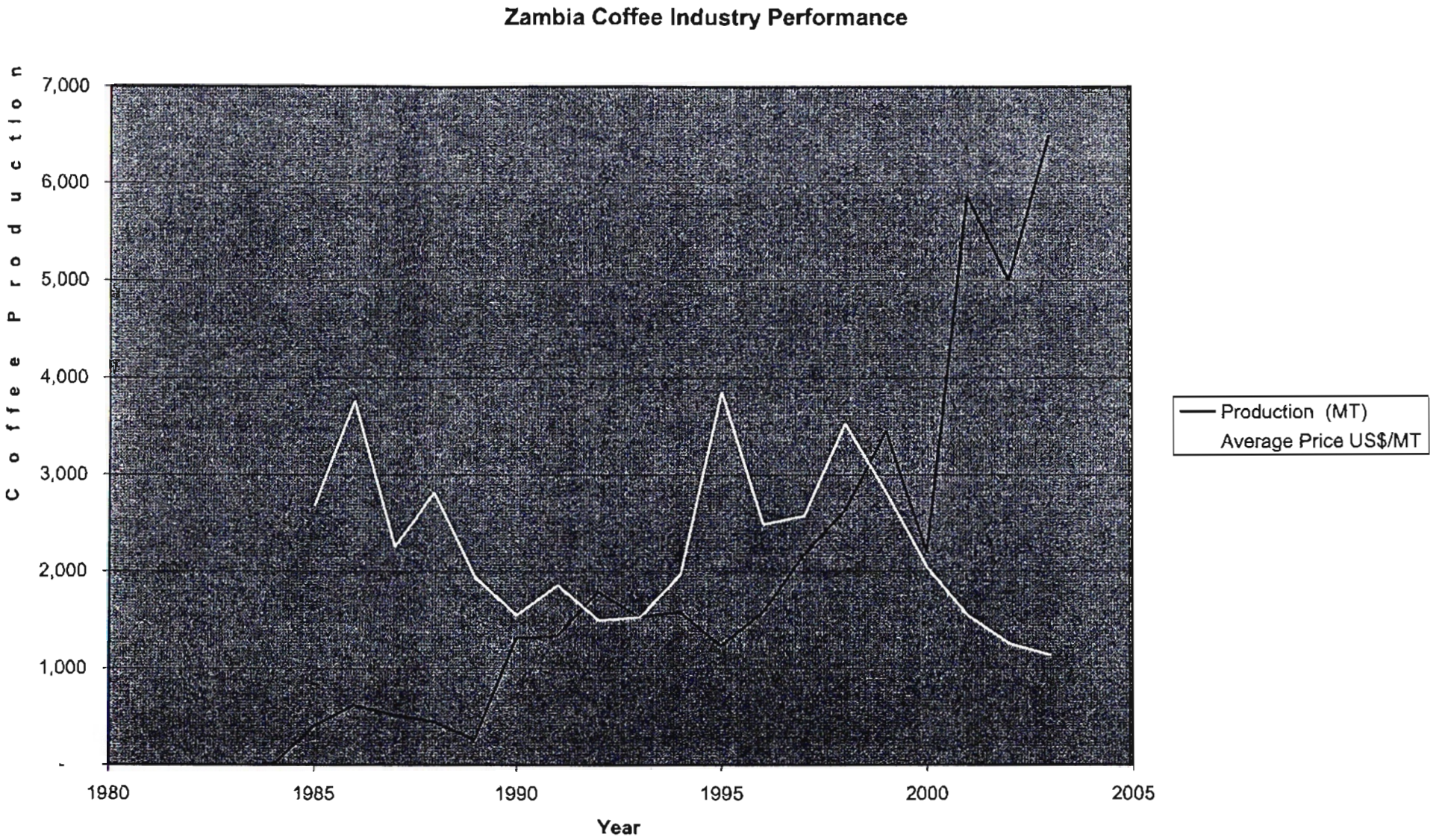
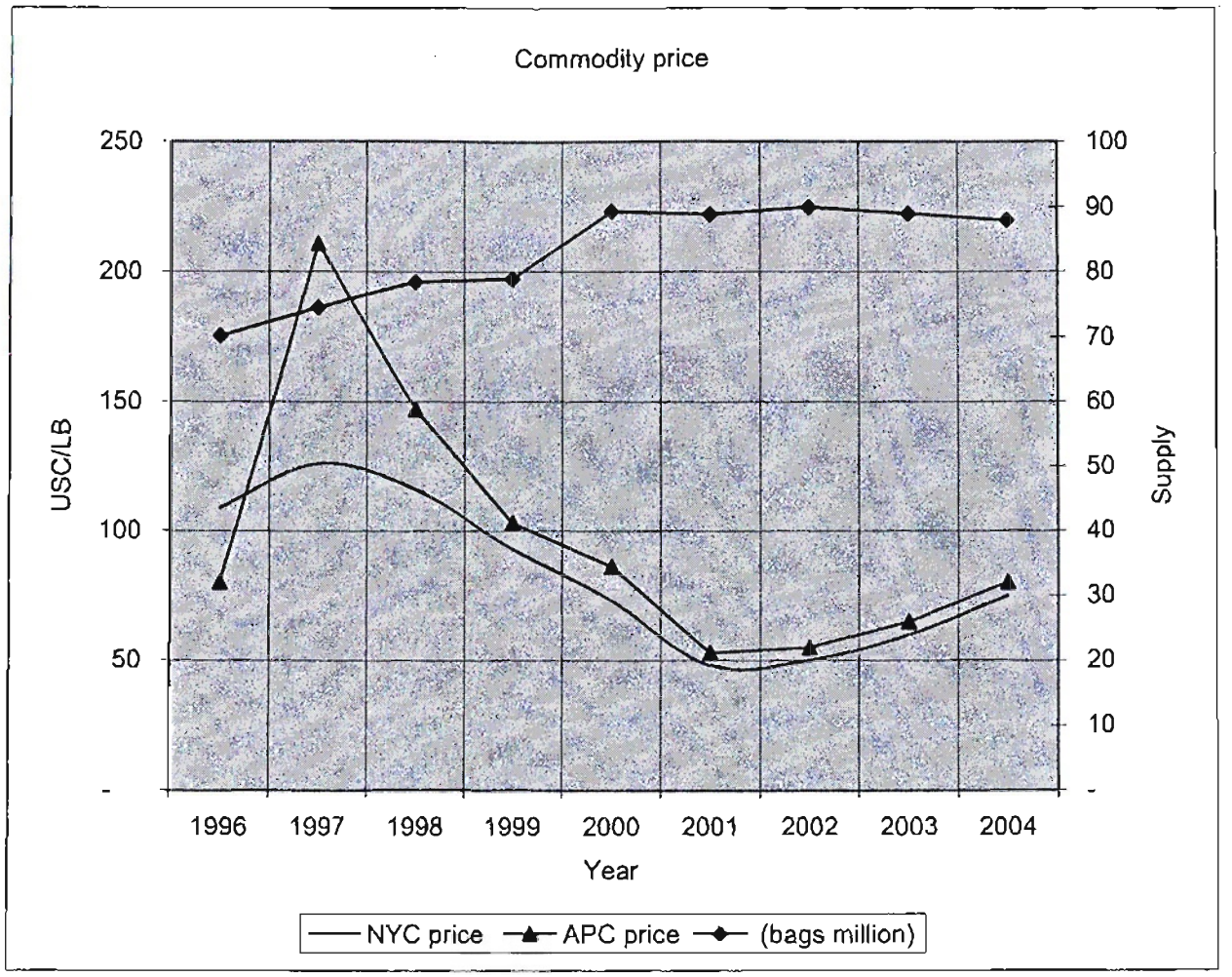

Zambia Coffee Industry Performance
Coffee Production
7,000
6,000
5,000
4,000
3,000
2,000
1,000
-
1980
1985
1990
1995
2000
2005
Year
Production (MT)
Average Price US$/MT

Fig1.2


Commodity price
250
200
150
100
50
-
USC/LB
100
90
80
70
60
50
40
30
20
10
-
Supply
1996
1997
1998
1999
2000
2001
2002
2003
2004
Year
NYC price
APC price
(bags million)

African Plantations Company Ltd

Financial Structure

Year	WACC	D/E Ratio	Price
1997	13%	0%	211
1998	13%	0%	147
1999	13%	0%	103
2000	9%	39%	86
2001	11%	50%	53
2002	12%	48%	55
2003	12%	53%	65
2004	10%	47%	80
2005	10%	39%	-
2006	10%	25%	-
2007	13%	0%	-
2008	13%	0%	-