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**Future global, EU and UK markets
for milk and milk products –
*implications for the UK dairy industry***

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1 Overview of the world dairy situation: changes, trends and challenges for the dairy industry

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PRODUCTION TRENDS

The production trend for the basic material of the world's dairy industry - milk - is perhaps unique amongst agricultural commodities in that it changes little (by 1 or 2%) from year to year. There are a number of reasons for this. Firstly, most milk production (65%) is concentrated in the developed countries. Output in many of these countries is limited by production restraints (European Union (EU), Japan, Canada, Norway, Switzerland). Elsewhere, the trend for the United States (US), the largest milk producing country, has been for milk production to increase by only slightly more than 1% per year. As the above mentioned countries as a group account for just over 40% of world milk output, it is not surprising that they act as a significant restraint on the growth of milk production at the world level. Within what might appear to be a situation changing little globally, it must be recognised that there are also counterbalancing forces at play. Over recent years, substantial growth in milk output in Asia, Latin America and Oceania has been offset by a steep decline in output in eastern Europe and the former USSR.

Looking to the future, it is expected that in the medium term (the next ten years), there will be strong growth in milk output in the areas of the world where consumption is registering the fastest growth, namely Asia (India, Pakistan and China) and Latin America (Argentina, Brazil, Chile and Uruguay). Good growth prospects also exist for Oceania, stimulated by export demand. Continued slow growth in the US is probable, which should remain in line with growth in domestic demand.

A gradual recovery is expected in output amongst eastern European countries but domestic demand may grow more slowly, opening the way to an increased presence on export markets, in some cases through the use of export subsidies. Export growth may, however, be constrained by rising domestic prices. In the short-term, a further decline in the overall output of the Commonwealth of Independent States (CIS) is foreseen. Perhaps in the medium-term (5-10 years), milk output may stabilise, albeit at a much lower level than that prevailing at the start of the decade.

Taken as a whole, the trends outlined above are expected to result in a shifting of the balance of milk production away from the developed countries to the developing countries. By 2005, developing countries are anticipated to account for over 40% of world milk production, a share which could be expected to grow further during the course of the next century. Additionally, the shifting of the balance of production towards the developing countries will also imply the increased importance of milk other than that from cows in the total picture of world production. For example, while 99% of the milk output of the developed countries comes from cows, a third of milk production in the developing countries comes from other animals (buffaloes, sheep, goats and camels). Buffalo milk, in particular, accounts for a significant (10%) share of world milk production, with a substantial proportion being produced in India, where it constitutes 55% of the 70 million tons of milk produced.

MARKET TRENDS

On the international level, the market for milk and milk products will be affected by a number of elements relating both to the general economic and social situation and to specific developments in the dairy market. Some important factors are expected to be:

- increased urbanisation and income growth in the developing countries;
- growing power of supermarkets;
- increased market concentration.

Increased urbanisation and income growth in the developing countries

As happened in the developed countries, the population of the developing countries is becoming increasingly urbanised. At present, it is estimated that 45% of the world's population lives in urban areas. For example, most of Latin America is as urban as Europe, with 74% of the population living in urban areas. Asia is also urbanising rapidly, with even such traditionally rural countries as China and India now having hundreds of millions of people in towns and cities. Confirmation of this tendency comes from United Nations' projections which predict that out of 26 "urban agglomerations" of more than 10 million people in 2015, twenty-two will be in developing countries.

Urbanisation is generally accompanied by increased disposable income and access to a greater variety of food. One facet of this situation is the increased consumption of high-value foods, such as milk and milk products. Here, the fact that urbanisation is also characterised by the general provision of electricity, and hence the potential for developing an extended cool chain, is of particular importance for a highly perishable product such as milk. In such a situation, household expenditure shifts from tinned and dried milk products,

which do not require refrigeration, to the wide range of dairy products which can be found in any of today's supermarkets.

Growing power of supermarkets

As urbanisation leads to a concentration of population, so the way in which food is marketed is becoming more concentrated in all countries. One manifestation of this is the increased importance of supermarkets. In a number of countries, the concentration of food distribution in the hands of a relatively small number of companies gives such firms a great deal of power in negotiating prices and deciding what products will be presented to the consumer. The movement towards food distribution through supermarkets is a world-wide phenomenon and is not limited to the developed countries only. For example, in Argentina, 60% of food is purchased through supermarkets. For dairy products, the spread of supermarkets is particularly important as they offer both refrigeration capacity and space to display a wide range of fresh dairy products, thereby acting as a stimulus to increased consumption. A parallel trend in many countries is the rapid expansion of sales of UHT milk. For example, in Brazil, sales of this type of milk have risen from virtually nothing five years ago to 50% of the liquid milk market at present.

Increased market concentration

The growth of supermarkets is in itself one instance of the way in which economic activities are becoming more concentrated; however, this applies to many sectors - dairying included. Thus, for example, in Denmark, a single co-operative - MD Foods - accounts for two-thirds of the milk processed and 85% of the country's exports of dairy products. Similarly, in Uruguay a single co-operative, Conapole, processes 80% of the country's milk production and is responsible for 85% of exports. Again, in Israel, a single co-operative, Tnuva, processes 70% of national milk production.

In the instances cited above, a predominant position has been achieved through a consolidation of the company's position in the national market. In other cases, and especially in the expanding dairy markets of Asia and Latin America, a common phenomenon is for international dairy companies to acquire, and then expand, national processing capacity. For example, in Venezuela, two companies account for 85% of powdered milk produced. The first of these, Indulac, is owned by Parmalat and the second, Ilapeca, is partly owned by the New Zealand Dairy Board. Chile is another country where multi-national companies account for a substantial proportion of milk processed.

CONSUMPTION TRENDS

In terms of consumption, a number of changes in the international dairy market can be identified. Of particular note are:

- the importance of brands;

- emphasis on quality/health;
- increased segmentation of consumption;
- changes in eating habits.

The importance of brands

In some cases, the involvement of an international company in a country's dairy sector is immediately apparent; for example, Nestlé may offer the same products in a number of countries, generally displaying the company's name prominently on the packaging. In other instances, the connection between the product and the producing company may be less clear. For example, an existing brand name may be acquired and the original packaging maintained, frequently without the new owner's name being prominently displayed. Staying with the example of Nestlé, the company's ownership of the Carnation brand of evaporated milk would be a case in point.

The 'globalisation' of products through brands is an increasingly important facet on the international market-place. Some features of a top international brand are:

- it has international coverage and recognition; and
- it enjoys a premier position in the market.

Consumers are attracted to such brands because they are (a) a known quantity and (b) represent a known quality. The premier market position and customer loyalty which characterise international brands have a value. One recent study placed a value of \$35 billion on the world's best-known brand - Coca Cola. Another brand, Kodak, had an estimated value of \$10 billion. An additional feature of international brands is that, through distinctive design and packaging, for example the Perrier mineral water bottle or the Campbell's soup can, they are instantly recognisable, even to someone who does not speak the language of the particular country in which he finds himself.

In terms of dairy products, some brands which spring to mind are: Kraft's Philadelphia Cream Cheese; KerryGold and Lurpak butter; Danone and Yoplait yoghurts; and Anchor, Fernleaf and Nido dried milk. To this list we could also add DOC cheeses. At the same time, at least at the level of international trade, it needs to be remembered that dairy products, with the partial exception of cheese, are generally traded as bulk products for reprocessing; however, the world is changing. For example, 25% of the value of New Zealand's exports now comes from branded consumer packs. This development has also facilitated the evolution of niche market products geared to a specific market or group of consumers. Examples of this would be the development of calcium-enriched milk for the South East Asian market, where osteoporosis is a health concern. Similarly, low-lactose milk powder,

such as the New Zealand Dairy Board's Jental, was developed with a view to the large lactose intolerant population in South East Asia. In keeping with the theme of 'globalisation' both calcium-enriched and low-lactose milk have since made their appearance in other continents.

Emphasis on quality/health

It is news to no-one that today's consumer is increasingly interested in the quality and health benefits of what he eats. In this respect, dairy products have been an overall winner. Milk and milk products generally enjoy a positive image both in terms of quality and health benefits. Butter, and dairy fat in general, have fared less well, although it would appear that in most countries butter is once again being seen as a 'natural' product. On top of the intrinsic nutritional value of dairy products, a trend towards adding additional elements can be identified. One example of this is mineral- and vitamin-enriched milk; another is the use of 'organic' or 'biological' fruit for yoghurt flavouring; and, yet again, the promotion of 'probiotic' yoghurts, where the bacterial culture used is claimed to be health enhancing.

Running counter to health-conscious eating, is a trend towards full-tasting products. In this case, a consumer may choose to eat full-fat products such as cheese, ice-cream or desserts, for the simple pleasure of eating, choosing to disregard any concerns about health. To give one example, in the US, production of full-fat ice-cream began to increase in the early 1990s, after many years of decline, while the reverse trend has been seen for low-fat ice-cream.

Increased segmentation of consumption

A glance at the dairy counter of any large supermarket is sufficient to demonstrate the vast array of forms in which milk is presented. For milk itself, where once there might have been simply milk, milk is now available in a multitude of fat combinations, enriched or flavoured in varying ways, and aimed at various sections of the market - pregnant women, breast-feeding mothers, toddlers, children, adolescents, slimmers, active adults and pensioners. This is repeated for the dairy products, be they cheese, desserts or yoghurts. Thus, a fruit yoghurt in Thailand emphasises health and low calories and is targeted at young women; in Europe, a drinking yoghurt in a bright container and featuring a cartoon character on the packaging is aimed at children (a highly receptive audience as any parent who shops with children will readily acknowledge); elsewhere, a drinking yoghurt fortified with vitamins is aimed at active women between the ages of 30 and 40: the list goes on. In this respect, dairy could be termed the 'greeting cards' industry of the food world: it often seems as if a product is available for every age and occasion. In some countries with mature markets for dairy products, especially for drinking milk, such segmentation is reflected in increased market returns, as such products are sold at a premium over standard ones, rather than growth in the size of the overall market. As an example of potential for increased returns, in Italy, fortified milk aimed at specific groups of the population retails at a 30% premium over standard milk. Similarly, in

Germany, unflavoured probiotic yoghurt retails at a 70% premium over standard yoghurt.

Changes in eating habits

The moment of truth for any food product is its arrival at its final destination: the consumer's mouth. While eating and drinking are, of course, fundamental activities, the way in which food is eaten, the place where it is eaten and the company in which it is eaten are all changing. These changes have important implications for the market for dairy products.

In many countries, the main growth in food expenditure is in the area of food eaten outside the home, while for meals eaten in the home there is more emphasis on pre-prepared dishes and snack foods. The growth in consumption of food outside the home has brought several challenges to the dairy industry, especially as its products are so closely associated with the domestic kitchen, and in particular, the refrigerator. Here dairy products have been slower than many other food groups to move easily into the 'meals away from home' sector. Perhaps, perishability (of fresh milk) and the general need for refrigeration have been the two principal constraints.

Dairy products are, however, being adapted to these changes. For example, standard packaging of milk in litre and half-litre containers, is well-adapted to home consumption, but not well-adapted to competing with soft drinks sold from vending machines. For this market, the size of the packaging needs to change (often to between 200 and 350 ml) to encourage sales of milk products, such as flavoured milk and chilled coffee, which can compete with soft drinks. Originally, the marketing of this type of product was mainly in Asia, for example Japan, Malaysia, Thailand and Indonesia, where milk does not traditionally form an important part of the national diet. Here, dairy products are in general not consumed at the principal meals of the day and milk, often flavoured, is drunk in similar situations to soft drinks. In other continents, the recent popularity of small containers of drinking yoghurt, also usually consumed between meals, has mirrored this trend. Growth in the market for sports drinks, many of which are based on milk protein, is another instance of consumption of dairy products moving out of the home.

As more meals are eaten outside the home, so food is more often consumed with friends and associates, rather than family members. In such cases, the use and values associated with food changes. Thus, cheese, once it moves outside the home, is often portrayed in advertising as being a 'fun', even sensuous, food to be shared between friends.

One highly visible manifestation of the growth in eating outside the home is the fast-food industry. In considering this phenomenon, it is useful to reconsider the characteristics associated with premier brands discussed above. The most important companies in this sector are all distinguishable by the following characteristics:

- high-level of international coverage and recognition;
- premier position in the market;
- known quality.

As regards the last point, the secret of the success of these companies is not that they can transform \$2-worth of food into a \$5 meal; rather, that they can repeat the process millions of times, in dozens of countries, and produce a consistent product. As many items on the menus of these companies contain milk products, the growth of this sector has also influenced the dairy sector.

Of these types of restaurants, those specialising in pizza immediately spring to mind as users of dairy products; however, hamburger chains are also important users of cheese, milk and whey powder. For example, McDonald's in Australia uses one kg of cheese for every four kg of beef. If this figure is considered in terms of McDonald's global coverage - 21 000 restaurants in 101 countries - it amounts to a substantial amount of cheese. Just as the coverage of these companies is international, so are their sources of supply. For example, Pizza Hut in Japan is supplied with mozzarella by New Zealand, while the same company in Brazil buys its mozzarella in the US. Similarly, the New Zealand Dairy Board has had a contract to supply cheese slices to McDonald's since 1992 and currently supplies their restaurants in 16 countries, mainly in South East Asia.

One effect of the growth of fast-food chains has been that, especially in South East Asia, dairy products have been introduced, and enjoyed, in countries where they do not form part of the national cuisine. Cheese is an interesting case in point. In countries where there is no tradition of cheese consumption, cheese is viewed by the average consumer as being smelly and bad tasting and may even be regarded as poisonous. However, with the spread of fast-food chains, cheese, albeit mild varieties, has gained a much more positive image. This is reflected in the trade statistics for many South East Asian countries, where cheese imports are dominated by mozzarella and sliced cheese.

TRADE OUTLOOK

The World Trade Organization's (WTO) Uruguay Round Agreement has had important consequences for the trade in dairy products. Principal amongst these have been increased access to major markets and reductions in the volume and value of subsidised exports. Members of the Agreement are committed to initiating negotiations for continuing the reform process one year before the end of the implementation period. These would, therefore, begin in 1999. A future WTO agreement could have an important effect on world dairy trade. For example, if members were to agree to abolish subsidised exports, this would significantly affect world trade as the US and the EU

currently account for almost half of dairy product exports, most of it subsidised.

At the beginning of this paper, Asia and Latin America were identified as the areas most likely to see the strongest growth in consumption of dairy products. These are also regions where domestic production is expected to expand most rapidly. In a number of countries, demand is expected to grow more quickly than domestic supply and, as such, they will also be important importers. A summary of the main importing countries in each region, along with the dairy products, which are expected to be most requested, is presented below.

In South East Asia, since the latter part of 1997, the falling value of many regional currencies has led many countries in the region to reduce their imports, including dairy products - which some observers estimate to be down by as much as 30%. Since the start of the year, the situation in number of countries in the region has improved and this can be expected to result in some recovery of demand for dairy products. The main countries which are expected to see long-term growth in their imports of dairy products are: the Philippines, Malaysia, Thailand, China, Singapore, Vietnam. Products which will be in most demand in the regional market are: UHT milk; milk powder, especially for school-based programmes; flavoured milk; ice-cream; yoghurt; fast-food related products (mozzarella, sliced cheese); and niche products - calcium-rich, low-lactose, etc.

In Latin America, the traditional importing countries (Mexico, Brazil, Venezuela and Peru) are expected to remain the markets for dairy products. Demand is expected to focus on UHT milk, milk powder, especially for government-sponsored feeding programmes, cheese (white, mild flavoured) and cheese slices, yoghurt, desserts, ice-cream and caramelised milk (Brazil only).

In terms of which countries will meet this import demand, the following scenario could be imagined:

The EU, currently the world's largest exporter of dairy products, will lose market share to non-subsidising exporting countries

This will apply mainly to cheese, which is the dairy commodity most constrained by the WTO's Uruguay Round Agreement. Here, however, it needs to be borne in mind that trade in cheese between EU member countries is 50% larger than the international market as a whole for cheese and is expanding. Such reductions in subsidised exports represent a movement away from trade based on bulk surplus disposal which has characterised EU exports of dairy products since the 1980s and open the way for the development of more market-orientated commerce.

The main beneficiaries will be Australia and New Zealand

Milk production is growing steadily in each country and, as both have mature domestic markets, any increase in output is destined primarily for export. Jointly, milk production in both countries could increase by 3-4 million tons (an amount equal to Austria's annual production) over the next five years. A word of caution, milk production in both countries relies heavily on grazing and, as such, is sensitive to weather conditions.

The US could increase the volume of its non-subsidised exports

A substantial proportion of US dairy exports are subsidised by the Dairy Export Incentives Programme (DEIP); however, activity under this programme will be reduced as a result of Uruguay Round commitments. The US also exports some dairy products without subsidy (cream cheese, condensed milk, whey powder and ice-cream) and these might conceivably expand in the future. However, at least in the short-term (the next five years), the domestic market is expected to remain the focus of the US industry.

Low-cost milk producing countries could see their exports grow

Outside Oceania, low-cost milk producing countries can be divided into three main groups: Eastern Europe (Poland and the Czech Republic), South America (Uruguay, Argentina and Chile) and Southern Africa (South Africa, Zimbabwe and Malawi). Of these countries, those in South America have in recent years seen substantial growth in their output, averaging 7% annually. In the case of Argentina and Uruguay, an important part of this increase has gone into exports, especially to countries in the region. In the case of Eastern Europe, there are already signs that milk prices are rising and this, combined with policy changes designed to align these countries for eventual membership of the EU, may reduce their future presence on the international market. For the countries of southern Africa, their immediate market prospects will remain regional. Lastly, India, a low-priced milk-producing country, is also set to become the world's largest milk-producing country. There, however, growth in internal demand is expected to keep exports at minimal levels for a number of years to come.

CHALLENGES FOR THE UK DAIRY INDUSTRY

The European Commission's Agenda 2000 report demonstrates that the policy instruments of the Common Agriculture Policy (CAP) - milk quotas, price support through intervention purchases, protection from non-EU imports and export subsidies - will continue to constitute the environment within which the UK dairy industry will operate at least until 2005.

Given the high prices, in international terms, prevailing for dairy products within the EU internal market, the first major challenge to the UK industry would be to make full use of the opportunities presented in its domestic and the wider EU markets. For example, the Danish cheese industry has been harder hit than most by the loss of external markets and is in the process of

reorientating itself towards the internal market. In terms of trading with the rest of the world, the EU dairy industry could be expected to make full use of export subsidies allowed within the limits of the Uruguay Round Agreement. However, it has already been noted that such subsidies have been reduced and may diminish further in the future. In view of this, the UK needs to look to its comparative advantage in the export market. Assuming the CAP does not undergo substantial revision, any such advantage must derive from adding value to the products the UK exports. Many higher value products derive a significant part of their value from their uniqueness. A case in point would be classic English cheeses, such as Stilton, which other countries can only aim to imitate but not equal. As a unique product, such cheeses can command a premium in the market-place. Leading on from this, the promotion of branded products, such as ice-creams or yoghurts, and prepared products, such as frozen pizzas, where dairy products are an important component, present opportunities to increase value and so be sold on external markets without export subsidies.

Of course, increased value generally comes with increased processing costs, which must be recovered in the product's marketing margin. Also, in volume terms, there would be a long way to go before subsidy-free exports of these products were sufficient to compensate for a significant reduction of the current subsidised export of bulk products such as milk powder, butter and butter oil and Cheddar cheese. Here, I would go back to my earlier point of taking best advantage of the opportunities offered by the UK and EU markets. My own feeling is that, like it or not, these will be the cards that the industry will be dealt in the future: it is up to the industry to 'play its hand' to its best advantage.

In summary, the future of the world dairy market looks bright: demand is increasing and production is rising in several regions. In terms of trade, the regions which are expected to benefit most from any increase in world demand for dairy products are those which have low costs of production and are able to export their products without the aid of subsidies. Undoubtedly, the dairy market of the future will be much more diversified in terms of products and their packaging, and it is here that countries with relatively high milk prices, such as the UK, can potentially fill niche markets. The future market will not be one of anonymous bulk products; rather, it will be focused on providing a range of highly specified products, tailored to meet the needs of ever-more demanding consumers throughout the world.

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