

Chapter 9

Dairy

Market situation

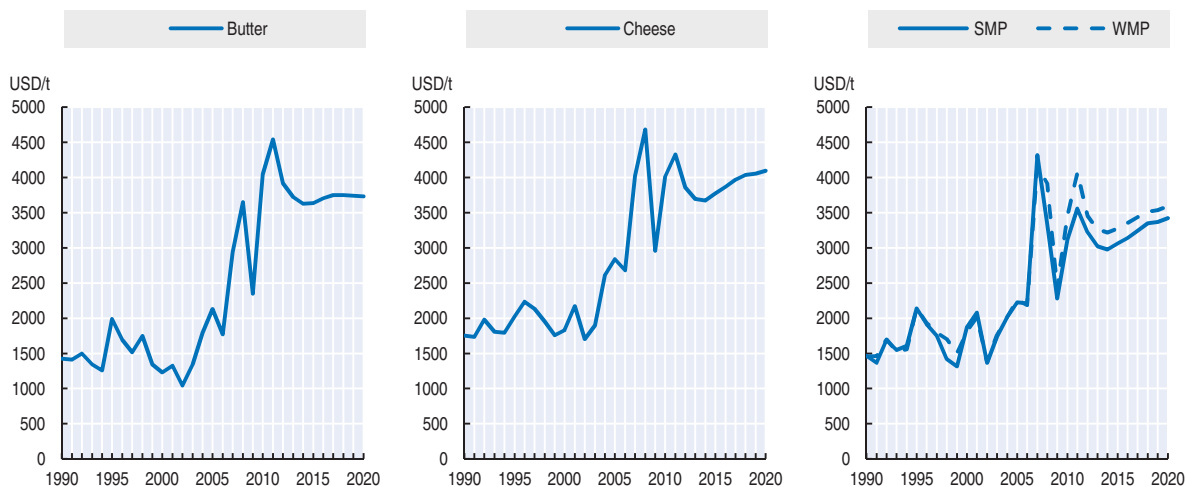
After sharply increasing (2007), dramatically falling (2008) and quickly rebounding (2009), international dairy prices remained at relatively high but stable levels over much of 2010. Toward the end of the year and early 2011, global prices strengthened rapidly but stayed well below the peak levels of 2007/08 with the exception of record high butter prices (Oceania). Much of the strength in the dairy markets could have been attributed to a combination of strong demand in the Russian Federation and South East Asia, and constrained supplies from Oceania. Imports of milk powders to China have soared, fuelled by rising income but also food safety concerns, in the aftermath of the milk adulteration incidents. Steep increases in grain and energy prices have put upward pressure on feed costs, curtailed supply expansion and have been additional factors underpinning prices. The global dairy sector is entering into a decade of relatively high prices, continuing strong demand for milk and dairy products but also higher production costs and possibly continued market variability. The outlook period starts amid geopolitical turmoil in North Africa and Middle East, the uncertain impact of the earthquake tragedy in Japan, and a global economy adjusting to higher energy costs.

Projection highlights

- After a downward correction from peak 2011 levels, international dairy prices are expected to rise in nominal terms while remaining relatively flat in real terms (Figures 9.1 and 9.2). On average, world market prices in real terms are expected to be 10% (SMP) to 40% (butter) higher over the projection period compared with the previous decade.
- Popularity of dairy products, westernisation of diets and the increasing range of dairy products continue to be the key drivers underpinning dairy markets worldwide. The dairy sector remains among the fastest growing sectors covered in the *Outlook*. In the next 10 years, world milk production is projected to increase by 153 Mt. The majority of the growth is anticipated to come from developing countries. The average growth rate for the projection period is estimated at 1.9%, slightly below the 2.1% level witnessed in the last decade.
- World production of WMP, butter and fresh dairy products (FDP) is expected to grow 26% by 2020, while cheese and SMP would gain 19% and 15% as compared to the base period, 2008-10. After years of stagnation, the recent return of SMP and butter trade growth is expected to continue and SMP and butter trade is projected to increase by 30% and 10% respectively. Cheese and WMP powder trade is anticipated to grow by more than 20%.
- The magnitude of potential Chinese imports remains an important uncertainty in this *Outlook*. Dairy product imports to China are projected to stay above historical averages, stimulated by domestic food safety concerns in the short run, growing incomes and a strengthening yuan over the projection period.

Figure 9.1. **After a downward correction prices continue rising in nominal terms**

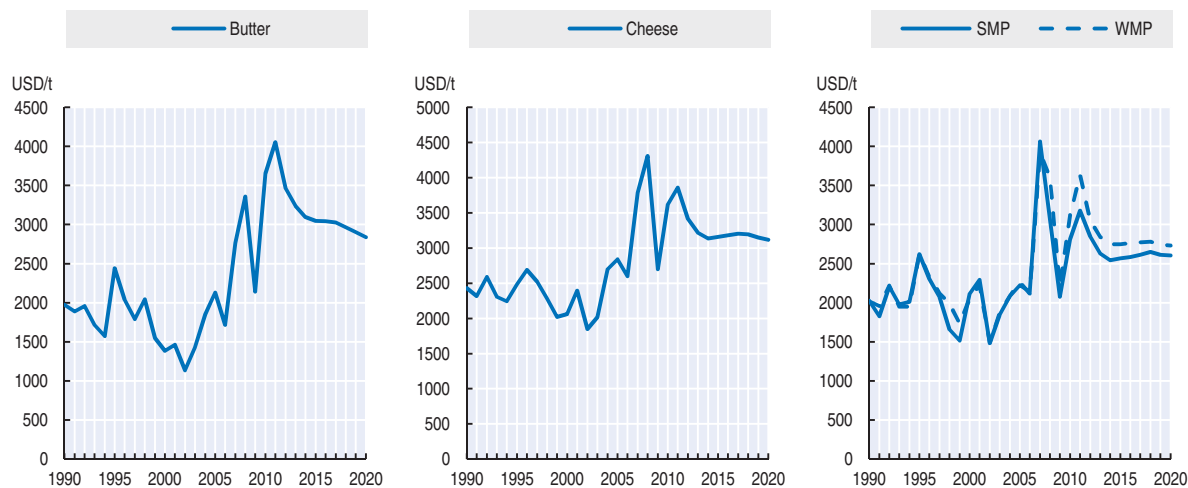
World dairy prices in nominal terms



Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427265>Figure 9.2. **Prices in real terms are expected to stay relatively flat**

World dairy prices in real terms (2005 USD)



Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427284>

Market trends and prospects

Prices

After peaking in 2011, global dairy product prices are expected to ease as demand adjusts and as supply responds, particularly in Oceania. High production costs are expected to moderate the price fall despite the fact that feed prices are likely to decrease over the short run and dairy producers are expected to further adjust their practices to mitigate impact of higher costs.

The projected decline in international prices is expected to be short lived, and followed by a subsequent rise in nominal terms of about 2% p.a. on average (Figure 9.1). Prices in real terms are anticipated to stay relatively flat, although at levels well above those of the previous decade (Figure 9.2). Growing demand stimulated by rising population and income, especially in developing countries, underlines the firmness in prices over the medium term. Over the Outlook period, prices in real terms are expected to average between 10% (SMP) and 40% (butter) higher than the last decade. The relative strength in prices stems, not only from continuing strong demand, but also from higher feed prices and other production costs, such as energy, labour and land.

Butter prices, for decades typically below other dairy price quotations, strengthened with the structural shift in energy prices and corresponding increase in other fats and oils prices. The relative strength in butter prices is expected to adjust only slowly over the projection period as emerging exporters concentrate more on milk powders.

The outlook price projections reflect the usual assumptions of stability in weather and in economic and policy conditions. Under these “normal” conditions, prices are not expected to surpass the peak levels of 2007/08 or 2011 by the end of the projection period. However, actual price outcomes are likely to exhibit significant annual variations around the projected trend.

Production

Milk production

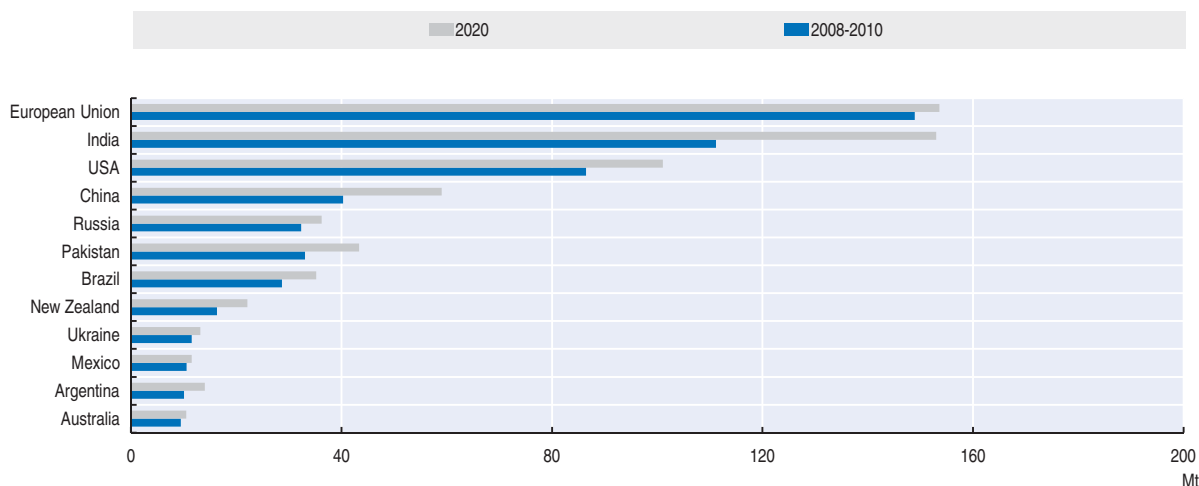
After stagnating in 2009, milk production rebounded in 2010 and is expected to grow initially in excess of 2% annually for the next three years, causing prices to decline. As prices adjust downward, the growth in milk production after 2013 is expected to be less vigorous. The average annual growth for the next ten years is projected at 1.9%, compared with the 2.1% average annual growth experienced in the past decade.

Between 2010 and 2020, world milk production is projected to increase by 153 Mt. The majority, 73%, of the additional milk production is anticipated to come from developing countries. India and China alone account for 38% of global gains. The global milk production share of developed countries is expected to fall below 50% while the milking animals share drops below 10% by 2020. In contrast, the share of LDCs in global milk production will remain at only 4% while their share in global animal inventories is nearly 30%. The large disparity between the share of milk production and inventories between developing and developed countries is, to a large extent, a consequence of an enormous gap in milk yields, but also the reliance on sheep, goats and camels as milk animals, which have inherently lower yields than milk cows.

Regional differences in production growth depend on the market and policy context, the milk-feed price ratio, competition for land and water and environmental constraints (Figure 9.3). In the context of higher energy and feed prices, pasture based milk producing

Figure 9.3. **Substantial regional differences in production growth remain**

Milk production growth (2008/10 – 2020)



Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427303>

systems, such as those of Oceania and Latin America, are expected to strengthen their comparative advantage relative to grain fed systems, although they would remain heavily conditioned by weather patterns. Some of these regional differences are noted below.

New Zealand: following the weather related slowdown in 2010, milk production is expected to rebound and increase rapidly in the next few years. After 2013, production expansion is expected to decelerate. The conversion of sheep and beef farms to dairy farms is expected to continue, mainly in the South Island. The annual growth rate is projected to average 2.3% over the Outlook period – such growth is, however, dependent on normal weather and pasture growth.

Australia: milk production is expected to increase as water availability for irrigation has substantially improved. In the second half of the projection period, the growth is expected to slow down bringing the average annual growth over the projection period to 1.2%. Although farmers continue to adopt management strategies to alleviate water constraints – water availability remains a key factor for the medium term prospects.

European Union: with increasing producer prices, farm returns improved and the tense “milk crisis” situation on the domestic market has calmed. However, despite higher producer prices, increased costs will hinder the supply response. As a result, milk deliveries are not expected to keep pace with the annual increase in production quota over the quota phasing out period. After the announced 2015 quota abolition, milk production is expected to continue growing by 0.3% annually but EU milk deliveries are projected to remain below the expired quota level even in 2020.

United States: the milk price to feed ratio improved from the depressed 2009 levels and helped to reverse the decline in cow inventories. Despite a short run increase, the trend in cow numbers is expected to continue and decline moderately over the medium term. Production is expected to grow by 1.4% annually as yield gains more than offset the modest reductions in cow numbers.

Latin America: milk production in Argentina is expected to reach record levels. Investment and improved management efficiency are expected to drive milk production gains in the future. Milk production is expected to grow by nearly 3% p.a. The potential for even higher growth is hindered by high land prices and competition mainly from the soybeans sector. Brazil's milk production is projected to grow by 1.7% p.a., stimulated by increased domestic consumption. Profit margins, currently squeezed by high feed prices and a strong real, are expected to improve over the medium term on the assumptions of a weakening real, some reduction of feed costs, and increased productivity gains.

China: after years of double digit growth, the dairy industry is still struggling in the aftermath of its 2008 melamine crisis. A higher incidence of animal disease and recent alerts on milk adulteration with leather protein are factors adding to the malaise. The government is stepping up efforts to prevent further milk adulteration and to improve consumer confidence in domestically produced products. Milk production is expected to grow at 3.3% annually on average. This is much slower growth than that seen in the last decade as the focus moves increasingly from milk quantity to milk quality.

The growth in milk production in other developing countries is anticipated to be relatively strong. Milk production in India, the world's largest milk producer, will slow somewhat compared to the past decade but still grow by almost 3% p.a. Other countries in Asia, which are not traditional milk producing countries, will also continue to expand, but will also expand imports of dairy products to sustain growing domestic demand. Growth in yields, from a low base will continue to account for most of milk production gains. More milk production will originate from milk cows, as opposed to other sources, such as goat, sheep, camel and buffalo milk which are important sources of milk production in many countries.

Dairy products production

After a decline in production related to reductions in China, global WMP production rebounded in 2010 and is expected to be one of the fastest growing products along with butter and FDP. As compared to the base period, 2008-10, WMP, butter and FDP are expected to grow by 26%, while cheese and SMP would gain 19% and 15%.

Nearly three-quarters of all additional butter produced globally is expected to come from India and Pakistan. New Zealand and the US would contribute another 10%. Most of the additional global production of SMP is expected from New Zealand (33%), the US (24%) and India (18%). The global SMP gains are heavily tempered by lower production in the EU, which is to be overtaken by the US as the largest SMP producer.

The EU and the US continue to dominate global cheese production with a two-thirds share of the total. Together they are responsible for 55% of expected additional global cheese output. Despite the projected lower annual growth, China is expected to remain the largest WMP supplier, producing more than a quarter of global quantities. New Zealand WMP production is projected to expand following the gains in New Zealand milk production. China and New Zealand together account for two-thirds of all WMP production expansion.

Consumption

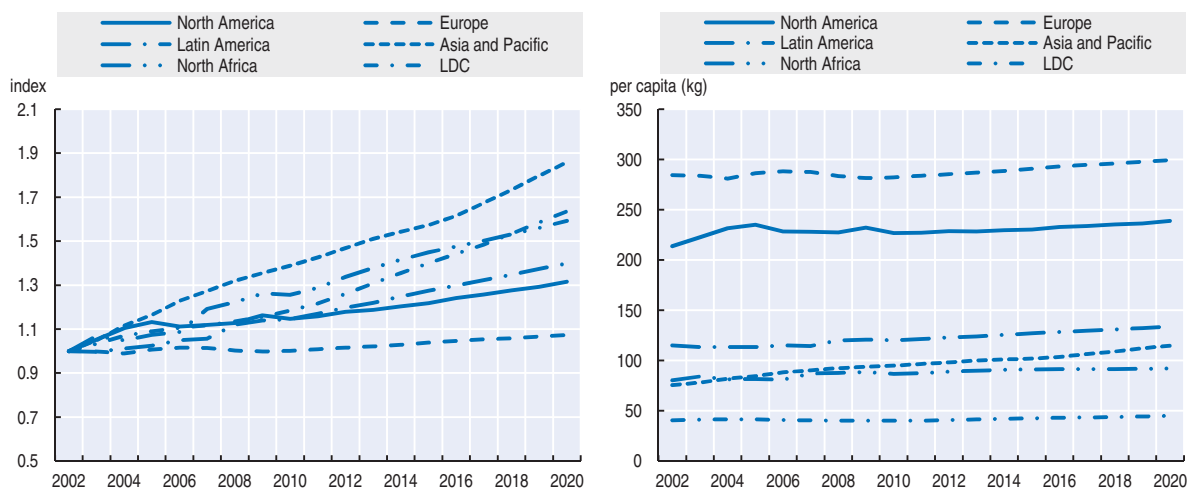
Increasing population and income, together with the growing popularity of dairy products, particularly among developing country consumers is a key factor behind strong demand in the medium term. Demand continues to be encouraged by the growing influence of retail chains and multinational companies in these countries, which is

facilitating improved consumer access to dairy products. Also, in many countries consumption is enhanced by government programmes (i.e. school milk).

The demand for milk and dairy products is expected to remain particularly strong in important developing dairy markets such as North Africa, the Middle East and East Asia, but also in more mature markets such as those in the European Union, the United States and Russia. The rate of growth and *per capita* consumption of milk and milk products remains significantly different among regions (Figure 9.4). LDC countries consume less than 50 kg per person per year on average, compared with 100 kg per person for developing countries, while the developed regions of North America and Europe consume well in excess of 200 kg per person (in milk equivalent). Such a *per capita* consumption disparity represents an investment potential and future opportunities for both the domestic and global dairy sectors.

Figure 9.4. Large disparity in consumption levels and growth

Left panel: Index of milk and dairy products consumption growth (in milk equivalent, 2002=1)
Right panel: Levels of milk and dairy products per capita consumption growth (in milk equivalent)



Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427322>

Dairy product consumption in developed countries may increase only modestly, with the exception of cheese, for which growth may be 16% by 2020 as compared to the 2008-10 base period. New packaging technology, more convenience and possible substitutability with meats help boosting cheese consumption. In developing regions the consumption of all products increases vigorously at around 30% from the base period, driven by increasing population and income levels. Strong growth for butter comes primarily from increased demand for butter and ghee in India and Pakistan. A modest increase in butter consumption in developed countries results from a recovery of butter consumption in the Russian Federation and steady growth in the US. Developing countries dominate consumption of WMP, with an 80% of global WMP consumption share, and will account for nearly all additional WMP consumption over the Outlook period.

Trade

Oceania (New Zealand and Australia) is expected to remain the most significant exporter region, with a more than 40% share of the global export market. The dominant

market position of New Zealand and Australia will, however, keep global markets under the influence of the region's weather and production conditions (Box 9.1).

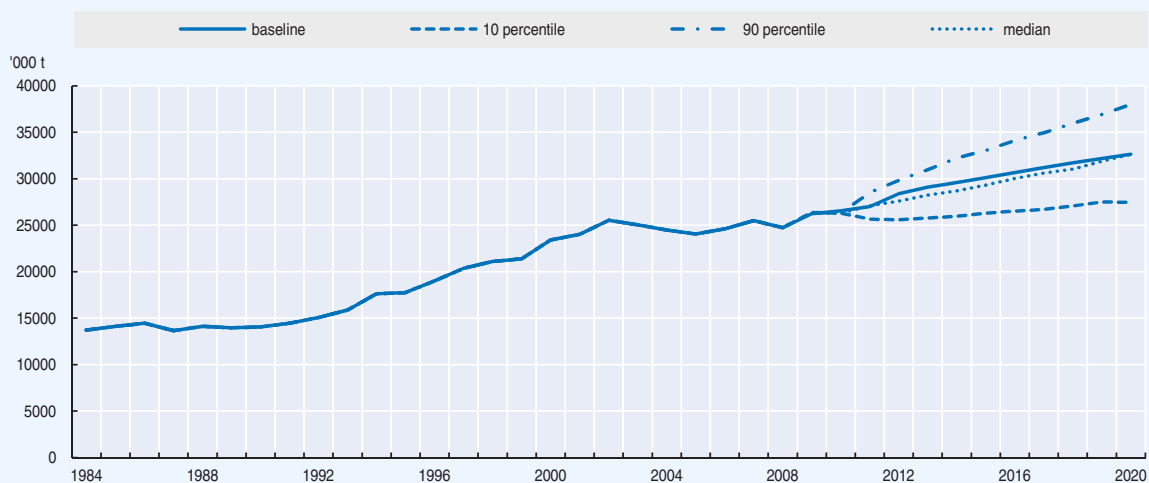
The situation of stable trade volumes for SMP and declines for butter over much of the last decade changed recently as both categories showed remarkable growth. This growth is expected to continue and SMP trade is projected to increase by 30% over the base period, mainly the result of more exports from Oceania and the US, and of importers substituting away from higher priced WMP. Global butter exports are expected to increase by 10% while

Box 9.1. Production patterns in Oceania – impacts on global dairy markets

New Zealand and Australia (Oceania) presence on the international dairy markets has increased considerably after the elimination of domestic support and deregulation, but also after reduced market participation of some traditional exporters (notably from the EU).¹ The global export market share of Oceania has risen from 20% in the 1980s to more than 40% today. The region has become an important driver of global dairy markets with milk production predominantly based on lower cost pasture systems that are less influenced by movements in feedstock prices but more dependent on weather conditions.

The baseline underlying the medium term outlook is deterministic and assumes normal weather and production conditions. A stochastic analysis, using the Aglink-Cosimo model, was applied to illustrate the uncertainties around production levels, based on historical experiences, and the resulting impacts on global dairy markets.² The analysis clearly indicates that Oceania production conditions can have a substantial influence on global dairy markets. Although dairy farmers in Oceania are constantly learning to mitigate the impacts of adverse weather (i.e. better water management), the weather swings in the region will continue to inflict uncertainties on the global dairy markets.³

Figure 9.5. Oceania production levels – Monte Carlo draws



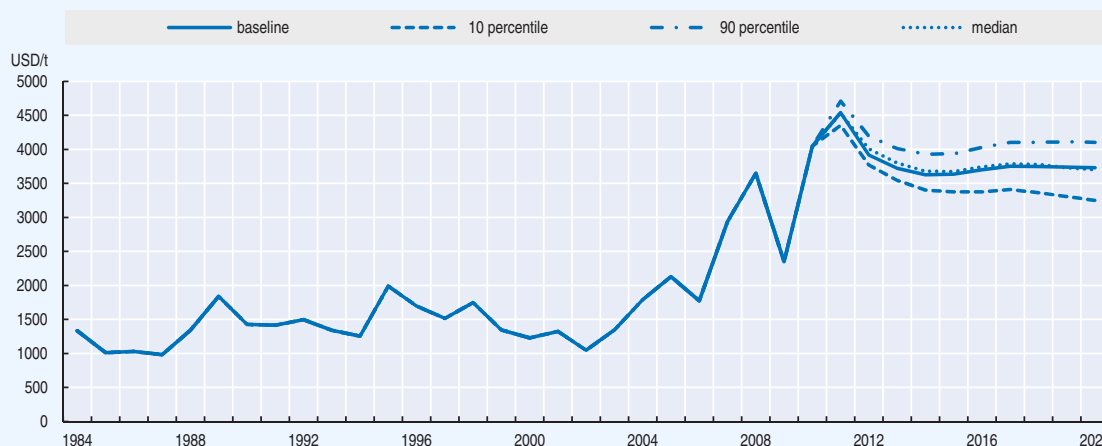
Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427341>

The results of 500 Monte Carlo simulations, inputs into 500 scenario model runs, show Oceania milk production ranging from 27.4 Mt (10th perc.) to 37.9 Mt (90th perc.) by 2020. The median values of the production distribution are slightly below the baseline, which reflects an expected recovery in New Zealand production and strong short-run growth prospects in Australia following the plentiful rain that replenished reservoirs, ending the 7-year drought.

Box 9.1. Production patterns in Oceania – impacts on global dairy markets (cont.)

Figure 9.6. Simulation results for world butter prices

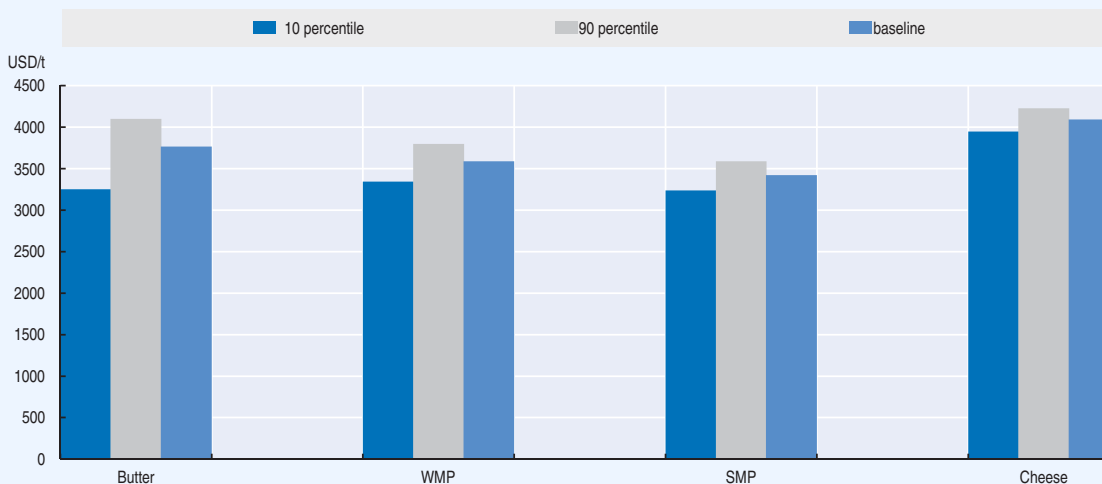


Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427360>

The results of the model simulations illustrate a relatively wide range of plausible values for world butter prices, from USD 3 250/t (10th perc.) to USD 4 100/t (90th perc.) by 2020. The baseline and median are nearly identical at the end of the projection period but baseline values are slightly below the median in the short run, consistent with the assumption of strong supply response and more favourable hydrologic situation in the Oceania region.

Figure 9.7. Results for world dairy prices in 2020



Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932427379>

The impacts on world dairy prices differ considerably by product. The most affected commodity (from the right to the left) and the widest possible range of results is for butter which stems from the dominant butter export position of New Zealand. Cheese is affected the least as Oceania has a lower export market share.

1. In Australia, structural adjustments after the deregulation in year 2000 coincided with series of droughts which, in fact, resulted in the reduction of domestic milk output.
2. Variance/covariance matrices were constructed to build multivariate distributions based on annual historical milk production levels in Australia and New Zealand between 1970 and 2010 in order to account for correlated impacts of extreme weather events on both countries. The 10th and 90th percentiles do not represent low and high extremes but rather plausible alternatives based on past variations in Oceania production patterns.
3. It is important to note that the historical production variation is determined by various factors, not only by weather, but weather conditions are among the most important ones.

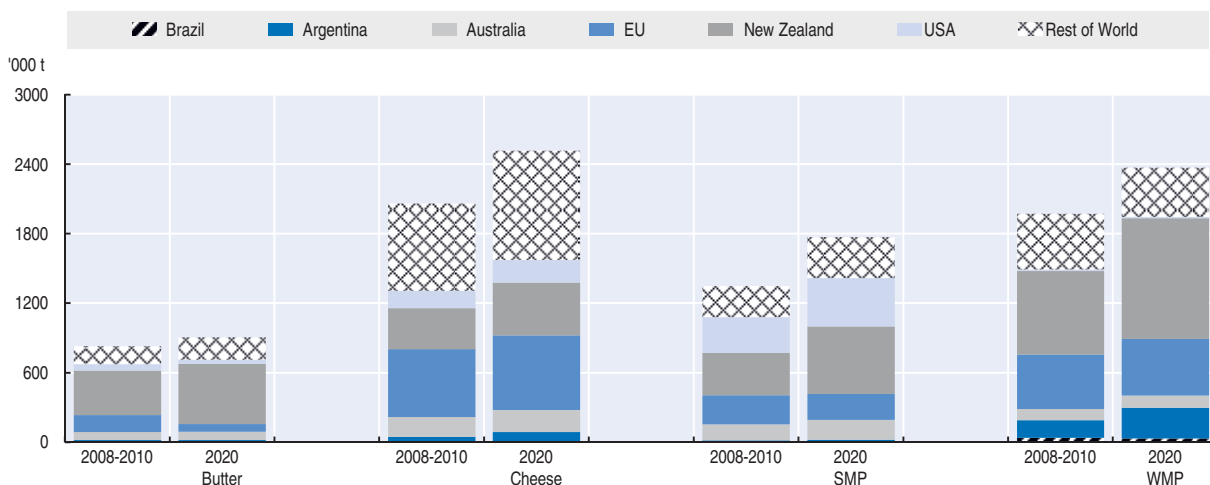
the traditional leaders in export growth, cheese and WMP, are both expected to record solid growth of 22% and 21% respectively (Figure 9.8).

The recent dramatic increase in imports of milk powders by China is expected to ease only slowly. Rebuilding of consumer confidence in domestic products will likely take several years. Modernisation of the dairy industry will gradually improve the situation, but, despite the quality improvement in the medium term, growing income and a strengthening yuan will keep dairy product imports above historical averages (Figure 9.9).

Large quantities of EU dairy intervention stocks accumulated during the 2009 EU milk crisis have not put pressure on global prices as they have been only gradually released, to a large extent, under the domestic *food programme for the most deprived persons*. Over the

Figure 9.8. The declining trend in trade for butter and SMP is to reverse

Global dairy product exports and major dairy products exporters

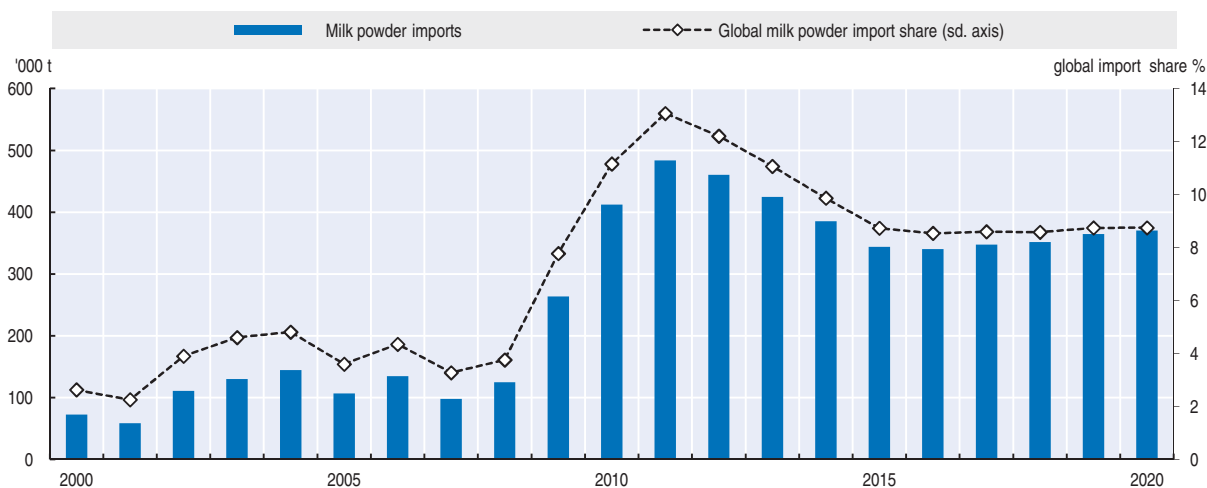


Source: OECD and FAO Secretariats.

StatLink <http://dx.doi.org/10.1787/888932427398>

Figure 9.9. Rising importance of China imports on global milk powder markets

China imports of milk powders and the global milk powder import share



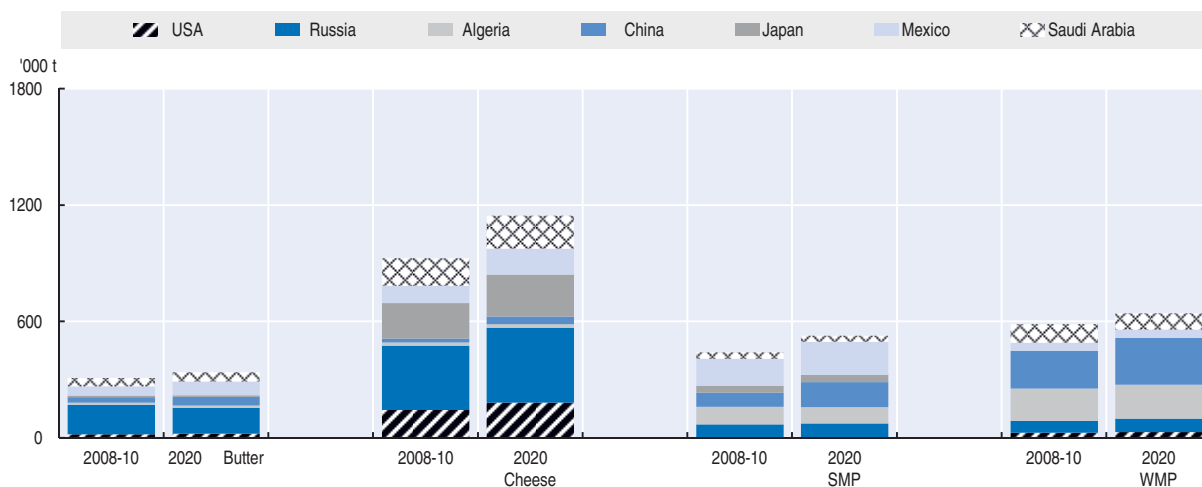
Source: OECD and FAO Secretariats.

StatLink <http://dx.doi.org/10.1787/888932427417>

projection period, export shares of the EU on the international dairy markets are expected to stagnate for cheese and WMP and continue to decline for butter and SMP.

The seven largest importing countries of dairy products continue to account for less than 50% of the world market (Figure 9.10). The Russian Federation remains the key importer of butter and cheese. In the 1990s, Russian Federation dairy product production and consumption contracted by more than 60%. Driven by increased income over the last decade, consumption started to rise but dairy production lagged behind thus propelling higher imports. An increase in Russian domestic milk production, stimulated by government efforts (i.e. subsidies for purchase of pedigree bulls), has narrowed the gap and has limited butter imports. This situation is likely to prevail over the projection period, although cheese imports are expected to continue a steady 1.6% annual growth (Figure 9.11).

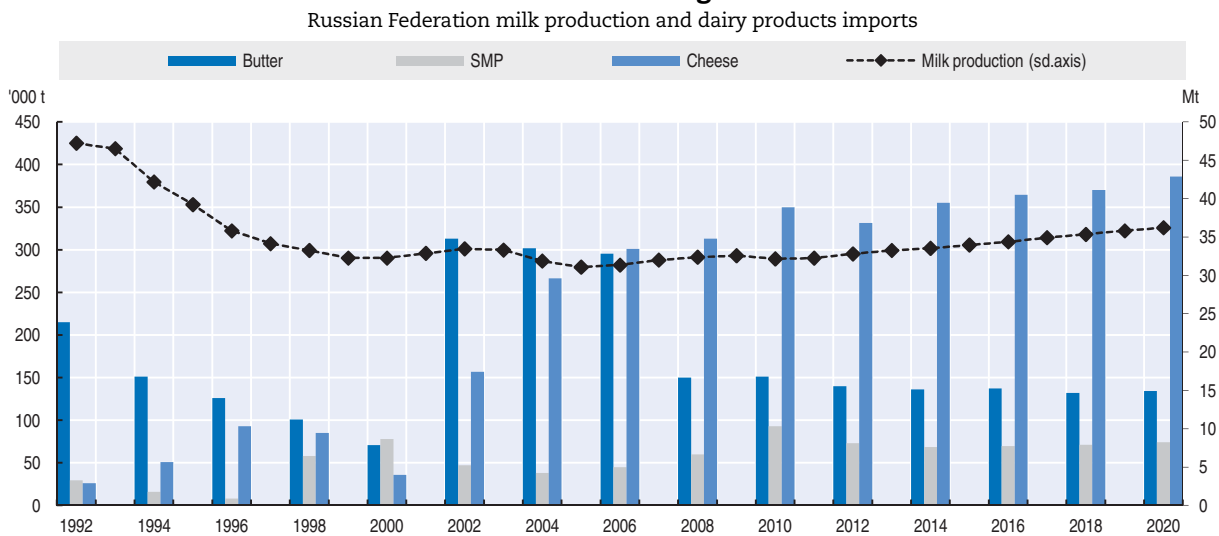
Figure 9.10. **Imports remain fragmented and import product mix continues to vary by country**
Major dairy products importers



Source: OECD and FAO Secretariats.

StatLink <http://dx.doi.org/10.1787/888932427436>

Figure 9.11. **Russian Federation growth in butter imports limited but cheese imports continue rising**



Source: OECD and FAO Secretariats.

StatLink <http://dx.doi.org/10.1787/888932427455>

Main issues and uncertainties

The dairy industry globalisation, together with domestic and trade policy reforms, have shifted international dairy markets from a supply driven paradigm, characterised by excess production and depressed world prices, to a more demand driven paradigm, responsive to market signals and changing consumer preferences. The sector is increasingly shaped by the prospects of sustained high prices for dairy products. Higher international prices are creating incentives for investment, expansion and restructuring in local dairy industries. Higher prices and a correspondingly higher value of milk production have also set the dairy sector among the highest gross value sectors in agriculture. However, high prices can also have negative consequences for the dairy industry. Under very high prices, demand may retreat and dairy ingredients can be replaced by cheaper substitutes in food manufacturing. Changing production formulas and recipes can have a long lasting impact as there would be a certain resistance to reverse the process. The “higher price” Outlook for dairy may also mask that the global dairy sector is increasingly confronted with higher production costs and what appears to be more unstable market environment; more extreme weather patterns, rapidly changing macroeconomic situation, input prices and, consequently, increased price variability.

The increased concerns of consumers about health and nutrition and the trends of tightening food law legislations are expected to continue. This is another important issue for the future, bringing opportunities but also challenges to the dairy sector. A couple of examples concerning labelling and debate related to health can be noted here. In order to strengthen transparency, an EU proposal asks for an indication on a package as to whether a product had ever been frozen (this may impact butter and cheese). In the search to reduce incidents of cardiovascular diseases and obesity, a tax on saturated fat (which also concerns certain dairy products) will be implemented in Denmark as of 1st October 2011. Recent joint FAO/WHO expert consultation on fats and fatty acids in human nutrition notes that there is no probable or convincing evidence for significant effects of total dietary fats on coronary heart disease or cancer (FAO, 2010). The probiotics sector is among the fastest growing dairy business, propelled by perceived benefits of various bacteria strains. In several countries certain health claims on the probiotics products are being revisited. The impacts of various labelling and health claims on dairy products consumption are uncertain, but it seems certain that the debate over nutrition and health is likely to intensify among products but also between the industry and food safety authorities.

Reference

FAO (2010), “Fats and fatty acids in human nutrition. Report of an expert consultation”, *FAO Food and Nutrition Paper*, No. 91, Food and Agriculture Organization of the United Nations, Rome, 2010.

ANNEX 9.A

Statistical tables: Dairy

- | | |
|---|---|
| 9.A.1. World dairy projections (butter and cheese) | http://dx.doi.org/10.1787/888932428310 |
| 9.A.2. World dairy projections (powders and casein) | http://dx.doi.org/10.1787/888932428329 |

Tables available online:

- | | |
|---|---|
| 9.A.3.1. Butter projections: production and trade | http://dx.doi.org/10.1787/888932428348 |
| 9.A.3.2. Butter projections: consumption, per capita | http://dx.doi.org/10.1787/888932428367 |
| 9.A.4.1. Cheese projections: production and trade | http://dx.doi.org/10.1787/888932428386 |
| 9.A.4.2. Cheese projections: consumption, per capita | http://dx.doi.org/10.1787/888932428405 |
| 9.A.5.1. Skim milk powder projections: production and trade | http://dx.doi.org/10.1787/888932428424 |
| 9.A.5.2. Skim milk powder projections: consumption, per capita | http://dx.doi.org/10.1787/888932428443 |
| 9.A.6.1. Whole milk powder projections: production and trade | http://dx.doi.org/10.1787/888932428462 |
| 9.A.6.2. Whole milk powder projections: consumption, per capita | http://dx.doi.org/10.1787/888932428481 |
| 9.A.7. Milk projections: production, inventories, yield | http://dx.doi.org/10.1787/888932428500 |
| 9.A.8. Whey powder and casein projections | http://dx.doi.org/10.1787/888932428519 |
| 9.A.9. Main policy assumptions for dairy markets | http://dx.doi.org/10.1787/888932428538 |

Table 9.A.1. World dairy projections (butter and cheese)

Calendar year

		Avg 2008-10est.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
BUTTER												
OECD¹												
Production	kt pw	3 703	3 667	3 720	3 755	3 785	3 831	3 854	3 869	3 902	3 934	3 974
Consumption	kt pw	3 252	3 239	3 259	3 270	3 300	3 331	3 360	3 387	3 418	3 443	3 471
Stock changes	kt pw	-18	-5	4	22	4	4	-5	-16	-13	-11	3
Non-OECD												
Production	kt pw	6 081	6 533	6 711	6 898	7 039	7 150	7 340	7 609	7 879	8 186	8 485
Consumption	kt pw	6 634	7 120	7 315	7 499	7 655	7 780	7 971	8 237	8 505	8 814	9 109
WORLD												
Production	kt pw	9 784	10 200	10 430	10 653	10 824	10 981	11 194	11 478	11 781	12 120	12 459
Consumption	kt pw	9 887	10 359	10 573	10 769	10 956	11 112	11 331	11 624	11 922	12 257	12 580
Stock changes	kt pw	-23	-17	-3	22	4	4	-5	-16	-13	-11	3
Price ²	USD/t	3 347	4 540	3 918	3 723	3 626	3 635	3 702	3 751	3 749	3 741	3 729
CHEESE												
OECD¹												
Production	kt pw	15 239	15 572	15 806	16 026	16 265	16 512	16 798	17 022	17 234	17 453	17 689
Consumption	kt pw	14 538	14 846	15 071	15 247	15 460	15 676	15 941	16 148	16 353	16 555	16 812
Stock changes	kt pw	31	-12	-12	-6	-7	-3	-5	2	3	5	6
Non-OECD												
Production	kt pw	4 431	4 683	4 843	4 938	5 071	5 185	5 290	5 398	5 528	5 656	5 811
Consumption	kt pw	5 094	5 480	5 655	5 792	5 946	6 087	6 214	6 333	6 468	6 611	6 743
WORLD												
Production	kt pw	19 670	20 255	20 648	20 964	21 336	21 697	22 088	22 420	22 762	23 109	23 499
Consumption	kt pw	19 632	20 326	20 726	21 038	21 406	21 763	22 155	22 481	22 822	23 166	23 556
Stock changes	kt pw	37	-8	-15	-11	-7	-3	-5	2	3	5	6
Price ³	USD/t	3 882	4 325	3 861	3 696	3 673	3 770	3 865	3 970	4 038	4 056	4 093

Note: Calendar year: Year ending 30 June for Australia and 31 May for New Zealand in OECD aggregate.

1. Excludes Iceland but includes EU6 members that are not members of the OECD (Bulgaria, Cyprus, Latvia, Lithuania, Malta and Romania).
2. F.o.b. export price, butter, 82% butterfat, Oceania.
3. F.o.b. export price, cheddar cheese, 39% moisture, Oceania.

Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932428310>

Table 9.A.2. World dairy projections (powders and casein)

Calendar year

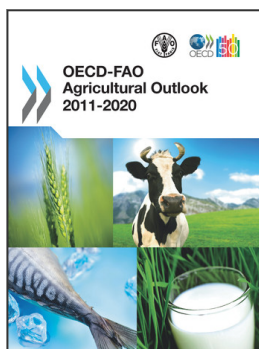
		Avg 2008-10est.	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SKIM MILK POWDER												
OECD¹												
Production	kt pw	2 745	2 750	2 755	2 811	2 842	2 918	2 937	2 951	2 983	3 001	3 020
Consumption	kt pw	1 753	1 716	1 721	1 727	1 740	1 759	1 765	1 762	1 757	1 766	1 779
Stock changes	kt pw	54	-65	-78	-58	-55	-16	-12	-3	-3	-5	-1
Non-OECD												
Production	kt pw	693	721	759	777	815	839	869	888	882	907	945
Consumption	kt pw	1 579	1 774	1 826	1 876	1 930	1 973	2 012	2 040	2 074	2 110	2 152
WORLD												
Production	kt pw	3 438	3 470	3 514	3 589	3 658	3 757	3 805	3 839	3 866	3 908	3 965
Consumption	kt pw	3 332	3 489	3 547	3 603	3 670	3 731	3 777	3 802	3 830	3 876	3 931
Stock changes	kt pw	54	-65	-78	-58	-55	-16	-12	-3	-3	-5	-2
Price ²	USD/t	2 908	3 559	3 220	3 020	2 975	3 064	3 142	3 239	3 348	3 366	3 421
WHOLE MILK POWDER												
OECD¹												
Production	kt pw	1 989	2 113	2 168	2 195	2 216	2 221	2 240	2 270	2 292	2 332	2 353
Consumption	kt pw	754	740	754	758	760	765	772	776	778	780	782
Stock changes	kt pw	0	1	1	1	1	1	1	1	1	1	1
Non-OECD												
Production	kt pw	2 156	2 280	2 357	2 429	2 470	2 521	2 593	2 660	2 736	2 800	2 881
Consumption	kt pw	3 529	3 725	3 843	3 938	3 998	4 049	4 133	4 226	4 322	4 424	4 523
WORLD												
Production	kt pw	4 144	4 393	4 525	4 624	4 686	4 742	4 833	4 930	5 028	5 132	5 234
Consumption	kt pw	4 284	4 465	4 597	4 696	4 758	4 814	4 905	5 002	5 100	5 204	5 306
Stock changes	kt pw	0	1	1	1	1	1	1	1	1	1	1
Price ³	USD/t	3 264	4 068	3 452	3 263	3 215	3 277	3 355	3 437	3 514	3 534	3 589
WHEY POWDER												
Wholesale price, USA ⁴	USD/t	672	994	906	827	822	834	870	901	932	949	981
CASEIN												
Price ⁵	USD/t	8 038	8 395	7 604	7 830	7 863	7 850	7 888	7 963	8 219	8 274	8 420

Note: Calendar year: Year ending 30 June for Australia and 31 May for New Zealand in OECD aggregate.

1. Excludes Iceland but includes EU6 members that are not members of the OECD (Bulgaria, Cyprus, Latvia, Lithuania, Malta and Romania).
2. F.o.b. export price, non-fat dry milk, 1.25% butterfat, Oceania.
3. F.o.b. export price, WMP 26% butterfat, Oceania.
4. West Region.
5. Export price, New Zealand.

Source: OECD and FAO Secretariats.

StatLink  <http://dx.doi.org/10.1787/888932428329>



From:
OECD-FAO Agricultural Outlook 2011

Access the complete publication at:
https://doi.org/10.1787/agr_outlook-2011-en

Please cite this chapter as:

OECD/Food and Agriculture Organization of the United Nations (2011), "Dairy", in *OECD-FAO Agricultural Outlook 2011*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/agr_outlook-2011-20-en

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.