An Examination of Milk Quota expansion at EU member State Level with specific emphasis on Ireland

Julian Binfield[1], Trevor Donnellan[2] and Kevin Hanrahan[2]

[1]FAPRI at the University of Missouri, USA

[2] Rural Economy Research Centre, Teagasc, Ireland

Contact: binfieldj@missouri.edu, trevor.donnellan@teagasc.ie, kevin.hanrahan@teagasc.ie

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Abstract

The CAP Health Check in 2008 may result in fundamental changes in EU dairy policy. An expansion of the EU dairy quota is being strongly considered as a prelude to the elimination of the quota mechanism by 2014/15. This paper addresses the implications of such a reform for EU and Irish dairy commodity markets. We use a suite of partial equilibrium multi commodity structural models of EU agricultural commodity markets to project the impact of an expansion in the dairy quota on milk and dairy commodity production, dairy commodity prices and milk prices at an EU and Member State level. A number of experiments are conducted involving differing annual rates of expansion of the milk quota using national quota rents from the literature.

Key words: Milk Quota Expansion, Partial Equilibrium, Commodity modelling,

1. Introduction

This paper examines the impact on the EU and Ireland of an increase in the EU milk quota in advance of it anticipated abolition at the end of the 2014/15 milk quota year. The impact which this increase in quota will have on dairy commodity prices, production, consumption, trade, stock levels and farm milk prices is of interest to policy makers and farmers alike. Further impetus to the reform of the EU dairy regime has come from the recent buoyancy in dairy markets which has allowed the EU to remove export subsidies and maintain relatively high milk prices. The possibility to allow an expansion of production and increased export opportunities may mean that an expansion in milk quota can now be achieved with minimal impact on farm profitability

The EU Commission, in its December 2007 proposal to the Council in (2007c) has proposed a 2 percent increase in milk quota in 2008, while further increases are expected to follow as part of the EU Health Check proposal from the Commission that is expected in Spring 2008. The paper utilises the FAPRI-Ireland and FAPRI-EU Gold Models to examine a number of milk quota reform scenarios.

Most international modelling organisations now treat the EU as a single entity (EU27) or they combine the various MS to form two blocks (EU15/NMS10). Agricultural policy models are then designed around these definitions. The milk sector across the EU differs considerably between EU MS. Differences exist in terms of milk production systems, (pasture, feed grain and hybrid systems), production costs (land, labour and other inputs) and milk utilisation (fresh products, specialist food ingredients and basic commodities).

The models used for this analysis address this heterogeneity by examining the agricultural sector in so far as is practical at a MS level. The model comprises both MS level models France, Germany, Ireland, Italy, Hungary, Poland and United Kingdom as well as models representing MS aggregations, Other EU15 and Other NMS. Due to difficulties in compiling a useable dataset, models for Bulgaria and Romania have yet to be developed and these MS are not considered within this analysis. Some notable dairy producing countries, such as the Netherlands and Denmark are modelled as part of the other EU15 block.

2. The EU Milk Quota System and the debate on its reform

Ireland joined the EU in 1973 and in the early years of Irish membership there was an exceptional expansion and modernisation of the Irish dairy sector at both farm and processing level and milk production increased significantly. A similar picture emerged in other Member States (MS). Milk production throughout the EU at this time increased at a rate which led to surpluses which were a significant cost to the EU budget, and which generated negative publicity for the CAP.

The growing milk surplus was initially managed through intervention buying, but it was never the purpose of the intervention system to handle a persistent and growing surplus, which began to be experienced in the late 1970's and continued into the 1980's. In 1984 the milk quota system was introduced for an initial period of four years. The stated purpose of the milk quota system was to contain the growth in milk production so that the EU's agriculture budget could manage the cost of the price support framework. The alternative to the milk quota system would have been a cut in support prices for dairy products - a policy which it was felt would have had a considerable negative effect on agricultural incomes.

The quota system was renewed and the reference quantities were reduced in successive years and in 1992 the system was extended until the end of the century. As part of the MacSharry CAP reforms in 1992, it was initially proposed to reduce the quota by a further 3 percent, but ultimately this policy was not contained in the reforms that were finally agreed. However, the co-responsibility levy was abolished at this time. There were no further changes to the quota system in the 1990's.

Originally many producers were strongly against milk quotas, because it constrained expansion, which was particularly an issue as increasing dairy yields per cow meant that fewer dairy cows (and less land) were required to produce a given milk quota. However, the milk quota found favour with some producers after a time, as they regarded it as a license to produce milk which they could ultimately sell in order to provide a retirement income.

In 1999, Agenda 2000 (Berlin Agreement) provided for increases in milk quotas in the EU15. Ireland was among five EU MS which were granted quota increases in the 2000/01 and 2001/02 milk years. The Irish milk quota increased by 2.9 percent over this period with no change in the butterfat reference level. Quotas in four other EU MS were also increased at this time. The remaining EU MS each received a quota increase of 1.5 percent to be spread over a three year period later in the decade. In total these quota increases represented a further 2.4 percent increase in the quota available to the EU15.

While a majority of EU MS supported the continuation of the milk quota system, at this point there also was pressure from Britain, Denmark, Sweden and Italy for quota elimination on the basis that it inhibited the EU's access to growing export markets. As a compromise it was agreed that the milk quota system would be reviewed in 2003, noting the intention to retain quotas until at least 2006. However, by 2003 sentiments had changed little and political support for retention of the milk quota remained quite strong. As part of the Mid Term Review of the Agenda 2000 (Luxembourg Agreement), it was agreed that milk quotas would continue to 2014/15 and that there would be a review of the system in 2008.

In 2004 10 New Member States (NMS) joined the EU. Milk quotas for these NMS were negotiated as part of the accession process. Of these 10 countries only Poland had a significant level of dairy product exports. Similar quota arrangements were made for the EU accession of Bulgaria and Romania in 2007.

In 2006 EU Commission officials began to indicate that they could see no prospect for the continuation of milk quotas beyond 2014/15 on the basis that the required level of political support for their extension would not be forthcoming. Attention then began to turn to the mechanism by which milk quotas would be removed.

Reform of dairy policy will form a central plank of the 2008 review of EU agricultural policy, known as the CAP Health Check (CEC 2007a).[1] Several mechanisms for the relaxation of the milk quota have been proposed. The most likely means of reform will be a gradual quota expansion which may be accompanied by other measures such as a reduction in the rate of superlevy and further reform of the intervention system. These are seen as the most reliable means to achieving the so called soft-landing for the dairy sector post quota. Other options are seen as less attractive for a number of reasons. For example, overnight elimination would involve rapid change and would not allow producers and processors sufficient time to adjust. Quota trading between MS might face legal impediments. A reduction in the rate of superlevy alone might unnecessarily complicate the milk production decision process at farm level, with an adverse impact on farm management and farm efficiency and would also impact to the greatest extent on the most efficient producers.

The rapid and dramatic improvement in international dairy commodity prices which began in mid 2006 and accelerated in 2007, led to a debate about an immediate increase in EU milk quotas in the 2008/09 milk quota year. The issue was addressed at the Agriculture and Fisheries Council in Brussels on September 26th and 27th 2007. While there was outright opposition to an increase in milk quotas in these discussions from only three EU MS, some of the more influential MS were relatively non-committal on the basis that further research on the issue was required.

Overall, the balance of opinion at the Council seemed to favour an increase in milk quotas of the order of 3 percent in 2008/09. Subsequently in the report from the Commission to the Council (2007 b) on the status of the EU dairy market a recommendation was made for a two percent increase in the EU milk quota in 2008.

3. Recent Developments on Dairy Markets

International commodity prices have undergone significant change in 2006 and 2007 and it is projected that world prices will change considerably in the future also. Here the origins of the world price projections used in the analysis are explained. In addition details on the quota rents used for the analysis are provided.

[1] The CAP Health Check is likely to cover a range of other issues in addition to the Dairy Common Market Organisation (CMO). See the Communication to the Council from the Commission CEC (2007) for further details

In 2007 a number of factors, economic, policy and climate related, have converged to produce price increases that have surpassed all expectations and projections for the dairy sector In addition to adverse weather conditions, increasing input prices have led to a fall off in supply of dairy products on the world market at a time when international dairy product consumption is growing strongly.

The ongoing drought in the southern hemisphere is having detrimental effects on the supply of dairy products from Australia in particular. Furthermore, world stocks generally have been depleted and countries which traditionally held significant stocks no longer have the capacity to release large volumes of product onto world markets to stabilise prices. Simultaneously demand for dairy products continues to increase. Strong macroeconomic growth, in Southeast Asia in particular, is contributing to increased consumption of dairy products. All of these factors combined have led to sharp increases in prices for dairy products in 2007. Figure 1 shows the Irish Dairy board Milk Price equivalent for Butter and SMP.

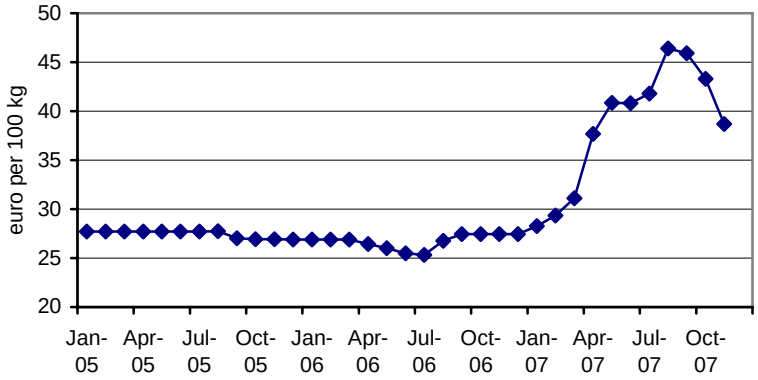

Figure 1: Irish Dairy Board Butter/SMP Equivalent Price from 2005 to 2007

Source: Irish Dairy Board

Concerns relating to oil security together with political tensions in the Middle East have led to oil prices reaching their highest level in real US dollar terms since the early 1980's. High energy prices, coupled with an increasing political focus on the climate change issue, has resulted in a wave of biofuel policies across the world. In key exporting countries this has led to an increase in cereal area as well as a significant shift of cereals out of food and feed use and into fuel production. As a result animal feed prices have risen and in turn this has negatively affected the cost of dairy production.

Every year FAPRI produces a Global Outlook using its suite of international commodity models. The production of these projections with the various models is a detailed task and is carried out once a year. Consequently the model simulations are based on information that is available at the time when the models projections are finalised (usually January of each year).

The world price projections that are generated as part of that process usually differ from what transpires, even in the very short run, as a result of the vagaries of the weather or due to other unpredictable shocks on both the production and consumption side. Recent international examples for the meat sector of such shocks would include the various BSE, FMD and Avian Influenza (AI) occurrences, each of which impacted on both production and consumption. To address such shocks

FAPRI-Missouri produces a baseline update in July, without running the entire global FAPRI model system.

The most recent FAPRI world price projections come from the July 2007 update and reflect some of the long run behaviour of the January Global Projections. Further updated market information has become available since July and along with spot and future commodity prices, this information has been used to modify the July 2007 projections used in this report.[2] The intention is to reflect the spirit of the update – to adjust the projections from the earlier modelling effort with current market information. The next round of official FAPRI World price projections from the global models will be available early in 2008.

4. Milk Quota Scenarios and Related Assumptions

The CAP Health Check is likely to cover a range of other issues in addition to the Dairy Common Market Organisation (CMO). Other suggested elements of the CAP Health Check proposals are increased compulsory modulation of single farm payments, moves to end partially decoupled direct payments, and simplification of the single payment scheme, which would appear to imply a movement towards a flat area payment scheme system across the EU (Agra Facts, 2007). Proposals for the CAP Health Check will be published in Brussels on November 21st 2007. A decision in relation to the details of the CAP Health check is expected by June 2008. For the purposes of this analysis it was decided to examine the following scenarios:

The first scenario analysed anticipated the recent proposal from the Commission to allow an increase in milk quota (CEC 2007c). In of itself this scenario would not be sufficient to bring about the much sought soft landing elimination of milk quotas. Consequently a second scenario was developed which would involve successive annual increases in the EU milk quota up to the point when it is eliminated in 2014/15. Such a scenario might reflect one of the outcomes of the EU Health Check reform process. Both scenarios are specified below.

Scenario 1: Additional 3% increase in EU milk Quota in 2008/09

- Increase in 2008/09 EU milk quota as per Council Reg. No 1788/2003
- Plus a further 3% increase from April 1st 2008
- Milk quotas are removed on April 1st 2015

Scenario 2: Series of 3% per annum increase in EU Milk Quota

- Increase in 2008/09 EU milk quota as per Council Reg. No 1788/2003
- Plus a series of 3% annual increases from 2008/09 to 2014/15 (total quota increase of close to 20%)
- Milk quotas are removed on April 1st 2015

Agricultural Policy assumptions other than those related to milk policy are unchanged from the Baseline Assumptions. The CAP is largely that agreed in the Luxembourg Agreement of June 2003 with differential national level implementation of the CAP, as allowed for under the Luxembourg

[2] For more details on the FAPRI GOLD model see Hanrahan (2001)

Agreement. The expansion of the EU that occurred on May the 1st 2004 with the accession of 10 NMS is incorporated in the Baseline. The Uruguay Agreement on Agriculture (URAA) remains in place, i.e. no Doha Round Agreement occurs. The set-aside derogation agreed by the Council of Minister's in September applies in 2008 and is assumed to be retained for the rest of the Baseline projection period. In later years export subsidies are reintroduced to prevent stock building as prices decline from the highs of 2007.

5. Methodology

The price of a commodity can be altered by regulation of the market and there are many means by which this can be achieved. In the CAP, intervention and disposal has been used in the past to remove commodities from the market in order to support the milk price and ultimately improve dairy farmer incomes.

Policy makers may find that intervention and disposal measures are an expensive way to regulate the price of a commodity and for the diary CMO this was the case in the 1970s. From a budgetary perspective a cheaper alternative is to regulate the supply of the commodity and this was the basis for the introduction of the EU milk quota.

Generally the lower the level at which the quota is set relative to the unregulated level of production, the greater will be the difference between the price of the commodity under quotas and the price under an unregulated or less regulated market (quota rent). It follows that if a quota is set a level higher than the unregulated level of production it will have no impact on the price level of the commodity. In the EU at present quotas limit milk production. Their removal would allow some increase in milk production and this study quantifies the increase in production and the resulting decrease in milk prices.

Quota rents vary between MS and over time and depend on prevailing market prices, input costs and the institutional framework involved in the transfer of milk quota within MS. In some EU MS the price of traded quota is to some extent indicative of the quota rent while in some other MS this may not be the case. Each country has its own peculiarities as to how the milk quota system is implemented and this complicates the assessment of the quota rent.

The empirical determination of quota rents is a study area in itself and ideally requires very detailed MS level farm specific micro data. In general such data cannot be easily produced on a consistent basis for many EU MS. Accordingly, this study avails of quota rents developed in other studies and combines these with some additional assumptions.

There have been many studies as to the level of quota rents in the EU-15. The paper by Lips and Rieder (2005) has been used as the basis for the rents for this study. There are different estimates of the level of quota rents in other studies and if these other estimates were used this would alter the results of the scenarios examined in this study, as would different projections of world dairy, cereal or oil prices. A further complication is that there are no studies on quota rents in the NMS. Of particular interest is the milk production potential Poland. In the 1980's Poland had a level of milk production that was about double its level of current production. In addition accession to the EU has resulted in

significantly higher dairy prices in Poland. However, the costs associated with dairy production in Poland have also risen due to the introduction of EU quality standards. In this study a large positive rent is assumed for Poland based on the increase in its milk prices relative to the pre accession period, and the fact that the country has filled its deliveries quota more rapidly than most expected. This evidence is taken as an indication that the strong production potential implied by the rents used is well justified.

Using the model, output and input prices are projected forward into the future and this facilitates the calculation of the future level of rents and the future level of milk production. Over the short term rents increase marginally under the baseline as the output price to cost ratio increases as feed prices decline from the very high levels experienced in 2007, while the decline in milk prices (in the presence of the milk quota) is less pronounced. Over the medium term rents decline as feed and oil related input prices decline at a slower rate than the milk price.

A synthetic equation is used to project milk deliveries as a function of:

- milk deliveries in the previous year,
- real milk price adjusted to reflect quota rents
- milk to beef price ratio and
- real value of the milk compensatory payment

6. Milk Quota Scenario Results

The analysis of the impact of the milk quota scenarios begins with the generation of a baseline outlook for the next ten years. Full details of that baseline outlook are contained in (Binfield et al. 2007). A very brief summary is provided below to provide a frame of reference for the Scenario outcomes. This is then followed by sections summarising the impact of the scenarios on the dairy sector.

5.1 Key Points of Baseline Outlook

In general EU and Irish agricultural commodity prices increase over the Baseline projection period. Milk, dairy commodity and meat prices are all projected to increase between 2006 and 2016. Prices are particularly high in the period 2007 2008 and 2009 and decline thereafter to a level which is still considerably above the average for the earlier part of this decade. Cereal prices decline from the high prices observed in 2007 but by the end of the projection period are well above the intervention price levels experience in the early years of this decade.

The volume of Irish agricultural output, with the exception of milk and dairy products and cereals, declines between 2006 and 2016. The decoupling of direct payments, increased costs of compliance with environmental regulation, and increases in other production costs offset the positive impact of higher nominal output prices.

With quota remaining in place, the Irish milk price is projected to increase of 12 percent over the period 2006 to 2016. Overall the value of Irish agricultural sector output at producer prices remains

unchanged with gains in the cereals and milk sector being offset by declines in the value of output from the livestock sectors.

5.2 Quota Expansion Scenario 1 (3 percent increase in 2008/09)

Under this scenario the increase in the quota prior to elimination in 2015 is very modest and therefore the impact on production prior to quota removal is small. The expansion of quota has two effects. In the first instance it relaxes to some degree the constraint on low cost producers and there is an increase in milk production. However, the expansion in milk production reduces the price of milk. Lower milk prices lead some higher cost producers to reduce or cease production.

EU Level

The 3 percent quota increase has only a modest impact in terms of both milk production and prices across the EU. Many EU MS have the capacity to produce this increase in milk production. In many cases the quota increase is required to keep pace with the increase in dairy product domestic use, which is largely driven by cheese consumption growth.

In recent years some EU MS have demonstrated difficulty in filling their existing milk quota and in the analysis the quota expansion is not met by increased production from a number of MS. At an aggregate EU level the 3 percent quota increase provides a 2 percent increase in milk production by 2014. Relative to the 2015 baseline milk price, the milk price in scenario 1 in 2015 is down about 5 percent at EU level.

Thereafter quotas are removed and milk production continues to increase in some MS, while production actually contracts in other MS. The impact of these positive and negative movements in production is that by 2016 aggregate EU milk production increases by an additional 1 percent once milk quotas are removed. The milk price under Scenario 1 in 2016 is 6 percent below the 2016 price in the Baseline. Overall, Scenario 1 means little change in the location of EU milk production. [3]

Ireland

Ireland takes up the full increase in milk quota, although in the early years of the projection period the increase in Irish milk production may appear to be below the 3 percent quota increase. However, this is due to a projected continuation of the increase in milk fat content (which requires a butter fat adjustment), as well and a decrease in imports of milk from Northern Ireland.

Of greater interest is that Irish milk production expands by 6 percent in the two years after milk quota elimination while the Irish milk price is 8 percent below the corresponding baseline level. The price reduction that takes place in the last couple of years of the projection period is due to the expansion in EU milk production post quotas and it reflects the fact that Irish milk production is still increasing by the end of the projection period and has not reached its long run equilibrium level. Figure 2 illustrates the path of milk production and milk prices under Scenario 1.

[3] Note that the current projection period extends to 2016, which is only 21 months after quota elimination. This period is insufficient for the model to reach the long run equilibrium regarding dairy production that would prevail in the absence of quotas.

The increase in milk production in Scenario 1 slows the historical rate of reduction in the number of dairy cows, since cows are required to produce the additional milk produced. The growth in milk yields in Ireland in Scenario 1 is more of less unchanged relative to the baseline.

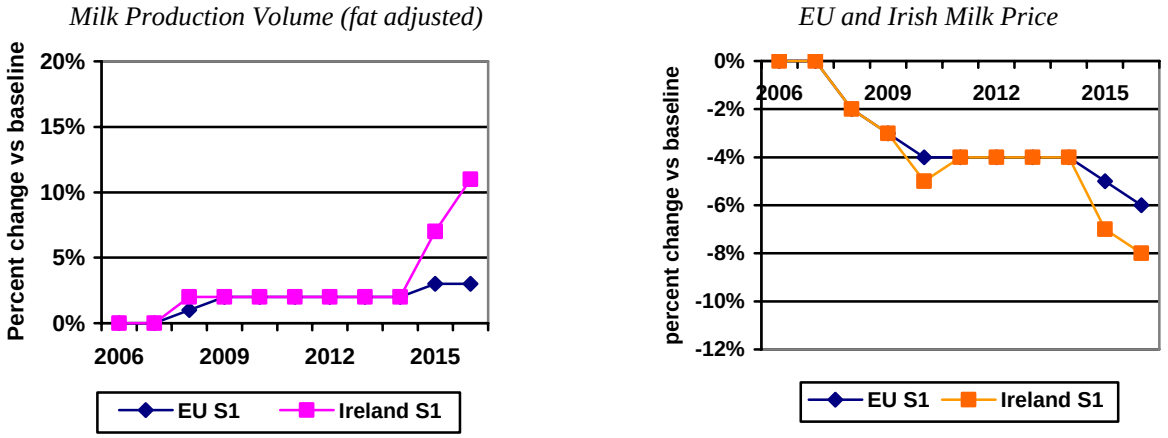

Figure 2: EU and Irish Dairy Production and Milk Prices under Scenario 1(S1)

5.3 Quota Expansion Scenario 1 (3 percent annual increase in 2008/09-2014/15)

It is likely that if the milk quota was increased as described in Scenario 1, a further increase in quotas would be required in due course in advance of the elimination of the quota system in order to achieve the 'soft landing' sought by policy makers.

Scenarios 2 therefore represent another path towards quota elimination, in that it involves a series of annual milk quota increases. In Scenario 2 the milk quota is increased by an additional 3 percent each year against the base 2008/09 level up to the assumed point of elimination in 2015. This would represent an increase in milk quotas of close to 20 percent in advance of quota elimination. Equally, policy makers might choose a smaller or larger annual percentage quota increase and select a shorter time period over which to implement these increases. The aggregate EU outcome under Scenario 2 is more complex in that the total change in milk production represents the sum of both positive and negative changes in production in various MS. In additional the relative scale of production in MS in an important factor. With France, Germany, the UK and Italy alone accounting for half of total EU milk production, the outcome of the scenario in these countries heavily influences the aggregate outcome.

EU Level

While most MS take up the increase in quota in the first couple of years of expansion, in successive years, the annual increase in milk quota in Scenario 2 is taken up by relatively fewer MS. Among the MS for which there are individual MS models in this analysis, only Ireland takes up the full increase in quota offered up to 2014/15. Overall EU milk production increases by just 4 percent by 2014 and the average EU milk price is projected to be almost 7 percent lower than the 2014 baseline milk price. Over the projection period, none of the larger milk producing countries in the EU is in a position to take up a significant portion of the quota increase and hence, at an aggregate EU level, the expansion

in milk production is relatively limited. A key feature of Scenario 2 is the negligible impact of quota removal given that much of the EU in aggregate will have achieved its productive capacity in the quota expansion phase preceding the elimination.

Relatively little change in price or production occurs at aggregate EU level beyond 2009/10; as production increases in some MS tend to be offset by production contractions in other MS. As a consequence, when the milk quota is removed, aggregate EU milk production is more of less unchanged on the preceding couple of years. Accordingly, milk prices are virtually unchanged between 2010 and 2016.

Ireland

Irish milk production continues to increase once quotas are removed (up 3.4 percent between 2014 and 2016) while milk prices at this point remain relatively stable since aggregate EU milk production does not increase any further. The increase in Irish milk production is achieved though a combination of increased milk yields, which grow at a higher rate than under the baseline, and an increase in dairy cow numbers. This higher rate of increase in yields is achieved mainly through improved herd productivity and increased feed utilisation. Figure 3 illustrates the path of milk production and milk prices under Scenario 2.

It is assumed that the additional milk produced in Ireland is mostly absorbed in butter and SMP production, with some small additional volume of cheese produced. The projected price for Irish milk reflects this choice of product mix. Ultimately it will be for processors in Ireland to decide how the additional milk volume should be processed. Additional processing capacity will need to be put in place in Ireland to handle the additional 1 million tonnes of milk that would be available. It is possible that export opportunities might arise in other MS markets that cannot be anticipated through this analysis. Therefore it is conceivable that the product mix could be different and might favour cheese production over the intervention products.

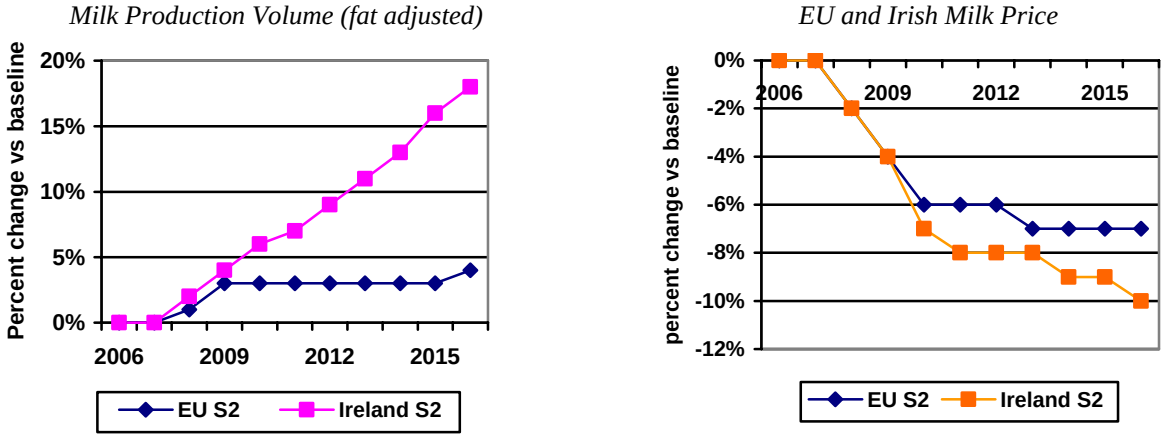

Figure 3: EU and Irish Dairy Production and Milk Prices under Scenario 2 (S2)

Under Scenario 2 dairy cow numbers in Ireland in 2016, at 1.12 million, are actually up 2 percent on the 2006 level. Yields grow at a rate closer to 2 percent per year, compared with just 1 percent per

year in both the Baseline and in Scenario 1. This additional rate of yield increase in Scenario 2 represents an extra 300 kg of milk per cow by 2016 (compared with the baseline yield in 2016) and is achieved through a better rate of improvements in overall herd genetics, a modest increase in feed grain usage of the order of 100kg per head and a decrease in the amount of milk fed on farms.

7. Conclusions

The balance of opinion suggests that the EU milk quota will not persist beyond 2015. This paper has examined two options relating to the removal of the EU milk quota, varying the rate of quota increase in advance of its removal. Even so it is possible to draw a number of conclusions that would also apply in the case of other rates of quota removal.

Aggregate EU milk production will not expand in line with a large quota increase. The expansion of milk production in some EU MS will be offset by contraction elsewhere. Other than Poland, large EU MS are not projected to see any major increase in their milk production, given the underlying assumptions used here. Ireland would seem to be well positioned to expand its milk production when quotas are relaxed or removed, as it has amongst the highest quota rents of any of the MS according to most of the studies of rents available. High feed costs have improved the competitive position of Ireland's pasture based production relative to feed grain based milk producers in continental EU MS. A slow rate of increase in the milk quota will depress milk prices while still constraining Irish milk production over the short term. A more rapid rate of quota increase will make the milk quota largely redundant (even before its abolition) in much of the EU and will allow Ireland the scope to increase production and reach its potential more quickly.

The caveats set out in our baseline analysis (Binfield et al 2007) relating to WTO reform, exchange rates and the impact of weather events on agricultural markets, apply equally to the scenarios analysed here. For example, if world dairy prices are maintained at 2007 levels into the future then the production response from the EU to the removal of quota will be different. Not only would the level of production be different but the experience of individual MS would be different, giving those MS whose production remains constant or decreases in this analysis the potential to expand production.

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EU 25 dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	22,971	22,207	21,931	21,697	21,414	21,122	20,854	20,592	20,342	20,106	19,869
Production/cow	6,095	6,346	6,473	6,565	6,613	6,683	6,761	6,835	6,911	6,985	7,061
Fluid milk						million tonnes					
Cow's milk Production	140.00	140.91	141.96	142.45	141.62	141.16	140.98	140.74	140.58	140.44	140.29
Milk quota	138.30	138.78	139.26	139.50	139.50	139.50	139.50	139.50	139.50	139.50	139.50
Other milk production	4.11	4.12	4.13	4.14	4.15	4.16	4.17	4.18	4.19	4.20	4.21
Fluid consumption	39.68	39.67	39.61	39.92	39.92	39.72	39.54	39.37	39.20	39.02	38.84
Manufacturing use	98.97	98.99	100.21	100.52	99.75	99.57	99.67	99.70	99.80	99.92	100.03
Feed use, net exports	5.46	6.38	6.27	6.14	6.10	6.02	5.94	5.86	5.78	5.70	5.62
Cheese						thousand tonnes					
Production	8,652	8,789	8,892	9,058	9,143	9,184	9,238	9,288	9,338	9,390	9,439
Imports	90	88	89	94	97	99	101	103	105	107	109
Domestic use	8,231	8,409	8,427	8,664	8,786	8,830	8,883	8,938	8,997	9,055	9,110
Exports	512	484	560	476	445	449	454	451	444	439	435
Ending stocks	498	482	476	488	497	500	503	505	508	512	515
Butter											
Production	2,081	2,100	2,066	2,086	2,098	2,094	2,096	2,096	2,097	2,098	2,099
Imports	80	80	80	80	80	80	80	80	80	80	80
Domestic use	1,925	1,809	1,870	1,913	1,919	1,911	1,906	1,900	1,896	1,891	1,885
Exports	276	409	295	257	259	263	269	275	280	286	293
Ending stocks	184	146	126	123	123	123	124	125	126	127	128
Skim powder											
Production	838	967	1,001	867	839	827	817	807	796	786	777
Imports	22	22	22	22	22	22	22	22	22	22	22
Domestic use	760	769	723	760	766	757	750	744	738	733	727
Exports	140	267	332	141	100	96	92	87	81	76	73
Ending stocks	157	111	79	67	61	57	54	52	50	50	49
Whole powder											
Production	774	746	846	696	528	522	518	511	505	499	497
Imports	20	15	15	16	16	16	16	16	17	17	17
Domestic use	306	303	308	322	334	335	336	338	339	341	342
Exports	488	467	556	384	203	200	197	189	182	175	171
Ending stocks	42	33	30	35	43	46	48	48	49	49	49
Prices						euro per 100 kilograms					
Milk, 3.7% fat	27.6	33.1	33.0	30.6	30.0	30.4	30.7	30.8	31.0	31.1	31.2
Cheese market	384.4	427.9	442.8	419.3	413.9	420.1	424.5	427.7	430.3	432.6	435.0
Butter market	290.3	382.3	322.5	285.8	278.4	280.3	280.7	280.3	279.1	277.9	277.0
SMP market	219.4	307.1	311.0	264.8	254.1	260.3	264.5	267.9	270.7	273.0	276.1
WMP market	247.9	319.1	311.7	261.8	231.9	236.1	239.1	241.1	243.0	244.6	246.9
Butter intervention	259.3	246.2	246.2	246.2	246.2	246.2	246.2	246.2	246.2	246.2	246.2
SMP intervention	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7	174.7

Irish dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	1,087	1,051	1,036	1,026	1,015	1,000	987	974	961	954	941
Production/cow	4,787	4,882	4,925	4,949	4,982	5,034	5,088	5,142	5,197	5,220	5,276
Fluid milk						million tonnes					
Cow's milk Production	6.05	6.10	6.05	6.04	6.02	5.99	5.98	5.96	5.95	5.94	5.93
Milk quota	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40	5.40
Other milk production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fluid consumption	0.60	0.61	0.62	0.63	0.64	0.65	0.66	0.67	0.68	0.69	0.70
Manufacturing use	5.26	5.31	5.25	5.23	5.20	5.17	5.15	5.13	5.11	5.09	5.07
Feed use, net exports	0.19	0.18	0.18	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16
Cheese						thousand tonnes					
Production	137	128	131	134	135	136	136	136	136	137	137
Imports	15	18	18	19	20	22	24	25	27	28	29
Domestic use	38	39	41	43	45	46	48	50	53	55	56
Exports	111	107	109	111	111	111	111	111	111	110	109
Ending stocks	29	29	29	28	29	29	29	29	29	29	29
Butter											
Production	150	159	154	151	150	150	149	149	148	148	148
Imports	3	1	1	2	1	1	1	1	1	1	1
Domestic use	17	18	18	19	19	19	19	20	20	20	21
Exports	140	144	136	131	129	130	130	129	129	128	127
Ending stocks	73	71	72	76	80	82	83	84	84	85	86
Skim powder											
Production	74	91	90	85	83	82	81	80	80	79	79
Imports	4	5	5	5	5	5	5	6	6	6	6
Domestic use	11	10	10	10	10	10	10	10	10	10	10
Exports	72	93	89	79	76	77	76	76	75	75	75
Ending stocks	62	54	49	51	52	53	52	52	52	52	52
Whole powder											
Production	39	38	39	38	37	37	37	37	37	37	37
Imports	2	2	2	2	2	2	2	2	2	2	2
Domestic use	1	1	1	1	1	1	1	1	1	1	1
Exports	40	39	40	39	38	38	38	38	38	38	38
Ending stocks	1	1	1	1	1	1	1	1	1	1	1
Milk price, 3.7% fat											
euro/100 kg	24.2	32.9	30.5	27.1	25.7	26.2	26.5	26.7	26.9	27.0	27.2

EU 25 dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	0%	0%	1%	1%	1%	1%	1%	1%	1%	2%	2%
Production/cow	0%	0%	1%	1%	0%	0%	0%	0%	0%	1%	1%
Fluid milk						million tonnes					
Cow's milk Production	0%	0%	1%	2%	2%	2%	2%	2%	2%	3%	3%
Milk quota	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other milk production	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fluid consumption	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%
Manufacturing use	0%	0%	2%	2%	2%	2%	2%	2%	2%	3%	4%
Feed use, net exports	0%	0%	0%	1%	1%	1%	1%	1%	1%	-1%	-2%
Cheese						thousand tonnes					
Production	0%	0%	1%	2%	2%	2%	2%	2%	2%	3%	3%
Imports	0%	0%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-1%	-2%
Domestic use	0%	0%	1%	1%	1%	1%	1%	1%	1%	2%	2%
Exports	0%	0%	6%	7%	8%	8%	8%	8%	8%	12%	14%
Ending stocks	0%	0%	1%	2%	2%	2%	2%	2%	2%	2%	3%
Butter											
Production	0%	0%	2%	3%	3%	3%	3%	3%	3%	4%	5%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	2%
Exports	0%	0%	11%	16%	16%	17%	16%	16%	15%	24%	28%
Ending stocks	0%	0%	1%	2%	7%	7%	6%	6%	8%	6%	7%
Skim powder											
Production	0%	0%	4%	7%	3%	3%	3%	3%	3%	5%	6%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	2%	2%	2%	2%	2%	2%	3%
Exports	0%	0%	13%	38%	14%	14%	14%	15%	16%	25%	31%
Ending stocks	0%	0%	1%	1%	4%	7%	8%	10%	11%	13%	16%
Whole powder											
Production	0%	0%	7%	11%	6%	6%	6%	6%	6%	9%	10%
Imports	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%
Domestic use	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%
Exports	0%	0%	11%	21%	14%	13%	14%	14%	14%	22%	25%
Ending stocks	0%	0%	1%	1%	3%	4%	4%	4%	5%	6%	6%
Prices						euro per 100 kilograms					
Milk, 3.7% fat	0%	0%	-2%	-3%	-4%	-4%	-4%	-4%	-4%	-5%	-6%
Cheese market	0%	0%	-3%	-4%	-4%	-4%	-4%	-4%	-4%	-6%	-7%
Butter market	0%	0%	-3%	-4%	-3%	-4%	-4%	-4%	-4%	-6%	-7%
SMP market	0%	0%	-1%	-1%	-4%	-4%	-4%	-4%	-4%	-6%	-7%
WMP market	0%	0%	0%	-1%	-4%	-4%	-4%	-4%	-4%	-6%	-6%
Butter intervention	0%	0%	0%	0%	0%	0%	0%	0%	0%	-5%	-5%
SMP intervention	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Irish dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	0%	0%	2%	3%	3%	3%	3%	3%	3%	8%	12%
Production/cow	0%	0%	1%	1%	1%	1%	1%	1%	1%	3%	4%
Fluid milk						million tonnes					
Cow's milk Production	0%	0%	2%	2%	2%	2%	2%	2%	2%	7%	11%
Milk quota	0%	0%	2%	3%	3%	3%	3%	3%	3%	100%	100%
Other milk production	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fluid consumption	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Manufacturing use	0%	0%	2%	3%	3%	2%	3%	3%	3%	8%	12%
Feed use, net exports	0%	0%	0%	2%	3%	3%	3%	3%	3%	3%	9%
Cheese						thousand tonnes					
Production	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Imports	0%	0%	0%	1%	1%	1%	1%	1%	1%	-1%	-1%
Domestic use	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%
Exports	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	2%
Ending stocks	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Butter											
Production	0%	0%	3%	4%	4%	4%	4%	4%	4%	12%	18%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Exports	0%	0%	3%	2%	3%	4%	4%	4%	4%	15%	21%
Ending stocks	0%	0%	1%	5%	6%	7%	8%	8%	7%	6%	86
Skim powder											
Production	0%	0%	2%	3%	1%	1%	1%	1%	1%	6%	11%
Imports	0%	0%	0%	0%	-1%	-1%	-1%	-1%	-1%	-1%	-2%
Domestic use	0%	0%	0%	1%	2%	2%	2%	2%	2%	3%	6%
Exports	0%	0%	2%	3%	0%	1%	1%	1%	1%	6%	10%
Ending stocks	0%	0%	0%	0%	2%	2%	3%	3%	3%	3%	4%
Whole powder											
Production	0%	0%	1%	1%	1%	1%	1%	1%	1%	2%	3%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Exports	0%	0%	1%	1%	1%	1%	1%	1%	1%	2%	3%
Ending stocks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Milk price, 3.7% fat											
euro/100 kg	0%	0%	-2%	-3%	-5%	-4%	-4%	-4%	-4%	-7%	-8%

EU 25 dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	0%	0%	1%	2%	2%	2%	2%	3%	3%	3%	3%
Production/cow	0%	0%	1%	1%	1%	1%	1%	1%	1%	0%	0%
Fluid milk						million tonnes					
Cow's milk Production	0%	0%	1%	3%	3%	3%	3%	3%	3%	3%	4%
Milk quota	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other milk production	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fluid consumption	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Manufacturing use	0%	0%	2%	3%	4%	4%	4%	4%	4%	5%	5%
Feed use, net exports	0%	0%	0%	0%	0%	0%	-1%	-2%	-2%	-3%	-4%
Cheese						thousand tonnes					
Production	0%	0%	1%	2%	3%	3%	3%	3%	3%	3%	3%
Imports	0%	0%	-1%	-1%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Domestic use	0%	0%	1%	2%	2%	2%	2%	2%	2%	2%	3%
Exports	0%	0%	6%	10%	12%	13%	14%	14%	15%	15%	16%
Ending stocks	0%	0%	1%	2%	3%	3%	3%	3%	3%	3%	3%
Butter											
Production	0%	0%	2%	4%	5%	5%	5%	6%	6%	6%	6%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	1%	1%	1%	1%	2%	2%	2%	2%	2%
Exports	0%	0%	11%	23%	26%	31%	31%	31%	32%	34%	32%
Ending stocks	0%	0%	1%	5%	18%	11%	8%	6%	8%	6%	6%
Skim powder											
Production	0%	0%	4%	9%	6%	5%	5%	6%	6%	6%	6%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	3%	2%	3%	3%	3%	3%	3%
Exports	0%	0%	13%	53%	23%	23%	25%	28%	31%	33%	34%
Ending stocks	0%	0%	1%	1%	6%	10%	14%	17%	19%	21%	22%
Whole powder											
Production	0%	0%	7%	16%	9%	9%	10%	10%	10%	10%	11%
Imports	0%	0%	0%	0%	1%	1%	1%	1%	2%	2%	2%
Domestic use	0%	0%	0%	0%	1%	1%	1%	1%	1%	2%	2%
Exports	0%	0%	11%	28%	20%	21%	23%	24%	25%	27%	28%
Ending stocks	0%	0%	1%	1%	5%	6%	7%	7%	7%	8%	8%
Prices						euro per 100 kilograms					
Milk, 3.7% fat	0%	0%	-2%	-4%	-6%	-6%	-6%	-7%	-7%	-7%	-7%
Cheese market	0%	0%	-3%	-6%	-7%	-7%	-7%	-7%	-8%	-8%	-8%
Butter market	0%	0%	-3%	-6%	-5%	-7%	-8%	-8%	-8%	-9%	-10%
SMP market	0%	0%	-1%	-1%	-7%	-6%	-7%	-7%	-8%	-8%	-8%
WMP market	0%	0%	0%	-1%	-6%	-6%	-6%	-6%	-6%	-7%	-7%
Butter intervention	0%	0%	0%	0%	0%	-5%	-5%	-5%	-5%	-8%	-10%
SMP intervention	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Irish dairy supply and utilisation

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
						thousand head, end of year					
Dairy cows	0%	0%	2%	4%	6%	8%	10%	12%	14%	16%	18%
Production/cow	0%	0%	1%	2%	2%	3%	4%	5%	6%	7%	7%
Fluid milk						million tonnes					
Cow's milk Production	0%	0%	2%	4%	6%	7%	9%	11%	13%	16%	18%
Milk quota	0%	0%	2%	5%	8%	11%	14%	17%	20%	100%	100%
Other milk production	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Fluid consumption	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Manufacturing use	0%	0%	2%	4%	6%	8%	11%	13%	15%	18%	20%
Feed use, net exports	0%	0%	0%	3%	5%	7%	9%	11%	14%	16%	18%
Cheese						thousand tonnes					
Production	0%	0%	0%	0%	1%	1%	2%	2%	2%	3%	3%
Imports	0%	0%	0%	1%	0%	-1%	-1%	-2%	-2%	-3%	-3%
Domestic use	0%	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%
Exports	0%	0%	0%	0%	1%	1%	1%	2%	2%	2%	3%
Ending stocks	0%	0%	0%	1%	1%	1%	2%	2%	2%	2%	2%
Butter											
Production	0%	0%	3%	7%	9%	12%	15%	19%	22%	26%	29%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	0%	1%	1%	1%	1%	1%	1%
Exports	0%	0%	3%	4%	9%	15%	18%	21%	25%	31%	35%
Ending stocks	0%	0%	1%	7%	8%	7%	7%	7%	8%	6%	4%
Skim powder											
Production	0%	0%	2%	4%	4%	6%	8%	11%	13%	16%	18%
Imports	0%	0%	0%	0%	-1%	-1%	-2%	-2%	-2%	-2%	-2%
Domestic use	0%	0%	0%	1%	4%	5%	6%	7%	8%	9%	10%
Exports	0%	0%	2%	4%	2%	5%	8%	10%	12%	15%	18%
Ending stocks	0%	0%	0%	1%	3%	4%	4%	5%	5%	5%	5%
Whole powder											
Production	0%	0%	1%	2%	1%	2%	2%	3%	4%	4%	5%
Imports	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Domestic use	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Exports	0%	0%	1%	2%	1%	2%	2%	3%	3%	4%	4%
Ending stocks	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Milk price, 3.7% fat											
euro/100 kg	0%	0%	-2%	-4%	-7%	-8%	-8%	-8%	-9%	-9%	-10%