



**Evaluation of the
National Top-Up to
the EU School
Milk Subsidy in
England**

**For the Department
for Environment,
Food and Rural
Affairs (Defra)**

**By
London Economics in
cooperation with Dr.
Susan New**

December 2005

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1 Terms of Reference

Defra's terms of reference for this study include the following research objectives, where 'the scheme' refers to the National Top-Up to the EU School Milk Subsidy Scheme (the SMSS) in England:

- i) Address the relevance, effectiveness and efficiency of the scheme;
- ii) Critically assess the rationale for the National Top-Up scheme, including its suitability as a policy instrument for the consumption of milk by children in England;
- iii) Examine the effectiveness of the scheme in achieving its intended outcomes, giving consideration to the level and pattern of take-up of the scheme by LEAs;
- iv) Consider the efficiency of the scheme and the value for money it represents;
- v) Explore whether the scheme has given rise to any unintended outcomes, either beneficial or detrimental;
- vi) Assess whether the scheme contributes to Government objectives;
- vii) Make recommendations on how to improve the scheme in terms of its effectiveness and use of resources

The UK government pays the National Top-Up as an addition to the EU School Milk Subsidy Scheme (SMSS). Both subsidies are run as one integrated programme, governed by EU regulations. The terms of reference do not require us to evaluate the SMSS. However, Defra expressed its interest in any recommendations we had to improve the SMSS. The UK cannot unilaterally change the SMSS, but can argue for changes within the EU.

The remit of our study extends only to England, since the National Top-Up is paid only in England. Other funds are paid to top up the SMSS in other parts of the UK. Any changes to the SMSS would affect the entire UK, however.

The National Top-Up is not intended to fund the programme 'Free Milk for the Under 5s' (FMU5), so the remit of our study does not cover FMU5. FMU5 is eligible for the EU subsidy, however. FMU5 allows schools to claim the full cost of milk for children aged under 5 from the Welfare Foods Reimbursement Unit, part of the Department of Health.

Our terms of reference do not mention The Education Act of 1996¹, and thus we do not study LEAs' compliance with this act. The Act obliges Local Education Authorities (LEAs) to provide free milk to children whose families receive certain state benefits if that LEA provides milk on a paid-for basis. LEAs can recover part of the cost of free milk for such children from the combined SMSS and Top-Up.

¹ The relevant law is section 512 of the Education Act 1996 as amended by section 201 of the Education Act 2002.

2 Executive Summary and Recommendations

This summary describes the National Top-Up, our view of the rationale for the Top-Up, our findings, and the context of evolving policy towards school milk. We then list and explain our recommendations.

The National Top-Up to the EU School Milk Subsidy Scheme

The UK government pays the National Top-Up subsidy to schools in England that participate in the EU School Milk Subsidy Scheme (SMSS). Participation in the SMSS is optional for schools and Local Education Authorities (LEAs). The Top-Up and SMSS are largely run as an integrated programme. One difference, however, is that the SMSS subsidises milk provided to nursery and primary school pupils, while the Top-Up applies to children aged 5 and above who are receiving primary education.

Administrative records indicate that 63% of English state nursery and primary schools participated in the SMSS in 2003, although some of these schools only provided milk to children aged 3-4 and thus were not eligible for Top-Up funds.²

The current subsidy rates per (typical) 1/3 pint serving are 2.69 p (EU) plus 0.75 p (Top-Up). These combined subsidies are about a quarter of the typical price at which LEAs purchase milk, so most schools require parents to pay towards the cost of their children's school milk. However, local authorities that participate in the SMSS are legally obliged to provide free milk to children whose families receive certain state benefits.³

The Top-Up has a maximum budget of £1.5 million; in 2003 roughly £1.4 m in Top-Up funds plus £5.8 m of EU Milk Subsidy was spent in England.

The Rationale for the National Top-Up

The stated rationale for the National Top-Up is to encourage schools to participate in the EU SMSS, and thereby offer milk (typically at a price) to their pupils. We find this rationale problematic; the private sector already offers milk at a low price, so it is not clear why schools should offer it also. Similarly, while many products are helpful for children – such as toothpaste and toothbrushes – schools do not typically offer them for sale to pupils.

We consider the following rationales for the combined Top-Up and EU SMSS:

² These records do not reveal what share of schools provided milk to children aged 5 or more.

³ Where schools are former grant-maintained schools or grant-maintained special schools, this legal obligation is transferred from the local authority to the schools' governing bodies under Statutory Instrument 1999 No. 2164.

- 1) Redistribution: school milk transfers funds from rich to poor families.
- 2) National welfare: the Top-Up triggers transfers of funds from the rest of the EU to the UK in excess of the associated costs to the UK.
- 3) Information/habit formation: the Top-Up encourages schools to participate in the SMSS. The SMSS informs children and parents that milk is healthy, and therefore children drink more milk.
- 4) Parental neglect: some parents neglect to buy milk for their children. Thus, there is a need to supply these children with milk without depending on their parents. The Top-Up may provide milk to some neglected children since it encourages schools to participate in the SMSS, under which schools must provide free milk to children whose families receive certain state benefits.

We see no rationale for the Top-Up under argument (1). An increase in state benefits would be a superior method of redistributing funds to poor families, as it would be cheaper to administer and would enable families to spend additional funds as best suited them.

We see no rationale for the Top-Up under argument (2). This is for two reasons; first, the UK bears 73% of the cost of additional EU funds spent within the UK. Second, while schools' participation in the SMSS triggers a small inflow of funds to the UK, it also creates considerable administrative cost within schools. Thus, we find that the Top-Up reduces the wealth of the UK, even taking into account inflows from the rest of the EU.

We see a limited rationale for the Top-Up under argument (3). The SMSS could provide useful information to parents and children. However, sending delivery trucks to schools every day and requiring teachers to track parents' payments appears a costly method of providing information.

The effect of the Top-Up on milk consumption is unclear. English schools claim SMSS and Top-Up subsidy on 35,181 kilolitres (kl) of milk annually. We find that the Top-Up increases schools' participation in the SMSS by 16%, so the Top-Up appears to be responsible for 16% or 5,629 kl of this milk consumption. However, milk consumed in schools could substitute for milk that would otherwise have been consumed elsewhere. Our survey of schoolchildren found only weak evidence that milk consumed in school was an addition to milk consumed elsewhere. Further, it is not clear that school milk programmes inculcate a lasting habit of milk consumption. National diet surveys find that calcium intake among children falls with age, so that consumption among teenagers is low (see section 5).

Our survey of schoolchildren also suggests that the effect of the Top-Up on child health is small. Children in schools that did not participate in the SMSS on average drank an amount of milk sufficient to meet their recommended daily intake of calcium. This is consistent with the most recent national diet survey (see section 5), which found that average calcium consumption was adequate at ages 4-10. Further, there were children who drank very little milk in both schools that did and did not participate in the SMSS.

We also see a limited rationale for the Top-Up under argument (4). Concern that some parents make poor spending decisions is reflected in government programmes that give poor parents vouchers for child supplies rather than cash. The Top-Up increases the number of schools that participate in the SMSS and are thus obliged to supply free milk to children whose parents receive certain benefits. However, the Top-Up has several weaknesses as a strategy for reaching neglected children, including that:

- The Top-Up/SMSS is optional for schools.
- Even if a school participates in the Top-Up/SMSS, parents must choose to pay in order for their children to receive milk. If parents receive any of the relevant state benefits, their child can receive milk for free. However, if schools appoint a company such as Cool Milk Ltd. to supply their milk and collect the subsidy, this company is not obliged to provide free milk for any children.
- The majority of Top-Up and SMSS subsidy and administrative costs are likely to be expended on children whose parents are happy to buy milk at or above its market price. Thus, the Top-Up is an inefficient means of spending funds on neglected children.

The Efficiency of the National Top-Up

We find the Top-Up to be an inefficient subsidy. On average, schools pass only 30% of the combined EU and Top-Up subsidy to parents, retaining the other 70%, or £5 million, to cover their costs of administering the scheme.⁴ Since we find that 16% of schools participating in the SMSS do so because of the Top-Up, we estimate that the Top-Up creates 16% of this £5m administrative cost, or £800,000. Thus, through spending £1.4 million, the Top-Up appears to create £800,000 in additional administrative cost.⁵

We also find that the EU School Milk Subsidy Scheme is an inefficient scheme. The combined SMSS and Top-Up spend around £7.2 million in England annually, and create an estimated £5 million of administrative cost in schools plus £831,000 of administrative cost in LEAs and the RPA (as section 14 explains). We consider this latter £831,000 to be a cost of the SMSS rather than the Top-Up, since LEAs and the RPA would process subsidy claims even if the Top-Up did not exist.

A symptom of the inefficiency of the combined Top-Up and SMSS is that the average price schools charge parents for subsidised milk (11.4 p per 1/3 pint)

⁴ Alternatively, schools could retain funds raised through these administrative charges to be used elsewhere, but we think this unlikely.

⁵ The high cost of administering the SMSS and Top-Up also deters some schools from participating in it. Currently, several schools provide milk under the “Independent milk scheme”, which operates without subsidies. The main advantage of this scheme is that schools have direct contracts with dairy suppliers and do not have to complete any weekly/monthly forms, as they operate independently of the LEAs.

exceeds the price supermarkets charge for non-subsidised milk (8.4-10p per 1/3 pint). Supermarket milk and school milk are similar goods; the health benefits of drinking each are identical. Thus, despite the government funds they consume, the combined Top-Up and SMSS do not give parents any extra tools with which to give their children a healthy diet.

The Context of Evolving Policy Towards School Milk

Regarding the EU SMSS, the EU subsidy for milk provided in schools has begun a schedule of declines that will continue until July 2007. Between December 2004 and July 2007, the EU milk subsidy will decline by 16%.

The Department of Health (DH) runs two programmes that provide free food to children in nursery schools. As part of the Welfare Foods Scheme (soon to be replaced by Healthy Start), Free Milk for the Under 5s (FMU5) offers free milk to children under age 5 in registered daycare and nurseries. The School Fruit and Vegetable Scheme (SFVS) offers free fruit or vegetables to schoolchildren aged 4-6 in LEA-maintained primary, infant and special schools. After a consultation exercise, the DH has proposed reforming the Welfare Foods scheme to offer a choice of either fruit or milk to children under age 5 in nursery education (DH 2004).

In response to survey evidence on young people's calcium intake, the Milk Development Council (MDC) launched an advertising campaign in early 2005 to encourage teenage girls to consume more milk. The European Commission and MDC will each spend £1.5 million on this 'Naturally Beautiful' campaign.⁶

Recommendations for the Future of the Top-Up

On the basis of the findings discussed above, we recommend that:

- 1) Because the Top-Up creates high administrative costs and has apparently small benefits for child health, the UK government should consider ending it. The rationale for the joint Top-Up and EU subsidy, which offer milk at a price in schools, appears weak, given that the private sector already offers milk at low prices.
- 2) In light of the costs and benefits of the EU School Milk Subsidy Scheme, and the weak rationale for a programme to make subsidised milk available to schools, the UK government should consider discussing with the European Commission the idea of ending the EU SMSS. Indeed, under the principle of subsidiarity, it is not clear why the EU, rather than national or local governments, should play any part in determining what food is provided in schools. While the SMSS is one

⁶ For a description of this campaign, see Farmers Weekly April 1 2005, p.2 or the MDC website at <http://www.mdc.org.uk/mdc-main/press-releases/teengirlscampaign.htm>.

of several EU measures designed to support dairy producers, it clearly also influences the choice of food provided in schools.

We stress that ending the Top-Up or the EU SMSS would not make UK residents poorer overall or less able to purchase milk for their children. This is because UK taxpayers pay for most school milk subsidies paid in the UK plus the administrative costs they create.

Were the Top-Up and perhaps also the EU SMSS to end, the government might be interested in other efforts to promote young people's consumption of milk. We feel that large-scale school milk programmes do not represent a sensible use of public funds, but that justification exists for narrowly-targeted programmes. We recommend such programmes provide free milk rather than milk at a price, since it is likely to be much cheaper to administer programmes that do not require teachers to track parents' payments.

We recommend the government target school milk programmes on three groups:

Children in nursery education: most younger children appear to consume sufficient calcium. However, the effects of consuming insufficient calcium could be more severe for younger than older children.

Teenagers (especially girls): survey evidence suggests the average calcium intake of teenagers is inadequate. Some girls will become mothers as teenagers and the quality of their diets will affect the health of their children.

Children in specific low-income areas: both income and the quality of diets vary by region. Further, we found that school milk schemes are more popular in the North of England than the South. Rates of participation in the SMSS were higher in the North, and some Northern local councils also run separate programmes to provide free milk or food in schools.⁷

Thus, we recommend that the government consider diverting Top-Up funds to make the following marginal expansions to existing programmes:

- 3) The government observe the success of existing programmes to increase teenagers' milk consumption, such as the MDC advertising campaign described above. The government could then consider expanding funding for elements of these programmes that appear successful. We recommend these programmes include distribution of free product within schools on an occasional basis only.
- 4) The government expand the proposed DH plan under the Welfare Food Scheme/Healthy Start to provide children in nursery education with free fruit or milk by making children eligible until they complete nursery school, rather than up their fifth birthdays as at present. This recommendation aims primarily to reduce teachers' administrative burdens, by ending the requirement that they track children's birthdays

⁷ For example, Hull City Council supplies free food to all primary school pupils in Hull.

to ensure that provision ends at a child's fifth birthday. Improving child nutrition is only a secondary aim of this recommendation, since available data suggest the diet of most children of nursery-school age is already adequate (see section 5).

- 5) The government consider devolving responsibility for policy on school milk for children aged over 5 to local authorities within England. This would allow school milk programmes to target regions where concern about child nutrition is highest, and would follow the practice of allowing Wales and Scotland to set their own school milk policies. The government should recommend to local authorities that limited programmes of free school milk are likely to be most appropriate.

We considered recommending that the RPA review the administration of the Top-Up to see if its administrative costs could be reduced. Reductions in administrative costs are always welcome. We do not believe such a review would be very fruitful, however, because

- Much of the administrative cost of the scheme is likely to reflect the costs of schools sending letters to parents and tracking parents' payments. The RPA cannot reduce these costs.
- The administrative cost of the Top-Up and SMSS also reflects that the EU requires detailed auditing of the use of its funds. The UK cannot change these requirements unilaterally.
- The small budget of the SMSS and Top-Up may not justify a major investment in new IT systems. We note, for example, that the RPA has deferred plans to upgrade its IT systems for paying school milk subsidy claims (see section 6.4.1).
- Programmes requiring thousands of schools to claim small sums of money from the central government are always likely to be administratively costly. The ratio of administrative cost to subsidy payment will rise as the rate of EU milk subsidy falls by 16% between December 2004 and 2007.

Sensitivity of our Recommendations to our Findings

Our recommendations depend particularly on two of our findings:

- 1) The Top-Up increases schools' participation in the SMSS by 16%
- 2) Children in schools that do not participate in the SMSS drink 0.76 pints of milk per day on average

Both of these findings derive from samples of the total population, and thus may estimate the behaviour of the total population with error. We now consider the sensitivity of our recommendations to these findings.

Even if the Top-Up increased schools' participation in the SMSS by more than 16%, we believe the case for the Top-Up would still be rather weak. This is because

- Although in this case the Top-Up would appear to be responsible for a greater amount of milk consumption, it is not clear that milk consumed in schools adds to total milk consumption rather than substituting for other consumption.
- We found that average milk consumption by children in schools that did not participate in the SMSS was adequate, implying that the average health benefit of any additional consumption would be small.
- Were the Top-Up to increase participation in the SMSS by more than 16%, it would also increase administrative cost by more than the £800,000 estimated (see section 7.2).

Thus, we do not feel our recommendations depend critically on the precise effect of the Top-Up on schools' rate of participation in the SMSS.

Were children in schools that did not participate in the SMSS to drink much less than 0.76 pints of milk per day on average, the case for the Top-Up would be stronger. Any effect of schools' participation in the SMSS on children's milk consumption would then have a greater health benefit, though again it is not clear that milk consumed at school adds to total milk consumption.

Other evidence, however, supports our finding of adequate milk consumption on average without the SMSS. The National Diet and Nutrition Survey found that children aged 4-10 consumed on average 120-160% of their recommended nutritional intake (RNI) of calcium, depending on sex and age. While this survey did not record whether young people drank milk at school, school milk could at most contribute 20-24% of their RNI of calcium. Thus, survey evidence suggests that on average children this age consumed an adequate amount of calcium from sources besides school milk (see section 5).

Thus, we believe our findings on the milk consumption of children aged 5-11 in schools that did not participate in the SMSS are broadly representative of the country overall.

The Top-Up in the Context of Recent Debate on School Food

Our finding that the Top-Up has little rationale might be surprising given recent attention to the nutritional quality of school food provoked by chef Jamie Oliver. However, Mr. Oliver's experiment with providing children with high-quality food showed that many parents who were unwilling to buy such foods in supermarkets were unwilling to pay for them in schools either. The same problem applies to milk that schools make available for parents to buy under the Top-Up. Further, the main contribution of Mr. Oliver's experiment was to acquaint school pupils with foods with which they were unfamiliar. School milk subsidies are unlikely to have the same effect.

3 Programme Description

3.1 Rules

The EU School Milk Subsidy Scheme (the SMSS) and the National Top-Up are run as one integrated scheme in England. This section describes the rules of this combined programme in England in 2004, and scheduled changes up to 2007.

3.1.1 Legal Framework

EU law governs the rules of the SMSS and of the Top-Up, which the UK government pays as an addition to the EU subsidy.⁸

The Rural Payments Agency's (RPA's) *Guide to the EU School Milk Subsidy*, as amended (henceforth RPA (2004)), effectively establishes the scheme's rules in England.⁹ However, any RPA rules that contradict EU law could be subject to legal challenge.

The RPA, an executive agency of Defra, processes subsidy claims and pays the subsidy to LEAs and other claimants, which are typically independent organisations such as Cool Milk at School Ltd. that claim on behalf of several schools. Schools typically claim the subsidy from their LEA or from Cool Milk, rather than directly from the RPA, since the RPA does not encourage direct claims.

The Education Act of 1996, as amended, also affects the provision of school milk (see section 3.1.6).

3.1.2 Age of Eligible Pupils

We encountered some confusion as to what ages of children were eligible to receive subsidy under the SMSS and Top-Up.

EU law states that member countries must make the SMSS available to schools containing children in nursery and primary education,¹⁰ while the Top-Up is payable to children aged 5 and above in primary education. The

⁸ The relevant law is Commission Regulation 2707/2000 of 11 December 2000, as amended. The RPA (<http://www.rpa.gov.uk/rpa/rpaweb.nsf?open>) provides a link to this EU regulation and amendments to it at. As of July 20 2005, the latest amendment is Commission Regulation (EC) No 865/2005 of 7 June 2005. In England, Statutory Instrument 2001 No. 994 provides that the Top-Up subsidy will be paid subject to the same requirements as the EU subsidy and for the withholding or recovery of both subsidies where the rules of the scheme have been breached.

⁹ As of October 2004, the guide was last amended in July 2003.

¹⁰ Member states may also make the scheme available to children attending secondary schools, though the UK chooses not to do so.

RPA's guidance (RPA 2004) is slightly ambiguous as to what constitutes 'nursery and primary education'. The RPA stated to us that children aged below 12 are eligible for the SMSS.¹¹ Thus, Junior schools, which typically take children of age 7-11, are eligible for both the SMSS and the Top-Up, and indeed, some LEAs do claim subsidy on behalf of Junior schools. However, some heads of Junior schools told us they did not believe they were eligible to participate in the SMSS or Top-Up.

3.1.3 Eligible Claimants for Subsidy

Most schools submit a claim to their LEA or other group claimant, which then submits a joint claim for all the schools in its area to the RPA. Some school heads, and the representative of DfES we contacted, would like individual schools to have the option of submitting claims directly to the RPA.

RPA guidance, however, does not encourage schools to claim the subsidy independently of an LEA or other organisation. Indeed, RPA (2004) appears to state that schools may not claim the subsidy directly from the RPA, but only through their LEA or an organisation such as IAPS¹² or Cool Milk Ltd.

EU law allows the following bodies to claim the subsidy: educational establishments, educational authorities (such as LEAs), milk suppliers, or organizations established to act on behalf of several schools or educational authorities. Since schools are 'educational establishments', EU law permits schools to claim the subsidy individually.

Were schools to claim subsidy individually from the RPA the claims would have to be accepted. Were many or all eligible schools to claim individually, the RPA's workload could multiply by a factor of 10 or even 100. The RPA's administrative costs, which are borne by the taxpayer, could then far exceed the total amount of subsidy paid under the scheme (see section 6.4.3).

3.1.4 Products Covered

The EU subsidy is available for several types of milk products but the mandatory elements are whole and semi-skimmed milk (plain and flavoured) and whole and semi-skimmed milk plain yoghurts. The UK only pays aid on the mandatory elements.¹³

¹¹ Telephone conversation with Ruth Tompkins of the RPA, November 19 2004.

¹² IAPS is the Incorporated Association of Preparatory Schools, where preparatory schools are private primary schools. IAPS' central office will process milk subsidy claims for private schools whether or not they are members of IAPS, for a fee of £20 per school.

¹³ RPA (2004) lists several technical requirements about the milk and yoghurt supplied.

3.1.5 Subsidy Rates

EU regulations permit LEAs and schools to offer nursery and primary school pupils a maximum of 250 ml of subsidised milk or yoghurt per day. The milk or yoghurt may be served with a school meal but may not be used as an ingredient of the food served.

Table 3.1 shows subsidy rates as of December 2004.

Table 3.1: EU and Top-Up Subsidy Rates, December 2004						
Unit	Whole Milk or Yoghurt			Semi-skimmed Milk or Yoghurt		
	EU	Top-Up	Total	EU	Top-Up	Total
£ Per Kilolitre	155.1	39.9	195	117.8	39.9	157.7
Pence Per 1/3 Pint	2.93	0.75	3.69	2.23	0.75	2.98
Source: Euro subsidy rates from Commission Regulation (EC) No 816/2004 of 29 April 2004 amending Regulation (EC) No.2707/2000. This Table shows Euro subsidy rates converted to Sterling rates at an exchange rate of 0.694. The RPA adjusts the EU subsidy paid for exchange-rate movements each month.						

EU regulations state that the EU subsidy will decline 16 percent in nominal terms between December 2004 and 2007. This implies that in future, the Top-Up will constitute a larger fraction of the total milk subsidy. It also implies, however, that in future schools participating in the SMSS will be claiming even smaller sums from the RPA. This would further raise the question of whether the small sums disbursed justified the cost of making and processing school milk claims and auditing them ex post.

3.1.6 Milk Provided for Free

The Education Act of 1996 as amended obliges LEAs that provide milk on a paid-for basis to supply it for free to children whose parents receive certain benefits and or who receive certain benefits themselves.¹⁴ The relevant benefits include various tax credits and benefits for asylum seekers.¹⁵ The Act does not oblige private organisations such as Cool Milk Ltd. to provide free milk to any children.

¹⁴ Under Statutory Instrument 1999 No. 2164, children whose parents are in receipt of 'Income Support' (IS), 'Income-based Jobseeker's Allowance' (IBJSA), support under Part VI of the Immigration and Asylum Act 1999, or the 'Guarantee Element' of State Pension Credit are entitled to milk free of charge. This is also the case for families who receive Child Tax Credit, provided that they are not entitled to receive Working Tax Credit and whose annual income (as assessed by the Inland Revenue) does not exceed £13,910 (05/06 financial year), and children who receive IS and IBJSA benefits in their own right.

¹⁵ In particular, see section 512 of the Education Act 1996 as amended by section 201 of the Education Act 2002 at <http://www.hms.gov.uk/acts/acts2002/20032-q.htm>.

The DfES does not actively monitor compliance with this requirement of the 1996 Act (as amended) but is responsible for following up complaints about non-compliance. The RPA's guidance to subsidy claimants does not mention the obligation contained in the 1996 Act, and the RPA does not monitor compliance with this obligation.

3.1.7 Prices Charged to Parents

Schools generally charge parents for milk supplied to their children. The RPA sets the maximum price schools may charge parents per 189ml (1/3 pint) serving to be:

Maximum price = Purchase price – subsidy + administration allowance of up to 6.5p

Since the combined EU and Top-Up subsidy is now 3.7p (Table 3.1), this allows schools to charge parents more for milk than the schools paid for it, despite the subsidy.

The RPA requires that schools have clear records available that would justify charging an administrative allowance above 3.5p per serving. It does not require schools to justify a total price of 10p or less per 189ml serving.

3.1.8 Submitting Claims

The RPA requires claimants to establish both their identity and that they understand their obligations under the scheme before submitting any claims.

In accordance with the Commission Regulation, the RPA penalises claimants for submitting claims later than four months after the end of the relevant claim period, which is typically a school term. If the claim is submitted up to one month late, the RPA reduces the payment by 5 percent. If the claim is submitted between one and two months late, the subsidy is reduced by 10 percent. The RPA pays nothing if the claim is more than two months late.

The RPA requires milk subsidy claimants to keep records relating to their claims for at least 3 years, to allow RPA and EU officials to inspect them.

Two separate units of the RPA audit LEAs' and schools' subsidy claims: the RPA Inspectorate and the RPA Counter Fraud and Compliance Unit. The RPA told us that their inspectors quite often find errors in local authorities' claims but that these typically result from clerical errors rather than attempted fraud. The RPA quoted the following inspection results:

LEAs

In the 2002/2003 academic year, 52 inspections resulting in 13 recoveries totalling £7,789.32.

Schools claiming through IAPS

In spring and summer 2003, 47 inspections resulting in recoveries totalling £1,550.29.

3.1.9 Rationing of Top-Up

Were claims for Top-Up subsidy to exceed £1.5 million in any year, payments would have to be rationed among the claimants. Total claims have never reached this ceiling, though they came close in March 2003. Defra stated to us that were it to appear that the Top-Up ceiling would be breached, they would instruct the RPA to pay subsidy claims on a pro-rated basis so as to stay within the £1.5 million budget for the Top-Up.

There is no ceiling on the total subsidy funded by the EU, as the EU will pay whatever schools claim.

3.2 Participation in the Subsidy

Participation in the joint EU SMSS and Top-Up is voluntary for LEAs and schools.

We analysed participation in the SMSS and Top-Up using the RPA's records of claims for the autumn term of 2003. These records include all schools that claim the joint SMSS and Top-Up, including some that are not entitled to Top-Up funds because they only supply milk to children aged 3-4. The RPA pays both the EU and Top-Up subsidy to all claimant schools, regardless of whether they are actually eligible for the Top-Up.

The claims LEAs provide the RPA do not in fact allow the RPA to tell whether schools are eligible for the Top-Up. This is because LEAs' claims do not report the age of the pupils that received milk within each school. Some primary schools have pupils aged from 3-9 but only supply milk to children aged 3-4. Such schools are not eligible for the Top-Up, but LEAs' claims do not permit the RPA to distinguish between these schools and others that provide milk only to pupils aged 5 and above.

We understand that Top-Up funds overpaid by the RPA are typically recovered by the Department of Health (DH), however. This is because schools supplying milk to children aged 3-4 typically also claim funds from the programme 'Free Milk for the Under 5s' separately from the Department of Health (DH). The DH then deducts EU subsidy and Top-Up from its payments of FMU5 funds to schools if these schools have also claimed from the RPA.

For autumn 2003, the RPA paid £467,000 in Top-Up subsidy and £1.9 million in EU milk subsidy to state schools and claimants on their behalf in England. Were payments made at the same rate all year, the RPA would have paid £1.4 million of Top-Up and £5.8 million of EU Milk Subsidy in England in 2003.¹⁶

¹⁶ The RPA records cover claims by LEAs and three independent organisations: Cool-Milk, Fletchers and

This section first examines variation in participation in the SMSS and Top-Up cross regions, and then variation within regions.

3.2.1 Variation Across Regions

The rate at which LEAs and schools participate in the SMSS and Top-Up differs substantially across English regions, as Table 3.2 illustrates. The first column shows the share of schools that claim milk subsidy via the RPA. This averages 63 percent in England overall, but varies from 46 percent in the East of England to 81 percent in the North West. In general, participation appears lower in southern parts of England.

**Table 3.2: Milk per school and child and share of schools claiming
Autumn term 2003.**

	Share of Schools claiming (%)	Milk per school (litres per term)	Milk per child aged 5-9 (litres per term)
England Average	63.3	610	3.8
North West	80.9	949	6.3
North East	76.1	804	5.4
Yorkshire & Humber	71.4	857	5.5
West Midlands	63.0	681	4.1
East Midlands	70.6	743	5.2
East of England	46.4	338	2.2
South East	47.8	310	1.8
South West	56.1	323	2.3
London	65.0	604	2.8

Source: RPA records, 2001 Census.

The share of schools claiming is an imperfect measure of the rate of participation in the milk subsidy. Schools that participate may provide milk to a minority of their pupils, because most parents choose not to pay for school milk for their children. Thus, the second and third columns of Table 3.2 provide alternative measures of the rate of participation in the joint SMSS and Top-Up.

School Milk Service. These are all the claims submitted in England, except for occasional individual schools (one or two, according to the RPA), and independent schools claiming via the Incorporated Association of Preparatory Schools (IAPS).

Column 2 shows, for each region, the amount of milk provided per term divided by the total number of schools. By this measure, milk provision was lowest in the South East and again highest in the North West.

Column 3 shows, for each region, the amount of milk provided under the SMSS and Top-Up divided by the number of children aged 5-9 recorded by the 2001 Census. We use this figure as a proxy for the number of children eligible for the SMSS and Top-Up in each region. By this measure participation in the joint programme is again lowest in the South-East and highest in the North-West.¹⁷

These differences in rates of participation in the SMSS and Top-Up affect the distribution of expenditure on school milk across English regions, as Table 3.3 shows.

Table 3.3: Milk claimed, expenditure and number of schools claiming, Autumn term 2003.			
	Claimed Milk, kilolitres	Expenditure on Milk, £ 000s	Schools Claiming
England Total	11,727	7,411	12,171
North West	2,760	1,664	2,354
North East	849	502	804
Yorkshire & the Humber	1,761	1,049	1,467
West Midlands	1,425	878	1,318
East Midlands	1,373	796	1,305
East of England	752	506	1,035
South East	912	642	1,405
South West	673	488	1,169*
London	1,222	888	1,314
Source: RPA records. Note: * This figure excludes a small number of schools who only claimed via Cool Milk.			

The first column of Table 3.3 shows the amount of milk for which LEAs and private bodies such as Cool Milk claimed subsidies. The North West region supplied by far the most milk, with about a quarter of the total for England.

¹⁷ Since the Top-Up is payable in respect of children aged 5-11 (see section 3.1.2), it would have been preferable to report spending per child aged 5-11. However, the version of the 2001 Census available online through the ONS only provides numbers of children aged 5-9 and 10-14. We do not believe using data on children aged 5-11 would alter the general finding of Table 3.2, however, that the rate of participation in the SMSS is higher in the North of England than in the South.

Yorkshire and the Humber supplied the next-largest amount of milk, while the East and South West of England supplied small fractions of the total.

The second column of Table 3.3 shows expenditure on milk purchases from suppliers by LEAs and other bodies. The third column shows the number of schools claiming by region. Both variables follow a similar pattern to that shown in column 1, with participation generally greater in more Northern parts of the country. If we assume that expenditure was identical during each school term, the data in column 2 imply that LEAs and private bodies spent £22.23 million on school milk in 2003.

3.2.2 Variation Within Regions

Participation rates in the SMSS and Top-Up also differed by LEA within each region. In particular, some LEAs did not claim a school milk subsidy from the RPA at all for the autumn term of 2003. Table 3.4 shows the number of LEAs not submitting a claim in each region.

Some LEAs that did not submit claims for a milk subsidy did supply milk to schools, however. We contacted the 13 LEAs that did not submit claims to the RPA for autumn 2003. Of the four replies we received, three LEAs said they had in fact supplied milk and had intended to claim. The other LEA confirmed that it had not supplied milk.

Table 3.4: LEAs not claiming milk subsidy from the RPA by region, Autumn term 2003.		
	Total LEAs	LEAs not claiming
North West	22	0
North East	12	1
Yorkshire & the Humber	15	1
West Midlands	14	1
East Midlands	9	0
East of England	10	1
South East	19	1
South West	16	3
London	33	5
Source: RPA claim records. Note that, according to RPA records, Cool Milk Ltd. did not supply milk in the LEAs that did not submit claims.		

Among LEAs that claimed a milk subsidy from the RPA, the percentage of schools participating varied widely. The participation rate ranged from 40% to 100% in the North West, North East, Yorkshire and the Humber and the West Midlands, from 25% to 90% in the East Midlands, East of England and South West, and from 10% to 100% in the South East and London. Annex 1 shows the participation rates for each LEA that submitted a claim to the RPA.

3.3 Distribution of Subsidy Payments

The differences in participation rates described above imply a regional pattern to the distribution of milk subsidy payments. Table 3.5 shows the RPA's payments of total subsidy and of the Top-Up component of the total subsidy to each English region for the autumn term of 2003.

The patterns of subsidy payments by region are very similar to the pattern of participation rates across regions.¹⁸ Columns 1 and 2 of Table 3.5 show that, of the £2.39 million in total subsidy paid, including £467,000 in Top-Up, almost one quarter was spent in the North West. About one seventh were spent in Yorkshire and the Humber, and smaller amounts in the other regions.

The pattern of Top-Up spending per child is similar to the pattern of total spending. Column 3 shows the Top-Up paid in each region divided by the number of children aged 5-9 in that region, taken from the 2001 census. Top-Up spending per child was again highest in the North West, followed by Yorkshire and the Humber, with lower spending in other regions. Thus, participation rates, and not just population, drive the regional pattern of distribution of Top-Up funds.

**Table 3.5: Total subsidy, Top-Up and Top-Up per child
Autumn term 2003.**

	Total Subsidy £ ,000	Top-Up £ ,000	Top-Up per child aged 5-9 (p)
England	2,394	467	16
North West	566	110	25
North East	175	34	21
Yorkshire & the Humber	362	70	22
West Midlands	283	57	16
East Midlands	281	55	21
East of England	154	30	9

¹⁸ Indeed, the patterns can only differ because whole and semi-skimmed milk are subsidised at different rates.

**Table 3.5: Total subsidy, Top-Up and Top-Up per child
Autumn term 2003.**

	Total Subsidy £ ,000	Top-Up £ ,000	Top-Up per child aged 5-9 (p)
South East	185	36	7
South West	137	27	9
London	250	49	11

Source: RPA records. The Top-Up paid to each claiming LEA was calculated using the RPA method (total kilolitres times £39.855).

3.4 Prices LEAs Paid for Milk

The prices LEAs paid for milk also differed substantially by region. Table 3.6 shows average purchase prices of milk across regions, constructed by dividing each region's total expenditure on milk by the amount of milk purchased.¹⁹

Column 1 describes prices of whole milk. The national average price was 38p per pint, with regional averages ranging from 34p in the North East to 44p in London. Column 2 describes prices of semi-skimmed milk. The national average price was 32p per pint in England, with regional averages ranging from 27p in the West Midlands to 43p in Yorkshire and the Humber.

**Table 3.6: Average price LEAs paid for milk by region
Autumn term 2003.**

	Whole Milk (pence/pint)	Semi-skimmed Milk (pence/pint)
England Average	38	32
North East	34	-
North West	35	30
West Midlands	35	27
Yorkshire & the Humber	36	43
East Midlands	37	37

¹⁹ For a few LEAs we could not obtain information on the total amount paid to suppliers. For these LEAs we imputed an LEA's price per kilolitre as the average price in the adjoining LEAs. The figure of total payments was then constructed as the average price per kilolitre times the quantity of milk bought in the LEA.

**Table 3.6: Average price LEAs paid for milk by region
Autumn term 2003.**

	Whole Milk (pence/pint)	Semi-skimmed Milk (pence/pint)
South East	39	39
South West	41	37
East of England	43	40
London	44	40

Source: RPA records.

These prices LEAs paid are typically higher than those supermarkets charge for milk. As Table 7.1 below shows, the price of supermarket milk in 2004 ranged from 25p to 30p per pint, for cartons containing between one and six pints. Supermarkets may have cost advantages over LEAs for several reasons: supermarkets may have more bargaining strength with dairies; dairies may have higher logistical costs of supplying schools than supermarkets, and it is surely cheaper to supply milk in large containers than in 1/3 pint cartons. This packaging cost would not explain the regional differences in purchase prices shown in Table 3.6, however.

3.5 Drivers of Participation

This section investigates what drives the differences in participation rates in the SMSS and Top-Up shown above.²⁰

We tested whether the share of schools participating in the SMSS and Top-Up in each LEA is related to several socioeconomic indicators describing the local area (average weekly earnings, and unemployment rate) and the average purchase price of milk²¹.

Table 3.7 shows the results²² of regressions of the share of schools participating in the SMSS on these potential drivers, for the 124 LEAs for which we have complete data. Both models explain a fairly small share of the

²⁰ Our survey of school heads, described in section 9, provides further information on schools' reasons for either participating or not participating in the SMSS.

²¹ Weekly earnings were obtained from the Annual Survey of Hours and Earnings (ASHE-2003), unemployment rate was obtained from the Local Area Labour Force Survey (LALFS-2003), and the average purchase price of milk has been constructed by dividing the total LEA expenditure of milk by the amount of milk.

²² Since the dependent variable is a proportion we also estimated a logistic model. The model estimated with the transformed data did not change our main conclusions.

total variation in participation rates by LEA (as the low R^2 values show), but illustrate some significant determinants of school participation.

Model 1 includes only socio-economic variables.²³ The model results imply that participation is (significantly) higher in LEAs with lower wages or with higher unemployment rates. In this sense, the programme is successful in providing milk to poorer regions.

Model 2 also includes the purchase price of milk. The price appears significant and with a negative sign, indicating that participation is higher in LEAs where the purchasing price is lower. In this sense, the effectiveness of the programme would be questionable, since it is more successful in those areas where the price of milk is already low.

However, another interpretation is possible if we believe that LEAs negotiate harder –and obtain lower prices–in areas where interest in the SMSS is higher. Under this interpretation, the effect of price in Model 2 would be estimated with bias.

The variable for employment remains statistically significant, with a positive sign. We also note that the variable for wages is no longer significant. This is because the price variable is highly correlated with the wage variable. In fact, both variables appeared to be statistically significant when tested jointly. Therefore, this does not invalidate our previous conclusions.

Table 3.7: Regression of share of schools in each LEA participating in School Milk Subsidy Scheme

Independent Variable	Model 1	Model 2
Weekly earnings (log)	-0.40* (0.16)	-0.10 (0.14)
Unemployment rate	0.06** (0.01)	0.05** (0.01)
Average purchase price of milk (log)	--	-0.67** (0.2)
Constant	1.69 (0.9)	4.32** (1.3)
R^2	0.14	0.23
Note: Regressions results with robust standard errors. T-statistics are in parentheses. * significant at 5%; ** significant at 1%.		

²³ We also estimated additional models including the share of households with lone unemployed parents with dependent children (as provided by Census 2001). The results did not change, as this is a variable highly correlated with the unemployment rate.

Finally, we also tested for regional differences in the participation rates in both models.²⁴ In Model 1 the regional dummies were jointly significant only at a 10% level of significance. In Model 2 the regional dummies were not statistically significant. This suggests that the price of milk in Model 2 already explains some of the regional differences found in Model 1.

In summary, our results show that participation in the EU School Milk Subsidy Scheme is higher in LEA areas with lower wages and high unemployment, and also in regions with lower prices of milk.

²⁴ We included 8 dummy variables to account for differences in the 9 regions.

4 Previous Analysis – the CEAS Study

We are only aware of one previous evaluation of the EU School Milk Subsidy, by CEAS Consultants in 1999. This study was commissioned by DG VI (Agriculture) of the European Commission. The study's terms of reference were to determine whether the EU School Milk Subsidy and its implementation attained the objectives the EC regulation establishing it set out. This regulation stresses that the School Milk Subsidy is designed particularly to support dairy producers.

The CEAS study examined the operation of the subsidy in six EU countries, including the UK, between 1992 and 1997. The National Top-Up to the subsidy in England was not instituted until 2001.

The following sub-sections give a brief overview of the CEAS evaluation. The final part of this section considers what we may learn from the CEAS study.

4.1 Evaluation Methods

The authors state that their methods were 'desk analysis...[and]...interviews with representatives of managing agents, administering authorities and national government departments...Primary data collection...was not undertaken.' The list of authorities contacted in the UK includes IAPS, the Incorporated Association of Preparatory Schools, but no LEAs or schools.

The authors provide national-level data on milk consumption, milk prices and take-up of the School Milk Subsidy Scheme. They describe the size of the milk subsidy in the context of the total market for milk in the EU, and compare national trends in milk prices and consumption. The report contains very little local-level data, however. The source of the authors' data is sometimes obscure, because the report contains few references or footnotes.

The study presents limited evidence to support its recommendations for alternative uses of EU funds. It presents data on the costs of several milk disposal measures, and concludes that the School Milk Subsidy is a relatively expensive means of disposing of surplus milk. However, the study presents no information on alternative measures to promote milk consumption.

We note that the data limitations in the CEAS study may have been unavoidable given the time and budgetary constraints CEAS faced and its obligation to discuss the scheme's application in six countries. However, this lack of evidence limits the amount readers may learn from the CEAS study.

4.2 Discussion of Scheme Rationale

The CEAS study states in several places that the main goal of the School Milk Programme is to increase milk consumption. Thus, for example, a figure entitled "Hierarchy of objectives for the EU School Milk Measure" shows the

ultimate objectives as being to ‘Stabilise the EU market (for dairy products) and contribute to ensuring a fair standard of living’.²⁵

The study recognises improving child health and nutrition as a further logic for the programme. However, the authors view this objective as having a secondary status to the programme’s effect on farm incomes. Thus, the authors focus primarily on the SMSS’s effect on total milk consumption in the EU.²⁶ Further, the authors do not consider alternative measures to improve child health that do not involve the consumption of milk.

The study’s focus on the effects of the subsidy on farm incomes reflects the fact that the original EU regulations were part of the EC Common Agricultural Policy. The EC regulation currently in force, EC 2707/2000, also implies the programme’s rationale is partly to support farm incomes. In point (4), for example, it states that “The list of products qualifying for aid must give priority to some basic milk products consumption of which is essential for market balance”.

4.3 Findings

The report’s main findings are on the price sensitivity of milk demand, the cost of various milk disposal measures, and trends in subsidy expenditures. The report also comments on the prices of milk in schools and supermarkets.

The authors find that national milk consumption is insensitive to milk prices. While nominal UK milk prices fell 16 percent between 1991 and 1996, total milk purchases also fell 3.8 percent by volume. The authors conclude that non-price factors were the main determinants of total milk purchases, and quote survey findings that such non-price factors include the size of the child population and the extent of doorstep delivery of milk.

The authors find that the school milk programme is much more expensive than other methods of milk disposal. Assuming the only milk disposed of by the subsidy was the amount consumed in schools, the school milk measure cost roughly 266 ecu per tonne of milk disposed. Under programmes such as export subsidies, disposal costs ranged from 50 to 70 ecu per tonne.

Payments under the EU scheme fell heavily between 1991 and 1996. This reflects reductions in the level of EU subsidy and the removal of some elements of compulsion in the scheme. Expenditure of EU subsidy in the UK fell from 57 million ecu in 1991/2 to 16.3 million ecu in 1996/7. The rate of take-up varied greatly across countries, due to variation in national policies

²⁵ CEAS (1999) p3.

²⁶ For example, the study states that “...any net positive impact of the scheme on consumption levels identified...should be seen within this broader context of total EU consumption. At best, any impact of the scheme has been very small relative to the context of the total market and the scheme’s primary objective.” (CEAS 1999 p.vii).

towards school meals. For example, the subsidy paid per head of population was more than four times as high in Sweden as in the UK.

Regarding the price at which UK schools provided milk, the study states:

the average maximum price recently (1997) charged in schools for plain whole milk was around 10 pence per 1/3-pint carton. This figure is estimated as

10.5 pence (average purchase) – 4 pence (EU subsidy for 1/3 pint) + 3.5 pence (average claimed administrative allowance) = 10 pence per serving.

...This compares with a retail (supermarket) average price equivalent for whole milk of about 17.6 pence per 1/3 pint (assumed to be purchased in 1 litre containers).²⁷

We are sceptical of this finding that UK schools provided subsidised milk at a lower price than supermarket milk. It seems unlikely that LEAs could purchase milk at a much lower price than that available in supermarkets or that the price of milk purchased in 1/3-pint cartons could be below the price of milk in 1-litre containers. The quoted price of 52.8p per pint for supermarket milk is also high in comparison to 2004 prices (see Table 7.1).

4.4 Recommendations

The CEAS study recommends that the EU milk subsidy be withdrawn. This recommendation is based on the conclusion that the subsidy represents poor value for money as a means of expanding sales of milk products. National governments would assume responsibility for continuing milk subsidies.

The study recommends that the funds devoted to the school milk subsidy be redirected towards promotional measures to encourage consumption. It does not specify what such measures could consist of.

4.5 Lessons from the CEAS Study

The CEAS study shows that, viewed simply as a measure to dispose of surplus milk, the school milk programme was an inefficient use of funds during this period. Cheaper methods of disposing of milk were available.

There appears to be little we can learn about the child health rationale for the School Milk Subsidy Scheme from this study. The study did not gather data from schools or assess whether schools were likely to continue to provide milk in the absence of the subsidy. The study did not analyse schoolchildren's diets or the effect of additional milk on their health.

²⁷ CEAS (1999) p.16.

5 The Diet of British School-Age Children

To assess the case for the Top-Up and for the SMSS overall, we now review literature on the diet and health of school-age children living in Britain and the contribution of milk to their health. We discuss both concerns over whether diets provide sufficient nutrients and the more recent concerns over dietary balance and the encouragement of a more active lifestyle.²⁸

This review focuses on three key issues concerning the dietary and nutritional status of school-aged children and adolescents, using published national reports and peer-reviewed research papers. The three key objectives are:

- (i) to examine the current dietary intake, nutritional status and lifestyle habits of school-aged children living in Britain.
- (ii) to investigate the contribution of milk to dietary quality and quantity in school-aged children living in Britain.
- (iii) to determine the effect of milk consumption on children's health (including bone and dental health).

5.1 Methodology

This investigation uses national surveys and research papers.

The *National Diet and Nutrition Survey: Young People aged 4-18 years* (henceforth NDNS) is the most comprehensive²⁹ summary of the dietary habits and nutritional status³⁰ of school-aged children and adolescents in the UK (Gregory et al., 2000). It provides comprehensive and detailed information on dietary patterns, nutrient intakes, nutritional status and physical activity patterns in young people living in Britain.

The use of research papers has been limited to peer-reviewed papers, published in scientific journals. Appropriate searches were made on relevant databases such as Medline and Bids. The author also has extensive knowledge of literature in this area.

²⁸ This section was written by Dr. Susan New, Reader in Nutrition at the University of Surrey.

²⁹ Data are provided on over 1,700 schoolchildren and adolescents and is the first national survey in Britain since the government's survey of the Diets of British Schoolchildren, which was undertaken in 1983 (Department of Health 1989).

³⁰ Methodologies used include a 7-day weighed record, blood samples for nutritional status profiling and questionnaire information on physical activity. Survey results are presented in separate formats for boys and girls in four age groups: 4-6 years; 7-10 years; 11-14 years and 15-18 years. Findings were also confirmed in the National Food Survey reports.

5.2 Information on dietary intake, nutritional status and lifestyle habits from the NDNS

We now discuss evidence from the NDNS on children's consumption of milk, calcium from all sources, other vitamins and minerals, fruit and vegetables and energy in general. We also discuss evidence on children's level of physical activity.

Unfortunately for the present study, the NDNS does not record whether young people participated in school milk programmes. Thus, it is not clear that the NDNS records consumption levels with or without this government intervention. Nevertheless, the NDNS is useful in indicating some areas of concern over children's diets.

Intake of Milk

Table 5.1 reports the proportion of young people who usually consumed milk (of any type) as a drink. Most children drank milk, although the proportions declined a little with age and were lowest among youths aged 15-18.

Table 5.1: Percentage of young people drinking milk					
	Age				
	4-6	7-10	11-14	15-18	All
Boys	95	94	94	88	93
Girls	97	88	90	85	92

Source: Gregory et al. (2000), Table 4.3.

Calcium Intake

Since milk is high in calcium, evaluating school milk subsidies requires particular attention to young people's calcium intake. We compare this intake to the Reference Nutrient Intake (RNI), a healthy intake level established by the UK government's Committee on the Medical Aspects of Food and Nutrition Policy.³¹ Table 5.2 shows the mean daily intake of calcium, as a percentage of the RNI for each sex and age group.

³¹ This Committee has since been replaced by the government's Scientific Advisory Committee on Nutrition.

Table 5.2: Mean daily intake of calcium as percentage of Reference Nutrient Intake

	Age				
	4-6	7-10	11-14	15-18	All
Boys	157	135	80	88	113
Girls	146	119	80	82	105

Source: Gregory et al. (2000), Table 9.11.

Table 5.2 indicates that, on average, children aged 4-10, roughly the target age of the EU SMSS and National Top-Up, consume substantially more calcium than would be adequate for a healthy diet. On average, however, youths aged 11-18 of both sexes were consuming substantially less than the recommended amount of calcium. This is a cause for concern.

We can estimate the minimum amount of calcium children consumed from sources other than school milk by assuming that all children surveyed by the NDNS drank milk at school. 1/3 pint of whole milk contains roughly 220mg of calcium; if children drank this at school on half the days of the year (allowing for weekends and holidays), they would consume 110mg of calcium per day via school milk. 110mg represents 24% of the RNI of calcium for children aged 4-6 and 20% of the RNI of calcium for children aged 7-10. Thus, Table 5.2 suggests that children aged 4-10 would have consumed adequate calcium from sources other than school milk, even if we make the unrealistic assumption that all of them consumed 1/3 pint of school milk every day they were in school.

There is also a distribution of intake levels among young people around these averages. Table 5.3 shows the percentage of boys and girls at several ages consuming less than a given amount of calcium per day. It shows that, at age 4-6, a small minority of children consumed less than the RNI of calcium. These percentages are more significant at age 7-10 and are then a majority at ages 11-18.

Intake of other vitamins and minerals

The consumption of many vitamins from dietary sources was adequate, with average intakes well above the RNIs. However, low intakes of vitamin B₂ (riboflavin) and folate were a concern in the older girls; and vitamin D intakes were low among boys and girls of all ages. Average intakes of zinc were below the RNI among all children.

Table 5.3: Percentage of young people consuming less than given levels of calcium from all food per day

Calcium (mg)	Boys by age				Girls by age			
	4-6	7-10	11-14	15-18	4-6	7-10	11-14	15-18
Less than 275	3	1	2	0	2	2	3	3
Less than 325	5	2	4	1	4	5	7	7
Less than 450	10	9	10	6	15	13	24	19
Less than 480	13	11	12	9	20	15	28	22
Less than 550	26	19	20	14	33	29	38	30
Less than 600	36	31	25	17	43	38	45	44
Less than 800	73	65	54	41	79	78	79	76
Less than 1000	89	85	79	68	92	95	93	90

Note: Shaded cells show consumption levels below the RNI for youths of each age and sex. Source: Gregory et al. (2000) Table 9.10.

As a result, impaired vitamin B₂ (riboflavin) status was evident among children who had low riboflavin intakes and marginal folate status was seen in 9% of girls and 7% of boys.³²

Fruit and vegetables

The NDNS indicated that children's consumption of fruit and vegetables was inadequate. Most children ate less than half the recommended five portions of fruit and vegetables a day, with 20% eating no fruit during the week of the study. Fewer than half the boys and just over half the girls ate raw and salad vegetables (excluding tomatoes and carrots), whilst only 40% ate cooked leafy green vegetables and 60% consumed other types of cooked vegetables.

Energy and macronutrient intake

While all children appeared to obtain insufficient energy from their diets, this could be due to under-reporting of their food consumption. Such under-reporting is often a problem in diet surveys. Protein intakes were above the reference nutrient intake (RNI), and provided approximately 13.1% of the food energy intake.

While intakes of dietary fat were appropriate overall, intake of saturates appeared high. The average proportion of food energy provided by dietary fat was close to the adult benchmark of 35% (35.4% for boys and 35.9% for girls). Average intakes of saturates were higher than the recommended adult

³² Poor iron status was also seen in girls aged 15-18 years, with 9% of girls in this age group with low haemoglobin levels (<12g/dL). Low iron stores were particularly common in the oldest group of girls (27%). More than 1:10 of the 11-18 year olds have low vitamin D status (~ 13%).

levels of 11%, with 14.2% of energy for boys and 14.3% for girls. The main contributors of fat and saturates were cereals, meat and meat products, potatoes and savoury snacks and milk and milk products.³³

Physical activity levels

The NDNS found that most young people were predominantly inactive.³⁴ This suggests that strategies to encourage great physical activity among children and adolescents are urgently required (Fox and Riddoch 2000).

5.3 Contribution of milk to dietary quantity and quality

Milk consumption could remedy many of the observed deficits in micronutrient consumption. 1/3 pint of milk provides around half a child's daily calcium requirement (see section 5.2) as well as several other key macro and micronutrients including:

- Vitamin B₂ (important for healthy skin) and vitamin B₁₂ (important for red blood cells),
- Magnesium (important for muscle function), potassium (important for nerve function) and zinc (important for the immune system).³⁵

In addition, supplementation with milk improves the nutritional quality of the diet to a greater extent than calcium alone (Devine et al 1996).

Milk consumption has also been shown to be positively associated with the likelihood of achieving the recommended intakes of vitamin A, folate, vitamin B₁₂, calcium and magnesium in a study examining 4,070 children and adolescents (Ballew et al 2000).

Contribution of milk to dietary quantity: macronutrients

Milk provides a significant minority of children's energy, protein and fat intake. Whole and low fat milk varieties provide 5.8% of the energy and 11% of the protein in the diets of young people aged 4-18 (Gregory et al 2000). Milk contributes 7.3% of total fat intake (4.9% from whole milk and 2.4% from skimmed and semi-skimmed milk), and 11.2% of saturated fat intake (7.3% from whole milk and 3.8% from skimmed and semi-skimmed milk).

³³ Products classed with cereals include cakes; products classed with potatoes include chips and crisps.

³⁴ Approximately 40% of boys and 60% of girls between the ages of 7-14 years spent less than one hour per day in activities of at least moderate intensity. In the older age groups, the percentage of subjects who were inactive rose to 56% of boys and 69% of girls.

³⁵ Garrow and James (2000).

Contribution of milk to dietary quality: micronutrients

Milk provides a large share of children's intake of calcium, vitamin B₂ and vitamin B₁₂. Whole and low fat milk provided 28.3% of children's calcium intake, 24.8% of the vitamin B₂ (riboflavin) intake, and 36.6% of the vitamin B₁₂ intake (Gregory et al 2000).

Milk also is an important provision for other key nutrients. Milk consumption provides over 13% of children's intake of potassium and zinc and approximately 10% of their magnesium intake.

5.4 Effect of milk consumption on children's health

Milk and other dairy products are a vital component of a healthy diet. The *Balance of Good Health* (Health Education Authority 1997) indicates that 1/6 of a person's total volume of daily food intake should come from milk and dairy products. The National Food Survey (Defra 2001) indicates that milk contributes approximately 40% of total calcium intake in the British diet. Other dairy products (such as cheese and yoghurt) are also important contributors, providing a further 17% of calcium in the British diet.

We now describe milk's contribution to bone health, dental health and body weight.

Bone health

Predisposition to poor bone health, resulting in osteoporotic fracture, is a major public health problem in the UK. Recent estimates suggest the condition costs the Exchequer of £1.7 billion per annum (Scott-Russell et al 2003). Two mechanisms principally determine adult bone health: (i) maximum attainment of peak bone mass (PBM); (ii) the rate of bone loss with advancing age.

While genetics account for 75% of the variation in bone mass, there is still room for modifiable factors (such as nutrition and physical activity) to play a role (Royal College of Physicians, 2000). Since milk and dairy products together provide over 50% of the total calcium in the diet, their influence of bone health is of great importance.³⁶

The role of milk consumption in bone health is illustrated by several studies that found a positive association between milk consumption and bone mass development. A link has been established between milk consumption during childhood bone mass development in young women (Teegarden et al. 1999), premenopausal women (New et al. 1997, New et al 2000) and older

³⁶ As noted by Heaney (2000), milk and dairy products are complex, containing many essential nutrients. Thus their effects on bone health are likely 'more than can be accounted for by any single constituent and the totality of their effects may be more than the sum of parts'.

postmenopausal women (Sandler-Black et al. 1985; Murphy et al. 1994). Similarly, a positive association has been found among Chinese girls aged 12-14 (Du et al. 2002)³⁷ and British teenage girls (Cadogan et al. 1997).³⁸ Further, a study of girls aged 7-9 found that consumption of calcium-enriched foods was associated with both greater bone mass and greater height (Bonjour et al. 1997).³⁹

Childhood and adolescence are critical periods for bone development. There are good data to suggest that an adequate calcium supply is of critical importance for bone acquisition during these periods (Abrams 1994). There are legitimate concerns that adolescent girls in particular do not obtain adequate calcium from their habitual diets (Fernandez et al. 1996; Iuliano-Burns et al. 1999). Interestingly, the latter study found, fluid milk to be the single greatest contributor to dietary calcium (39-50%).

Dental health

Dental caries, or tooth decay, is the destruction of the teeth's hard tissues by organic acids. These acids are produced when bacteria in the mouth break down carbohydrates from food.

NDNS data showed that more than half of children had dental caries (including both active tooth decay and fillings). The proportion of children with dental caries rose from 37% of 4-6 year olds to 55% of 7-10 year olds, 51% of 11-14 year olds and 67% of 15-18 year olds (Walker et al 2000).

As with all conditions, dental caries have many causes. However, studies suggest that milk does not promote caries and, indeed, is likely to prevent them. The high levels of calcium and phosphate ions in milk are considered to help prevent the demineralisation of tooth enamel and milk proteins are considered to be protective to teeth by the forming of a thin filming on the enamel surfaces (Grenby et al 2001).

Empirical studies support a link between milk consumption and dental health. A study of 6-11 year-old children with a high sucrose diet found that milk consumption was negatively associated with dental caries (Petti et al. 1997). The study also reported that children with an above average milk intake had a lower than average risk of tooth decay.

³⁷ Milk accounted for 3.2% of the variation in bone mineral density.

³⁸ This trial study found that teenage girls consuming a 300ml-milk supplement every day for 18 months had significant increases in total body BMD (9.6% vs. 8.5%) and total body bone mineral content (27% vs. 24%) compared with the control group.

³⁹ Effects were greatest in girls with a spontaneous intake below the median. For example, an increase in calcium intake of 730mg/d resulted in gains in areal bone mineral density (aBMD), bone mineral content and bone area. Moreover, the effects persisted over time. One year after discontinuation of the intervention, the differences in the gain in aBMD and in the size of some bones were still detectable and after 3.5 years, this difference was also still there (Bonjour et al. 1999).

Body weight

Milk seems to have no effect on individuals' body composition. In the trial study by Cadogan et al. (1997), teenage girls (11-18 years) consuming a 300ml-milk supplement every day for 18 months were found to have no differences in body weight or body fat gain than those girls who did not consume extra milk. Similarly, a study of children during the critical fat development period of 4-8 years found that children who consumed additional calcium from dairy products gained less body fat than the control group (MacNaught and Chan 2002).

There is a growing awareness of the critical role that dietary calcium may play in controlling body fat, with evidence suggesting the activity of calciotropic hormones in stimulating fat cells in a low calcium environment, although more research is urgently required.

5.5 Conclusions

- On average, children aged 4-10 consume more than the recommended healthy amount of calcium. A minority of children this age do not consume an adequate amount, however.
- On average, children aged 11-18 consume less than the recommended healthy amount of calcium. Data from the NDNS suggest a widespread deficiency of calcium consumption at this age, with 70-80% of children consuming less than the recommended healthy amount.
- There are also other causes for concern over young people's diets. One in five children eat no fruit and over 50% eat no raw or salad vegetables. The NDNS also revealed widespread deficiencies in the intakes of zinc, vitamin B₂, folate, iron and vitamin D in all age groups.
- Milk is a nutritionally complete food and contributes to approximately 40% of total calcium intake in the British diet of children and adults. Whole and low fat milk varieties provided 28.3% of the calcium intake to the diets of young people aged 4-18 years, 24.8% of the vitamin B₂ (riboflavin) intake and 36.6% of the vitamin B₁₂ intake.
- Milk has beneficial effects on bone health and dental health, and available data suggest higher milk consumption is protective against weight gain rather than promoting it.

6 Central Government's View of the Subsidy

This section describes the views of officials in the three departments that fund the Top-Up: Defra, DfES and the Department of Health (DH). It also discusses the views of the RPA, an executive agency of Defra, which relate to the RPA's role in administering the scheme.

6.1 The Department for Environment, Food and Rural Affairs

We gained the views of Defra officials during our project initiation meeting with them.

Defra officials said that they saw the original rationale of the top-up subsidy as being to maintain the availability of cheaper milk for school children after the EU cut its subsidy rate from 95 to 75 per cent of the milk target price. The EU and national subsidies were intended to offset some of the effect of other CAP market support measures, such as intervention, which maintain EU milk prices at artificially high levels.

Defra officials viewed the rationale for providing subsidised milk itself as being to achieve the beneficial effects of milk on child health and to inculcate a habit of drinking milk among school children. They noted, however, that higher-fat milk could perhaps have a less beneficial effect on health. The top-up was currently paid at the same rate for whole and semi-skimmed milk. However, the higher aid rate for whole milk under the EU scheme meant that the total subsidy available for whole milk was higher.

The officials stated that they did not view disposal of surplus milk as a rationale for the top-up subsidy although this was part of the Commission's rationale for the EU scheme. Rather, child health was the primary objective for UK Government support. Were the top-up to have a neutral effect on child health but to increase farm incomes, they would view the effect on farm incomes as positive, but they did not consider supporting farm incomes to be a primary objective of the top-up.

6.2 The Department for Education and Skills

We solicited the DfES's view of the goals of the Top-Up from an official from the DfES's Pupil Well-Being and Transport team. She supplied written answers to an e-mail questionnaire.

When asked DfES's view of the objective of the Top-Up, the official replied that this was "To encourage schools and local education authorities to offer affordable milk to pupils. Where milk is not made available it is likely that pupils will drink alternatives, which in many cases could be drinks high in

sugar. The consumption of sugary drinks is something that we believe should be discouraged in schools." She thought the £1.5 million spent annually on the Top-Up was effective in furthering these objectives and represented an efficient use of funds.

When asked how she thought the Top-Up compared to other programmes that might promote child health, such as school sport, the official replied that "We believe that the benefit of the Top-Up complements other programmes" but added "We have insufficient expertise to comment on its comparability to other programmes and health related interventions."

We asked further whether the DfES saw a reason why parents should not pay the full cost of milk provided in schools. The official replied that "It is very likely that not all parents would be willing, or able, to pay the full cost. It is probable that the most needy children would be most disadvantaged. Again, the parents of these children may be more likely to purchase inexpensive soft drinks with high sugar content, which can be bought in multipacks from supermarkets, as an alternative to the milk offered at school."

Finally, we asked whether the DfES had any other concerns about the Top-Up or suggestions for its improvement. The official replied that she would like an end of year reconciliation to be made between Defra, DH and the DfES to allow a unused Top-Up funds to be refunded to the sponsoring departments. She added further that "individual schools should be able to claim the subsidy, rather than needing to channel their claims via an LEA or organisation set up to provide milk. I understand that there is provision within EU legislation for individual schools to claim, but that because of resource issues this is not currently permitted within the UK."

6.3 The Department of Health

We solicited the views of the Department of Health (DH) from members of the Nutrition Team in the DH's Health Improvement and Prevention division. An official in the Nutrition Team gave us the following statement of the DH's views of the Top-Up:

"DH advises that milk plays an important part in the daily diet of all children and is a good source of calcium. Providing milk to school aged children is an important way of helping them increase fluid intake and milk can also help to replace other drinks particularly soft drinks which tend to be high in sugar and detrimental to dental health. The Top-Up promotes the uptake of school milk and is therefore a useful tool in improving diet and nutrition of school age children."

6.4 The Rural Payments Agency

In order to understand the RPA's view of its administrative task, it is necessary to describe how the RPA processes claims. Thus, we now discuss:⁴⁰

- The merits of the RPA's methods for tracking subsidy claims.
- The cost to the RPA of administering the EU and Top-Up subsidy in England.
- Whether the RPA should allow or encourage schools should to claim milk subsidy individually from the RPA rather than through their LEA.

6.4.1 Merits of the RPA's Administrative Methods

RPA employees make the following checks to each claim:

- That the amount of milk claimed is no higher than the maximum possible to be claimed.
- That the amount of milk claimed has not changed more than 20 percent since the last claim.
- That the amount of funds claimed is correct given the scheme rules.
- That the claim was submitted in a timely manner.

Thus, the RPA's regular administrators do not check the price parents were charged for milk or whether milk was actually supplied to the schools LEAs list. Rather, two groups of RPA inspectors verify these points in ex post inspections of claims, as section 3.1.8 describes.

The RPA's administrative methods appear robust to fraud, since claimants are required to keep records for three years and two inspection units audit samples of claims. Arguably the RPA's methods place too high an administrative burden on LEAs and schools given the small sums of money paid in subsidy, but EU law would appear to give the RPA little room to relax its requirements of claimants.

The RPA's administrative methods are fairly cumbersome, since claims are submitted on paper, are analysed manually, and are then filed in paper rather than electronic files. These cumbersome methods result in higher administrative costs than would be the case with an electronic system. Work to update the RPA's systems for processing school milk subsidy claims has been deferred for the time being, with current systems development being focused on the RPA's major task of implementing the single payment scheme for farmers.

⁴⁰ We gained the views of RPA employees during a visit to the RPA's Exeter offices in September 2004. These employees were Delphine Dudding, Group Manager Dairy Schemes, Terry Counsell, Scheme Manager, School Milk, Louise Smith, Deputy Scheme Manager, School Milk, Ruth Tompkins, Deputy Manager Dairy Schemes.

6.4.2 Administrative Costs

The RPA stated that their costs of administering school milk subsidies were 2.85 full-time employees in the Exeter office, plus small amounts of other employees' time.

The time of 2.5 full-time employees in the RPA Inspectorate is spent inspecting school milk claims in England.

The time of around 1.2 full-time employees in the RPA's Counter-Fraud Compliance Unit (CFCU) is spent auditing school milk claims in England.⁴¹

6.4.3 Position on Claims by Individual Schools

RPA employees stressed that they are not in favour of schools claiming milk subsidy from them individually given their current level of technology. The RPA's official position is that schools may legally claim subsidy individually from the RPA, but that it does not encourage individual claims.

The RPA's position stems from the fact that it incurs a significant cost from processing subsidy claims. Individual claims by schools would greatly increase the RPA's workload and costs. At present, the RPA receives around 450 claims per year (150 LEAs claiming each term). Were schools to claim to the RPA directly, the RPA could receive up to 54,000 claims per year (18,000 schools claiming three times per year)

RPA employees stressed that, with 450 claims to be processed manually and stored in paper files each year, for a total annual expenditure of £7-8 million, the School Milk Programme has a high administrative cost relative to its budget. The RPA processes much larger payment programmes, totalling several billion pounds annually, and few are as relatively burdensome as the SMSS and Top-Up. Were the number of claims to be submitted to increase by a factor of 10 or even 100, the cost of administering the school milk subsidy inside the RPA, given its present technology, would become absurdly high.

⁴¹ The CFCU said that in 2003/4 they spent 330 person-days on visits scrutinising school milk claims, of which 19 out of 22 visits were in England. Thus we assume $(19/22) \times 330 = 285$ days were spent in England, which we calculate represents the time of 1.2 full-time employees. While 15 days may seem a long time to spend on a single audit visit, the CFCU stated explicitly that each visit took this amount of time. One LEA official told us he was amazed when an RPA inspector told him he wanted to spend two weeks reviewing records of school milk claims form within the LEA. The LEA official told us he negotiated with the RPA inspector to reduce this inspection to one week in length in order to reduce the cost of this visit to the LEA.

7 Programme Rationale

The terms of reference for this study require us to critically assess the rationale for the Top-Up. We also view this task as necessary because we did not find the explanations some government officials gave entirely satisfactory. In particular, it was not clear why schools should offer “affordable” milk when shops already offer milk at low prices.

We view the main rationale for the Top-Up as being to increase children’s overall consumption of milk. This could occur both through the direct provision of milk and through the inculcation of a habit for drinking milk. We believe this milk consumption is mainly designed to improve child health. We do not view the Top-Up as being designed to increase milk consumption in schools per se, since if this consumption merely replaces milk children would otherwise have consumed at home, little or no benefit would result.

It is not entirely clear why the provision of school milk would increase children’s total milk consumption. Attentive parents might ensure their children consumed sufficient milk with or without the provision of school milk. Thus, special arguments are required to justify a tax-financed system to improve children’s diets. Such programmes could have additional side effects, however, both positive and negative.

Thus, we believe there are four possible arguments for the Top-Up:

- Redistribution. The Top-Up redistributes funds from richer to poorer families.
- UK national welfare: The Top-Up triggers schools to participate in the School Milk Subsidy Scheme. This triggers larger claims of EU subsidy and thus larger transfers from the rest of the EU to the UK.
- Information and Habit Formation. The Top-Up improves child health because parents and children are either ill informed about the health benefits of milk or inattentive to their diets. Thus, the provision of school milk informs children and parents about the beneficial effects of milk.
- Parental failure: some children are at risk of having poor diets because parents neglect to buy milk for them.

We now consider the merits of each of these four arguments.

7.1 Redistribution

Several parties we consulted during this study were concerned that, were milk subsidies removed, poorer families would be unable to afford milk.⁴²

⁴² For example, see the comments of the responding official at the DFES (section 6.2).

Thus, these parties seemed to believe that the Top-Up Subsidy contributed to child health by enabling poor families to buy milk and thus that the Top-Up and EU subsidy are a useful tool of redistribution from rich to poor.

We view this argument that the school milk programme is a useful method of redistribution to be highly flawed. Even if school milk did redistribute from rich to poor, there are several reasons why increasing state benefits would be a better method of achieving this redistribution. First, a milk subsidy tends to alter behaviour as well as redistributing funds. Second, the administrative costs of the milk subsidy are likely to be much larger than those of a slight increase in state benefits. Third, the milk subsidy is not well targeted towards the poor – it would not be of benefit to poor children who were lactose-intolerant, for example.

A further problem with the redistributive rationale is that, in practice, the combined EU Milk Subsidy and National Top-Up do not redistribute funds from rich to poor. This is because milk available under the subsidy is typically more expensive than that available in supermarkets. Our survey of schools found that schools charged parents prices ranging from 0-20 pence per 1/3 pint of milk, with an average of 11.4 pence. By comparison, Table 7.1 shows a major supermarket's national prices of milk containers of various sizes in November 2004. These prices imply prices per 1/3 pint of 8.4-10p. These prices are fairly typical for supermarket milk in the UK.⁴³ Thus, on average families would be better off buying milk in supermarkets than paying for subsidised school milk.

**Table 7.1: National Milk Price at a Major Supermarket
November 2004**

Container Size	Price, £	Price per 1/3 pint, £
568ml/ 1 pint	0.30	0.10
1.136 ltr/ 2 pints	0.58	0.097
2.272 ltr/ 4 pints	1.03	0.086
3.408 ltr/ 6 pints	1.51	0.084

Source: TESCO prices taken from TESCO.com website. These prices are uniform throughout the UK (telephone conversation with TESCO press office, November 8 2004).

Were schools to provide milk for free, the School Milk Subsidy Scheme would tend to redistribute from rich to poor. This is because the programme is tax-financed, and richer families pay more tax. However, free school milk would still be a less efficient means of redistribution than raising state benefits. This

⁴³ The Milk Development Council reports that the average price of a 4-pint bottle of milk in the UK has been stable at £1.03 during 2003-2004. Data published October 26th 2004 on MDC Website at <http://www.mdcdatum.org.uk/ukretailprices.htm>.

is true both because school milk is administratively costly and because children from richer families would consume free school milk.

7.2 National Welfare

As we note above, one argument for the Top-Up is that it triggers payments from the rest of the EU to the UK. This would increase the UK's national welfare if the cost of acquiring these inflows exceeded their size. We now estimate the size of these likely inflows and costs, and consider the sensitivity of our results to the effect of the Top-Up on participation in the SMSS.

The costs and benefits of the Top-Up to the UK are set out in Equation 1.⁴⁴

Equation 1: Effect of Top-Up on UK National Welfare

$$\begin{aligned} \Delta \text{UK Welfare} = & \Delta \text{EU subsidy to England} \\ & - \Delta \text{UK subsidy to EU} \\ & - \Delta \text{Administrative cost in UK} \\ & - \Delta \text{Economic distortion from additional taxes to pay National} \\ & \text{Top-Up, additional UK subsidy to EU and administrative cost} \\ & + \Delta \text{Value of child nutrition} \end{aligned}$$

We now explain the terms on the right of the equals sign in Equation 1.

- 1) The Top-Up may trigger more schools to claim the EU milk subsidy, and thus trigger more payments by the EU in the UK.
- 2) The UK partly funds any increase in EU expenditures, particularly those within the UK.
- 3) The existence of the Top-Up may increase the cost to the UK of administering the EU School Milk Subsidy.
- 4) The taxes raised in the UK to fund the Top-Up, increased contributions to the EU and additional administrative costs will create economic distortions within the UK.
- 5) The Top-Up may increase English children's consumption of milk, through some of the mechanisms described above. In this section we do not attempt to put a monetary value on the resulting health benefits.

⁴⁴ We also believe that if the Top-up caused additional milk to be consumed there would be a public expenditure saving on costs of milk disposal by other means. We have not included these savings in Equation 1 because we do not have full details of the cost savings. In the long run, government spending on milk disposal would not appear to be in the national interest; if consumers do not want to buy milk, it should not be produced.

The £1.5 million spent on the Top-Up does not appear in Equation 1, as it is redistributed within the UK and thus does not subtract from national welfare.

We now assign numbers to each term identified in Equation 1.

- 1) English state schools claimed around £5.8 million of EU milk subsidy in 2003.⁴⁵ The responses to our survey of school heads suggest that the Top-Up increases schools' participation in the EU SMSS by about 16 percent and thus triggers £925,000 of EU spending in the UK.
- 2) Detail provided by Defra on the Fontainebleau funding mechanism for the EU implies that the UK pays for 73% of any additional EU spending in the UK, and thus £675,000 of the additional £925,000 quoted above.⁴⁶
- 3) We estimate that the EU SMSS creates £5 million of administrative cost within schools each year. This cost is high because schools consume around 70% of the combined subsidies. If the Top-Up increases participation in the EU SMSS by 16%, it will increase these administrative costs by 16% of £5 million, or £804,384. These administrative costs do not require additional spending by the UK government, however, since the Top-Up and EU subsidies cover them.
- 4) Thus, we calculate that the Top-Up causes the UK government to spend £1.4 million (Top-Up) plus £675,000 (additional EU contribution) for a total of £2.08 million. If the efficiency cost of raising this tax revenue is, conservatively, 10% of the total raised, the cost to the UK of raising these funds is £208,000.

Table 7.2: Effect of Top-Up on UK National Welfare	
Item	Effect on UK (£ '000s)
Δ EU subsidy to England	925
Δ UK payments to EU	-675
Δ Administrative cost in UK	-804
Δ Economic distortion	-208
Total	-762

Thus, we calculate the total effect of the Top-Up on the UK's monetary welfare to be as shown in Table 7.2. The total monetary effect of the Top-Up is to reduce the UK's welfare by £762,000 per year. This negative effect largely reflects that (i) the UK pays for 73% of additional EU spending inside

⁴⁵ This figure is obtained by multiplying the claim in the Autumn term of 2003 by 3. This claim figure omits subsidies claimed by private schools.

⁴⁶ Defra's explanation of the Fontainebleau funding formula is given in Annex 2.

the UK (ii) the Top-Up creates about £800,000 of administrative cost within the UK.

Our calculations above are based on our finding that the Top-Up increases schools' participation in the SMSS by 16%. We can examine the effect of different assumptions for this rate using the approach above. This implies that, if the Top-Up did not affect participation in the SMSS at all, the Top-Up would reduce UK national welfare by £140,000, since this would be the cost of raising £1.4 m in tax revenue. Were the Top-Up to increase participation in the SMSS, by 32%, it would reduce UK national welfare by £1.4 million, since the Top-Up would then be responsible for a greater proportion of the administrative costs the joint Top-Up and SMSS create within schools.

In summary, we see no merit in the argument that the Top-Up is justified by its net effect on UK national welfare, measured in monetary terms. Were the effect of the Top-Up on schools' participation in the SMSS higher than the 16% we estimate, the net effect of the Top-Up on UK welfare would be even more negative.

7.3 Information and Habit Formation

Children and parents may be very uninformed or prone to ignore the health benefits of drinking milk. Thus, provision of milk at school may inform both children and their parents that there are health benefits of drinking milk, and thereby provoke a habit of drinking milk. Since the Top-Up increases schools' participation in the SMSS, it increases the number of children and parents who receive this information.

The following points weaken this informational argument for the Top-Up:

- (1) This information could be given to parents and children in a cheaper manner that did not involve daily deliveries of goods to schools or large numbers of claims for small sums of money.
- (2) A parent who was unaware of the dietary benefits of milk or heedless of their child's welfare might refuse to pay for their child to receive school milk.
- (3) Several other government schemes have existed and do exist to inform parents about healthy nutrition. Thus, current school milk programmes may convey little additional information.
- (4) This argument for a programme to subsidise schools' provision of milk would also tend to justify subsidies to schools' provision of toothbrushes, toothpaste, washing facilities and more or less any other important good or service.

Despite these weaknesses of the informational argument for the SMSS and Top-Up, the scheme could increase children's milk consumption. Since 35,181 kilolitres of milk are supplied annually under the joint SMSS and Top-Up, and the Top-Up increases schools' participation in the SMSS by 16%, the

Top-Up could in principle increase children's consumption of milk by 5,629 kilolitres per year, or by 3.2 pints per year per English child aged 5-9.

The total effect of the Top-Up on children's milk consumption is somewhat unclear, however. The additional milk consumed at school could simply substitute for milk that would otherwise have been consumed at home. Our survey of schoolchildren (discussed in Sections 11 and 12) found only weak support for the view that milk consumed due to a school's participation increased pupils' total milk consumption.

If we assume the additional milk consumed in schools adds to children's total milk consumption, the net effect of this additional consumption on health is also questionable. Those children who consumed additional school milk may consume considerable milk at home also. Our survey of schoolchildren gave some support to this view (see section 11). On average, children in schools that did not participate in the SMSS drank 0.76 pints of milk per day, and there were children who drank very little milk in both participating and non-participating schools. Thus, the results of our survey suggest that the Top-Up has some effect via its role in spreading information about the benefits of milk, but that the resulting improvement in child health is minor.

7.4 Parental Neglect

Some parents may neglect to buy milk for their children, even though they can afford to and are informed of the benefits of milk. Therefore, there would be some rationale for a programme that gave milk to such children. It is not clear, however, that parents who neglect to purchase milk from supermarkets would choose to buy milk from schools. Therefore, school milk would have to be provided for free to reliably overcome problems caused by neglectful parents.

The Top-Up does not, generally, support a free milk programme. The combined EU School Milk Subsidy and Top-Up are too small to allow schools to provide milk for free in general (see section 3.1.5). Local authorities that provide school milk, whether or not they participate in the SMSS and Top-Up are, however, obliged to provide free milk to children whose parents receive certain state benefits (see footnotes 14 and 15).

Making milk free under the present programme would require a large increase in the Top-Up. Given the Top-Up of 0.75 pence per 1/3 pint (Table 3.1), schools' average sale price of milk per 1/3 pint is 11.4 pence (Table 9.1). State schools currently claim Top-Up subsidy on 11,727 kilolitres of milk per term (Table 3.3). Thus, for schools to provide the present quantity of milk for free would require the budget of the Top-Up to increase by $11,727 \times 3 \times 3 \times 0.11 / 0.568 = £21.2$ million.⁴⁷ Were the Top-Up subsidy raised by

⁴⁷ Note that kilolitres must be multiplied by $1000 \times 3 / (0.568)$ to produce the equivalent number of 1/3-pint cartons. This figure is then multiplied by 0.11 (additional payment per carton, in pounds) $\times 3$ (terms per school year) to produce the figure of £21.2 million.

11.4 pence, however, take-up by schools would surely increase, further increasing the cost of the programme.

It is questionable whether the risk of parental neglect is widespread enough to justify an annual expenditure of £20-£30 million on a universal free milk programme. Most of the free milk would go to children whose parents are attentive to their diets, and would thus be of no social benefit. Indeed, the DH currently believes that supplying free milk as well as fruit to children in nursery education is prohibitively expensive (DH 2004).

Were the government willing to spend such sums on free milk programmes, we believe children in nursery education should take priority to receive it, since younger children are likely to be more vulnerable.

In summary, we see no merit in the 'redistributive' rationale for the Top-Up. We see some merit in a 'redistributive' argument for a free school milk programme.

8 LEAs' Views of the Subsidy

8.1 Survey Design

Since LEAs decide whether to participate in the School Milk Subsidy Scheme, and those that do must collect schools' claims and submit them to the RPA, we were interested in LEAs' views of the Subsidy Scheme.

To gain LEAs' views, we sent an e-mail survey to all LEAs that had claimed milk subsidy from the RPA for autumn 2003. The survey was designed particularly to provide evidence on LEAs' costs of administering the SMSS and Top-Up, their policy towards providing free milk for children whose families received benefits, and their overall view of the programme. It contained both structured questions and questions that invited longer comments. The full survey is reproduced as Annex 2.

We contacted separately the 13 LEAs that did not claim milk subsidy from the RPA for autumn 2003.

We now describe the responses of the 61 LEAs that did claim subsidy for autumn 2003 and responded to the survey.

8.2 Administrative Costs

While administrative costs seemed fairly low in each LEA, their total across LEAs appears large in relation to the scheme's small total budget.

The average response was that administering the SMSS and Top-Up required 0.25 person-years of time per LEA.⁴⁸ Since 137 LEAs claimed submitted a claim in Autumn 2003, this implies that administering the SMSS/Top-Up required 34 person years within LEAs. We also asked whether LEAs made other payments to schools to help them cover scheme costs such as handling deliveries and administration. In general LEAs appeared not to make such payments.⁴⁹

Some LEAs complained about the administrative cost of the scheme. In particular, one said that

⁴⁸ We omit one LEA that reported that it spent 12.3 person years administering the SMSS each year, and thus appears not to have understood the question.

⁴⁹ Only two LEAs gave an answer that was neither 'zero' nor 'don't know'. The first LEA answer was £3,000, which the respondent explained as "Milk letters sent to every parent each term cost £1,600, black sacks provided to all primary schools cost £1,400." The other LEA answered £6,554, which the respondent explained as "Payments to caretakers and school clerks." In other LEAs, schools may bear these costs.

The overall value of the grant is disproportionate to the costs incurred in administration by LEA staff, schools staff and the RPA...we are subjected to old fashioned and time-consuming audits that must be costly and of negligible value. Our LEA receives circa £50m in Standards Fund, none of which is subjected to the severity of audit as the circa £90,000 we receive from Milk Subsidy. School milk may be a good use of funds but the associated bureaucracy diminishes this value significantly.

8.3 Free Milk for Children in Receipt of Benefits

When asked how much they spent providing free milk to children whose families received state benefits, most LEAs answered 'nil', 'not applicable' or 'don't know'. However, some LEAs in the North of England reported spending significant sums on milk for such children.

Three LEAs stated that they did not provide free milk to children whose families received benefits. One of these LEAs claimed milk in 2003 for primary schools with minimum statutory ages of pupils of five. This LEA may, thus, have failed to fulfil its obligation under the Education Act of 1996 (see section 3.1.6).

It is not clear how we should interpret the responses of LEAs that answered 'nil' without a clarifying comment. There could be at least the following three explanations:

- Schools' budgets already include these costs and thus LEAs do not view this as a separate call on their own budget.
- Milk is only provided in schools to children under five, in which case it is free to all children.
- In schools where milk is provided to pupils over five, no milk was provided for free to children whose families received benefits, in apparent breach of the Education Act of 1996 (as amended).

Seventeen LEAs said they provided funds for free milk for children in receipt of benefits. The amounts supplied ranged from £500 to £208,000, with an average of £43,407.

The LEA that reported spending £208,000 explained "The cost to [the LEA] of milk is £208,000 pa giving 14p per day to every pupil taking a free school meal to meet the cost of milk. This budget allows every school to operate a milk scheme with or without any of the external grants available."⁵⁰

The LEA reporting the second-highest spending on milk for families in receipt of benefits explained "Money allocated to schools £96,100 includes

⁵⁰ We verified by telephone call that this statement was correct. However, this LEA started its programme of providing free milk in this manner on April 1 2004, so associated claims for milk subsidy would not appear in our analysis of claims made to the RPA for the Autumn term of 2003.

other additional costs". Thus the figure of £96,100 may overstate expenditure on payments for free milk.

8.4 Overall View of the Scheme

The LEAs who responded were generally positive about the School Milk Programme, with small percentages saying they thought the programme was wasteful or a waste of funds. However, as noted above, several complained about the programme's administrative burden.

When asked whether they considered the Top-Up worthwhile, 39 LEAs said they did, 15 said they found the scheme neither worthwhile nor wasteful, and 3 responded that they found the scheme wasteful.

When asked whether they considered the Top-Up a good use of funds, 50 LEAs said they thought the funds were well spent, 6 thought they would be better spent elsewhere, and 5 respondents were ambivalent. Comments from LEAs who thought the funds could be better spent elsewhere included the following:

The children that really need the milk do not always benefit as parents cannot afford the subsidised milk. Milk should be available free to all who want it.

The funds could be spent improving school meal provision i.e. quality products and more fresh produce.

I suspect that the existence of the grant has encouraged main suppliers to invest in specialised packaging equipment. If the grant was withdrawn and suppliers only distributed 1/2 pint or 1 pint containers this would be less suitable for young pupils. It may be less administration to give the grant direct to the suppliers of third pint cartons.

Some LEAs that had answered that they thought the EU Subsidy and National Top-Up were a good use of funds also gave longer comments. These included that funds could be spent on improving the quality of lunchtime meals, and that the RPA's requirements for claims submitted were overly burdensome.

In addition to these questions, we asked whether the scheme caused any health and safety concerns. Survey responses suggested that these concerns were minor and had been overcome. Although the survey did not ask about LEAs' level of participation in the School Milk Programme, one LEA noted that it did not supply milk to children aged over 5. This may also have been true of other LEAs.

9 School Heads' Views of the Subsidy

9.1 Survey Design

We solicited the views of school heads through an online survey. This survey was designed in particular to provide evidence on reasons for non-participation, the price schools charged parents for milk, and schools' administrative costs. The survey questionnaire is reproduced as Annex 4.

We randomly selected 10 percent of the nursery and primary schools in each LEA to be invited by letter to complete the survey. For LEAs where this 10-percent figure was less than 5, we invited 5 schools to complete the survey, where this was possible. In total we invited 1,945 state schools to complete the survey.

We also invited 100 independent schools to complete the online surveys. 50 were selected at random from a list of schools supplied by the Incorporated Association of Preparatory Schools (IAPS) of schools that claimed through that organisation.⁵¹ A further 50 were chosen randomly from schools that were members of IAPS but did not claim a subsidy via IAPS.

The summary below refers to the 164 schools that responded, of which 74 participated and 90 did not participate in the Top-Up by providing milk to children aged 5 or more. Of the 90 schools that did not participate in the Top-Up, 26 stated that they participated in the Free Milk for the Under 5's (FMU5) programme. Other schools may have participated in FMU5 without stating this.

We believe the survey responses are broadly representative of English state schools, although independent schools are under-represented. The 164 responses came from schools in all areas of the country. The responses came from schools in 74 different LEAs, out of 150 LEAs in England. No single LEA dominated the replies; there were between 1 and 11 responses per LEA. Only one independent school responded, however.

9.2 The Participation Decision

Of participating schools, 84% (62 out of 74) said they would continue to participate were the price of subsidised milk to increase by 10%. This would be approximately the price change created by ending the Top-Up: the average price at which schools purchased whole milk in Autumn 2003, net of the

⁵¹ IAPS submits subsidy claims on behalf of schools that are both members and non-members of IAPS, for a £20 fee.

subsidy, was 9p per 1/3 pint.⁵² Thus, removing the Top-Up of 0.75p per pint would increase the price of subsidised milk to schools by 8.3%.

Also among participating schools, 40% (27 of 68 who answered the question) said they would continue to provide milk on a paid-for-basis were the subsidy removed entirely, while the other 60% said they would stop participating.

Schools that did not participate in the scheme gave a variety of reasons for not doing so. Schools' responses were as follows, with some schools giving several of the reasons below:

I am unaware of the programme	20
My LEA does not participate in this programme	13
There is no demand from parents for this programme	14
Our administrative costs for participating are prohibitive	9
Other reason	22

Two respondents replied "the subsidy is not relevant to our school as it is a Junior school". This is a misunderstanding, as all pupils up to age 12 are eligible to receive the subsidy (see section 3.1.2). We included the two junior schools among the respondents that said they were unaware of the scheme.

Explanations from respondents who answered 'other reasons' centred on the administrative costs of the scheme. These included paperwork and delays in receiving subsidy, but also problems with parents who refused to pay for milk. For example, one school commented

We were involved in the scheme, but the administrative cost and effort to claim for the milk was far too time consuming. We had a high level of parents who refused to pay once children were on the subsidy. Parents did not see why they had to pay. The cost to the school of administration time and paying for milk parents refused to pay for were not worth the benefits.

In addition to schools that reported that parents refused to pay for milk, other schools reported that parents could not afford to pay for school milk. One noted "the subsidised milk is too expensive for most of our parents, especially if they have more than one child", while another said "We are located in an area of deprivation, and parents are unable to contribute to any requests for money we may send home". These comments could perhaps be explained by noting that schools typically charge parents a higher price for subsidised school milk than supermarkets do.

Other schools gave a variety of other reasons for not participating. They explained that when they had participated, pupils' take-up of subsidised milk

⁵² The average purchase price for whole milk was 12.7p per 1/3 pint (see Table 3.6), and the EU subsidy (2.93p) and Top-Up (0.75p) totalled 3.68p per 1/3 pint.

was poor, that there was no way of keeping milk cool, that class time was lost handing out milk and cleaning up spills, and that they wanted to concentrate on the free fruit scheme. Some noted that the administrative difficulty of the free fruit scheme deterred them from participating in the milk scheme as well.

A majority of schools that did not participate in the scheme reported that they would not participate even if they could buy milk at 10 percent lower price than they typically faced (17 would but 36 would not participate). Their reasons were again that they found administrative costs prohibitive, that they had difficulties making parents pay, or that parents could not afford to pay for any school costs.

9.3 Prices Paid and Charged

Responses to questions about the prices schools paid and charged for milk revealed two disturbing points.

First, schools charge parents a price for milk that is, on average, fairly close to the price they pay for milk. The average price charged to parents was 11.4p and the average price schools paid for milk 12.5p.⁵³ This is consistent with the rules of the SMSS which, as section 3.1.7 explains, allows schools to include an administrative charge in the price they charge parents for milk. Indeed, the scheme's rules permit schools to charge parents as much as or more than the schools pay for the milk. We believe an accurate summary of these facts is that, on average, schools pass only a minority of the school milk subsidy on to parents.

Second, the subsidy-inclusive average price of 11.4p per 1/3 pint is slightly higher than supermarkets' price per 1/3 pint of milk in larger containers, of 8.4-10p (Table 7.1). We would expect the price of milk in 1/3-pint containers to exceed that of larger containers. All schools that responded reported providing milk in 1/3-pint servings. Yet the scheme's efficiency is rather dubious when, despite the subsidy and administration involved, subsidised school milk is more expensive than that available in supermarkets.

Table 9.1 summarises the prices schools reporting charging parents for milk and paying for milk, either to a supplier or to their LEA. (We omit schools that only supplied milk to the under 5s, as they do not charge parents or pay for the milk supplied under the Free Milk Scheme for the under 5s).

⁵³ The price schools reported paying is similar to that implied by LEAs' claims for milk subsidy. These imply LEAs paid on average 12.7p (whole milk) and 10.7p (semi-skimmed) per 1/3 pint (Table 3.6).

Table 9.1: Prices Paid and Charged by Schools per 1/3 pint:

	Price charged parents	Price paid for milk		
		Total	To a supplier	To LEA
Respondents	68	45	27	11
Average	11.4	12.5	13.3	9.9
Range	0 – 20	4 – 20	7 – 20	4 – 16
Note: only respondents providing milk to children aged 5 or above. The totals of schools do not add, as some schools did not specify whether they paid a supplier or an LEA.				

We note that the prices parents paid and the prices schools paid for milk varied significantly between respondents. The fact that, on average, where schools paid for milk from an LEA, they paid a lower price than where schools paid a supplier directly might indicate cost advantages of organising milk supply centrally through LEAs.

9.4 Administrative Costs

The survey revealed a mixed picture of whether the scheme places a high administrative burden on schools. Participating schools reported a monetary value of their annual administrative costs ranging from zero to £2,000, with an average of £273. Since the RPA records 12,171 schools as participating in the scheme in autumn 2003 (Table 3.3), this average would imply the cost of administering the scheme within schools totalled £3.3 million. In fact this figure would be an underestimate, since some independent schools claim the subsidy and some LEAs provided school milk but forgot to submit their claim forms for autumn 2003.⁵⁴

Some participating schools commented negatively on the costs of administering the scheme, with responses including

Time to administer the scheme (write letters, gather receipts, account for expenditure, set up register), uses up precious administration time in a small primary school.

Paperwork involved is time consuming, especially when you have to calculate children's date of birth relating to under and over 5 year olds.

As noted above, some schools that did not participate in the scheme also made some very negative comments about the scheme's administrative costs.

Despite some complaints, a majority of participating schools did not think LEAs or government could run the scheme more efficiently (21 thought they

⁵⁴ In section 7.2 we estimate by a different route that the joint Top-Up and SMSS create £5 million in administrative cost within schools. We regard this estimate of £3.3 million as broadly supportive of this £5 million estimate.

could, 39 that they could not). Respondents who thought the scheme could be run more efficiently explained their answers as follows:

Pay the invoices centrally instead of having us pay the dairy then send a copy to the LEA and claim the subsidy back once per term. Also takes a long time for the subsidy to reach the school's bank account (approximately 4 months after the end of the relevant term).

Simplified and/or assisted methods of collecting the parental contribution.

Form could be completed online. Because we allow children to choose the drinks on a daily basis our milk consumption does vary daily. A reliable, prompt and flexible delivery of milk would save staff time. Further paying the supplier directly would cut the need for collecting receipts, and putting a claim in to the school office.

Other school heads made similar comments, while some thought that the SMSS could be operated in the same manner or jointly with the free fruit and vegetable scheme.

We found lower administrative costs in schools that only operated the Free Milk for the Under 5's scheme. The average administrative cost reported by these 26 schools was £41 per year, much lower than the £273 average for schools that participated in the Top-Up by providing milk for children aged 5 or more. This cost difference is consistent with the additional cost involved in soliciting and tracking parents' payments, though it may also reflect that schools supplying milk to older pupils supplied more milk in total.

9.5 Scheme Impacts

Overall it appears most milk supplied under the scheme is drunk and not wasted. We asked schools to describe wastage according to one of three set answers: 25 reported that all milk was drunk, 42 that less than 10 percent was wasted, and 7 that more than 10 percent of milk was wasted.

Besides the negative impacts of administrative cost described above, many participating schools reported significant and sometimes unexpected benefits of their participation in the scheme. These comments included:

Those children participating are more able to concentrate after their milk. It also makes a social moment in the school day when they sit and talk to their friends.

Parents still want children to have milk on a daily basis and we have had no real drop in numbers. Also helps with our healthy schools policy – no cans and fizzy drinks etc.

Some children have now declared a love of milk where mothers have previously told us that they do not drink it.

Children will try milk at school if their friends and peers are seen to be drinking it, when they may not at home.

A nourishing drink for very young children, in a deprived area.

A minority of schools reported problems with the programme, however. These included sanitary problems due to spillages, the smell of spilt milk and their concern that placing half-drunk cartons in school dustbins could attract rats.

9.6 Overall View of the Programme

Overall, heads of schools that participated in the scheme thought the Top-Up was a good use of government funds. Slightly less than half of heads from non-participating schools thought the scheme was a good use of funds. Respondents' views on this point were as follows:

	Participating Schools	Non-participating Schools
Funds spent on the Top-Up are well spent	58	22
Top-Up funds could be better spent elsewhere	7	19

There may be some sample-selection bias in the answers we received: schools that did not participate in the scheme were probably less likely to respond.

Some school heads who thought Top-Up funds could be better spent elsewhere explained that they would rather spend the funds on school gyms or on improving the quality of school meals. One head commented that:

Most of the children who participate come from families with good health concerns. Those the government wish to target often cannot or will not afford the 15p per day.

This is consistent with the fact that a price of 15p per 1/3 pint of milk exceeds the 8.4-10p per 1/3 pint for which supermarkets sell milk.

10 Views of Milk Producers and other Interested Parties

Since the Top-Up could affect the incomes of milk producers, we also solicited the views of milk producers on the performance of the Top-Up scheme and its relevance for the dairy industry. We sought the views of Dairy UK, the Milk Development Council (MDC) and the National Farmers Union (NFU). This section summarises the responses of each organisation to a questionnaire we sent them; Annex 6 gives their full responses.

We also sought the views of Milk For Schools, a registered charity whose mission statement is to educate the public in the field of school based nutrition. Milk For Schools evolved from the Schools Milk Campaign, and its trustees include parents, PTA members and school governors. Below we also summarise the response of Stephanie Spiers, head of Milk For Schools; Annex 7 gives her full reply.

10.1 Dairy UK

Dairy UK was formed on October 1 2004 and defines itself as the new, united voice of the dairy industry. It operates throughout the United Kingdom representing processors and distributors of liquid milk and dairy products, as well as milk producer co-operatives.

Objectives of the programme

Dairy UK believes the government's objective from the Top-Up is to provide a cost effective supply of subsidised school milk to primary school children. The Top-Up programme was intended to keep down the price of subsidised milk after the changes in EU subsidy rates in 2001.

Impact

The current impact of the programme is low. According to Dairy UK "around 1.3 million primary school children benefit from milk schemes (DH Welfare & EU subsidised Scheme)", and they estimate that "around 80% of primary school children do not currently benefit from the EU Scheme".

Programme impact is low despite activities to promote the scheme. The dairy sector "actively promotes the availability of the EU scheme (with annual promotions, latterly part funded by the EU, such as School Milk Week – annual budget c. £100,000) and [promotes] the activities of the School Milk Project funded by the MDC and dairy companies."

In addition, there are significant differences between the levels of individual support/participation in the provision of school milk in primary schools in different LEAs. Dairy UK "would like to see more promotion from

government/RPA and closer liaison between these bodies and LEAs to encourage individual LEAs to promote the Scheme to schools within their areas of operation".

Because of the low impact of the programme, Dairy UK would accept that a small proportion of the funds could be "expended on promotional activities" (as long as these were undertaken in consultation with dairy companies and were complementary to existing work financed by dairies and the MDC). Encouraging LEAs to utilise the Scheme could be done in such away as to be very cost effective, such as through existing communication channels and the Internet.

Effectiveness

Dairy UK thinks the National Top-Up "successfully maintains a cost-effective subsidy provision, cushioning against Commission change to subsidy rates, which could have led to a reduction of Scheme usage from 2001 onwards".

The maintenance of a cost-effective supply of milk, keeping costs down to parents, is very important. According to Dairy UK, "milk is not price insensitive and therefore price changes are important to the uptake under the Scheme. Moreover, "significant cost increases to parents cannot benefit the take up of milk provision in schools and could lead to a drop off in consumption".

According to Dairy UK, the benefits of the programme for the overall industry in general are small. The overall levels of primary school milk consumption are not of a volume that "significantly benefits the industry in overall financial terms. Provision of milk under the Scheme represents around 0.7% of the total volume of the liquid milk market in the UK".

However, Dairy UK "recognize and support the important role played by the Scheme in encouraging milk consumption in future generations, thereby the benefit to the industry is in developing tomorrow's customers".

An important point is whether the Top-Up helps increasing healthy diets in children exposed to marketing campaigns from companies selling alternative drinks (soft drinks, juices). However, this does not seem to be a problem as "the competition provided by possibly less nutritious beverages/products is far more prevalent in secondary schools" and hence is more relevant to pupils outside the scheme.

Overall, Dairy UK believes that the National Top-Up is "a cost effective measure in assisting the promotion of healthy diets/habits in children".

10.2 The MDC

The MDC is a Non Departmental Public Body established by the Agriculture Ministers following the reorganisation of the Milk Marketing Boards in 1994. Its stated objective is to "provide the opportunities, insights and expertise

that spur dairy farmers to improve profits in a changing world.” It does this primarily through its programme of research and development, and by communicating results to dairy farmers.

Objectives of the programme

The MDC views the government’s objective for the programme is to “provide milk to primary children at a reduced rate, ensuring maximum benefits to parents and children”.

Impact

The impact of the programme is low. The MDC estimates that “80-90% of primary school children [are] not participating/benefiting from the EU scheme”. The participation is low despite the promotional activities by the dairy industry (School Milk Week) and “the activities of the School Milk Project funded by the MDC and dairy companies”.

In the MDC’s opinion, administration surrounding the scheme is a big obstacle in reaching the target population. In their opinion, greater uptake within LEAs could be encouraged “by reducing the administration of the scheme and making it more simple”. This is viewed by the MDC as “absolutely necessary to ensure its success”.

Some of the administrative obstacles are related to the children receiving benefits. Where an authority is providing a milk scheme, it should be made available free to those children receiving benefits (free meals). Unfortunately the authority does not receive any additional budgets to assist and this is translated into an additional cost.

Other problems arise from the administration of the scheme. Administration of the scheme is very complicated and time consuming. Restricted manpower within schools and LEAs make them less willing to participate. “Reducing the administration of the scheme and making it more simple (...) would encourage greater take up”. Furthermore, “allowing schools to claim directly rather than through an additional body that incurs a charge could also increase uptake”. In fact, the MDC has been having success with other schemes where “the LEA and schools do not claim the subsidy, and have reduced administration”.

According to the MDC, another important aspect of improving the participation of the programme would be to increase its promotion. Like Dairy UK, the MDC would agree on a small proportion of the funds being “expended on promotional activities that would link in with existing work undertaken and financed by dairies and the MDC”. In this sense, “promotions linking the dairy industry along with DH/DfES and RPA” could be used to give a “more consistent message”.

Finally, the MDC suggests that the “introduction of cheese as an additional product” could be beneficial.

Effectiveness

The MDC shares Dairy UK's view that "the maintenance of a cost effective supply of milk, keeping costs down to parents is important to ensure that consumption does not drop". However, the MDC also thinks that the National Top-Up is a "cost-effective" measure for the "removal of surplus from the market" (although, according to Dairy UK, the scheme represents only around 0.7% of the total volume of the milk UK market). Finally, the MDC also thinks that the programme benefits the dairy industry in general in that it helps the "engagement of new milk drinkers at a young age creating a milk drinking habit".

The MDC also emphasizes the rationale "of the provision of milk to children based on the nutritional benefits of the product". Unlike Dairy UK, the MDC does observe competition from alternative products such as soft drinks and juices in some primary schools.

To summarise, the MDC sees the National Top-Up as "a cost effective way of delivering healthier products to children". Therefore it "would wish to see the maintenance of the existing Top up and if at all possible its extension along with resources being put into promotion of milk to primary children and the health benefits of this product".

10.3 The NFU

The National Farmers Union (NFU) is the largest farming organisation in the UK, representing around 75% of the full time commercial farmers in England and Wales. The NFU does not affiliate itself with any political party and its central objective is to promote successful and socially responsible agriculture and horticulture, while ensuring the long-term viability of rural communities.

Objectives of the programme

The NFU sees the objective of the National Top-Up as providing a cost effective way to supply milk to children at a subsidised rate. The overall rate of the National Top-Up and the EU subsidy should reflect the EU support rate before it was lowered in 2001.

However, the NFU believes that "the scheme is only operated at the minimum limit and only allows primary age children to benefit."

10.4 Impact

The NFU shares the views of Dairy UK regarding the programme's impact and the measures that can be undertaken to improve its efficiency.

Like Dairy UK, the NFU believes that participation in the programme is low due to poor knowledge of its existence among parents and schools. Both

industry organisations welcome a greater effort by the government and the RPA to increase LEA participation.

Likewise, the NFU does not object to some funds being diverted from the National Top-Up for promotional activity as long as they are complementary to those funded by dairies and the MDC. Like Dairy UK, the NFU sees utilisation of Internet as a way to minimise the diversion of Top-Up funds for a government effort to encourage LEA participation.

Effectiveness

With regards to the effectiveness of the programme, the NFU highlights similar points as Dairy UK. The shared views are:

- The National Top-Up is a cost effective way to maintain the same overall level of subsidies after the Commission's reduction of the subsidy rate in 2001.
- The scheme is a cost effective way to keep the price of milk down, which encourages price-sensitive parents to participate in the scheme.
- The scheme has a small direct impact on the industry, accounting for around 0.7% of the total volume in the UK liquid milk market.
- The scheme is important for the industry as it encourages young people to consume milk, and thus develops future demand for milk.
- The Top-Up is important as it promotes a healthy alternative to soft drinks. According to the NFU, without financial support there is no way that milk could ever compete with the promotion activities of big soft drink brands.

Overall, like Dairy UK, the NFU believes that the National Top-Up is a "cost-effective measure in assisting the promotion of healthy diets/habits in children". The "NFU would be concerned if the lack of available funding discouraged low income households from allowing their children to have school milk". Finally, "the NFU would wish to see the maintenance of the existing Top-Up and, indeed, see resources put into promoting the availability of the subsidy to primary school children".

10.5 Milk For Schools

We solicited the views of Milk For Schools (MFS) on National Top-Up and school milk subsidies in general. We asked Stephanie Spiers, Chair of the Trustees of Milk For Schools, to explain what they perceive to be the rationale for the National Top-Up and for other school milk schemes, as well as to provide us with their recommendations for the programme.

Ms. Spiers said that Milk For Schools believes the government should subsidise milk through various schemes in order to counteract poverty and poor diets. MFS feel that school milk schemes are essential to ensure access to

nutrition for all and provide a more balanced diet that would alleviate nutritional deficiencies.

Ms. Spiers believes school milk schemes advance government objectives in three ways:

- The scheme supports the development of the school milk market, as recommended by the Curry Report.⁵⁵
- School milk contributes to the government's policy to counteract child poverty.
- Supplying milk in schools (especially semi-skimmed) provides an alternative to fizzy drinks and could reduce child obesity.

However, Ms. Spiers also believes that regulatory issues and bad practices obstruct the scheme from functioning properly. She argues that the scheme is obstructed by the decision of some head teachers and LEAs not to participate. The RPA's policy to not accept subsidy applications from individual schools, and not providing subsidy allowances for cheese and other products further obstructs the scheme. Ms. Spiers emphasised that in practice private agencies had played an important role in taking the administration of the scheme away from LEAs and schools.

Ms Spiers' main recommendations for the School Milk Subsidy Scheme, on behalf of Milk For Schools, are:

- All pupils, not only catered ones, in any school should have access to the subsidy.
- Schools or catering services supplying free meals to certain children should also be obliged to supply free milk to these children.
- All children under five should receive free milk as an obligation on the day-care provider.
- The secondary school milk subsidy should be reinstated.
- Access to semi-skimmed milk should be encouraged and access to carbonated soda withdrawn, so as to improve child health.
- The RPA should provide claim facilities to individual schools, and head teachers should not have the choice to opt out of the scheme.

Milk For Schools would also like school milk and meals to be free for all children, and a minister placed in charge of an integrated child-health based School Feeding Programme, obligatory for all schools.

⁵⁵ The Report of the Policy Commission on the Future of Farming and Food (2002), chaired by Sir Don Curry, is widely known as 'the Curry Report'. This report is available at <http://archive.cabinetoffice.gov.uk/farming/>.

11 The Effect of Schools' Participation on Child Milk Intake

Our discussion of the scheme rationale left two questions to be assessed in empirical data:

- o How does school milk affect children's total consumption of milk?
- o How valuable to health is any increase in milk consumption due to school milk, given the baseline level of consumption without school milk?

Many answers to the first question would be plausible. Children could compensate for their milk consumption in school by drinking less at home, so that school milk has no net impact. Alternatively, school milk might add more than 100% of its own volume to children's total milk consumption by provoking them to start requesting milk at home also.

The national diet surveys discussed in Section 5 provide some evidence on the second question. These surveys, however, do not distinguish between the diets of children for whom school milk was and was not available.

Our survey of schoolchildren's milk consumption was designed to answer both the questions above. This section describes this survey and its results.

11.1 Survey Methods

We surveyed the milk consumption of pupils aged 5-11 in eleven state primary schools in England, only five of which participate in the EU school milk subsidy scheme for children aged 5 or more.⁵⁶ The total sample of useable responses was 404, 202 from pupils in participating schools and 202 from pupils in non-participating schools.

We chose the eleven schools at random from among those that replied to our survey of headmasters. Schools' low rate of willingness to participate in the survey of school children made it impossible to select schools by the characteristics of their local area.⁵⁷

The survey was simple, so as to maximise schools' participation and minimize children's confusion in answering it. Annex 5 provides the full survey. Pupils' regular teachers distributed the surveys and read them aloud, while asking children to tick their own answers. Most children answered the survey in a sensible manner. A few, however, left some questions blank or ticked several boxes per question. We omitted these surveys.

⁵⁶ Some of the schools that did not provide milk to children aged 5 or more provide free milk for children aged 3-4.

⁵⁷ Of the eleven schools, three were in the Birmingham LEA, two in Lancashire, three in Lincolnshire, two in North Somerset, and one in Hull.

Children's socio-economic background might affect their milk consumption. To control for such effects, we collected the following data on the socio-economic characteristics of each school's local area:

- o *Lone parent with dependent children*: The proportion of households with a lone parent and dependent children in each school's council ward (Census 2001).
- o *Claimant share*: The proportion of the working age population claiming unemployment benefits, in each school's parliamentary constituency (Labour Force Survey 2005).
- o *Wage*: Average weekly gross earnings, in each school's parliamentary constituency (Annual Survey of Hours and Earnings 2004).

Further, one survey question asked whether children often found that milk made them unwell. This was intended to control for some schools having many lactose-intolerant children, perhaps from minority ethnic backgrounds.

11.2 Assumptions Used

The survey questions on milk consumption were whether children drank glasses of milk at home, whether they ate cereal at home, whether they had milk with this cereal, and whether they drank cartons of milk at school. The survey did not ask children the precise quantity of milk consumed in each case. Thus, we had to make some assumptions to estimate children's total milk consumption.

By contrast the *National Diet and Nutrition Survey* gives participants accurate scales with which to weigh all the food they eat. The resources for the current study did not support such detailed survey techniques.

Our assumptions were:

- o A glass of milk (consumed at home) contains 1/3 pint.
- o A carton of milk (consumed in school) contains 1/3 pint.
- o Children who said they 'rarely' drank glasses of milk at home did so once per week.
- o If pupils reported having milk with cereal, each bowl of cereal contained 1/3 pint of milk.
- o Children who said they 'rarely' consumed cereal with milk did so every fourth serving.
- o Children who said they drank cartons of milk (at school), ate cereal, or drank glasses of milk sometimes but less than once per day did so once every two days.
- o Children who said they drank more than one carton of milk at school per day drank 1.5 cartons at school per day.

11.3 Data Overview

Table 11.1 summarizes our sample. Milk was consumed at school by 53.5% of pupils in schools that participated in the EU scheme, and 21.5% of pupils in schools that did not. This fairly high rate of milk consumption in non-participating schools is due particularly to one school in Hull, which provided free meals to all pupils, including a carton of milk as one dessert option, under a scheme funded by Hull City Council.

Milk consumption at school was fairly low, even in participating schools. On average, children in these schools consumed 0.18 pints per day in school. That this average is less than 1/3 pint is consistent with scheme participation being optional for parents. Children in non-participating schools consumed, on average, 0.08 pints of milk per day in school.

Consumption of milk overall was fairly high, however. Children in participating schools reported consuming 0.91 pints of milk per day in total on average. Children in non-participating schools reported consuming 0.76 pints of milk per day on average. These should be considered lower-bound estimates of the amount of milk consumed, since our survey questions would not capture milk contained in desserts or other foods.

Table 11.1: Summary Statistics of Student Sample			
	Participating Schools	Non-Participating Schools	Total
Student responses	202	202	404
Boys	109	98	207
Percent reporting milk makes them unwell	15.8	10.4	13.1
Age	27	41	68
Five			
Six-Seven	175	94	269
Eight or more	0	67	67
Percent of pupils consuming milk at school	53.5	26.7	40.1
Daily consumption of milk at school (pints)	0.18	0.08	0.13
Daily consumption of milk in total (pints)	0.91	0.76	0.84
Local Area	7	7.5	7.3
Percent single parents			
Average weekly wage, £	358.2	353.4	355.8
Percent claiming unemployment benefit	2.7	3.8	3.2

The mean values of the socio-economic variables suggest that the participating schools are in slightly richer areas than the non-participating schools.

11.4 Comparison of Participating and Non-Participating Schools

We compared the total milk consumption of children in schools that did and did not provide subsidised milk for children aged 5-11 using simple linear regression.⁵⁸ This allows us to control for children's age, sex and the socio-economic status of the local area of their schools. Table 11.2 gives the results.

The first row shows the estimated effect of school participation on children's total milk consumption. The statistical significance of this effect is weak. The effect is significant at the 10% level but not at the 5% level, the p-value being 0.093. There is, thus, very weak evidence that schools' decisions to participate in the school milk programme affects children's total milk consumption.

Even were the effect of schools' participation statistically significant, however, the effect of participation appears to be small. We find that schools' participation in the EU scheme increased their pupils' total milk consumption by only 0.1 pints per day on average. This small effect reflects in particular that not all children in participating schools drank school milk, while some children in non-participating schools also drank milk at school.

The estimated effect of schools' participation on pupils' total milk consumption, 0.1 pints per day, is exactly the difference between the average amounts of milk pupils from each type of school consumed at school (see Table 11.1). Thus, these results suggest there is roughly 100% pass-through from school milk consumption to total milk consumption.

This estimated additional milk consumption of 0.1 pints per day represents the average across pupils. However, the value of additional consumption by each pupil depends upon how much milk that pupil would have consumed had his or her school not participated in the SMSS. Our survey does not directly reveal this counterfactual, since we did not observe the same child both when his or her school did and did not participate in the SMSS.

Some information on which children drink more milk due to the SMSS is provided by the distribution of milk consumption among students in participating and non-participating schools. These distributions are shown in Figure 11.1, which ranks pupils in each type of school by their reported milk consumption. By coincidence, the same number of child responses was obtained from schools of each type.

⁵⁸ We also ran this regression (i) omitting pupils who said milk made them feel unwell (ii) including such students but allowing a school's participation in the SMSS to have a different effect on their milk consumption. In both cases a smaller effect was estimated of a school's participation in the SMSS on the milk consumption of students who reported that milk did not make them feel unwell.

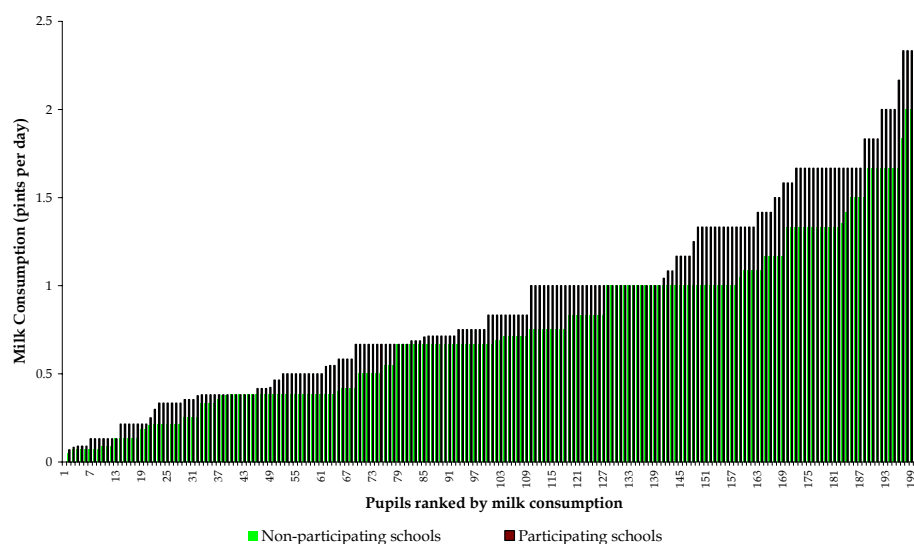
Table 11.2: Analysis of Pupils' Total Milk Consumption
Dependent variable: pints of milk consumed

Variable	Coefficient (Standard Error)
School participates in EU scheme for pupils aged 5-11 (1/0 indicator)	0.1* (0.06)
Male (1/0 indicator)	-0.12** (0.05)
Age	-0.03 (0.02)
Milk makes unwell	-0.33** (0.07)
R ²	0.11
N	404

Note: socio-economic variables were also included as controls, but for brevity their coefficients are not reported. The constant is also omitted. **denotes coefficients significant at the 5% level, * at the 10% level.

Policymakers are most concerned about children who drink little milk. From this perspective, the evidence of Figure 11.1 is slightly worrying. The Figure shows that, in both types of schools, a considerable number of pupils drank little milk. At most parts of the distribution, pupils in schools that did participate in the SMSS drank slightly more milk than those in schools that did not. However, the biggest difference between the distributions is that, comparing children who drank a significant amount of milk, those in participating schools drank substantially more milk than those in non-participating schools. Thus, the increases in milk consumption appear to be heavier among the children for whom these increases have least effect on health.

Figure 11.1: Pupils' Milk Consumption in Participating and Non-Participating Schools



11.5 Milk Consumption in Non-Participating Schools

Table 3.1 above found that pupils in schools that did not participate in the EU school milk programme consumed on average 0.76 pints of milk per day.

This baseline figure could reflect the socio-economic characteristics of the catchment areas of the schools that did not provide subsidised school milk, or the distribution of the children in these schools by age and sex. To remove these effects, we estimated the average milk consumption in non-participating schools assuming their control variables (local socio-economic factors, student age, sex and taste for milk) had the mean values found in the sample overall. This adjusted baseline figure is 0.79 pints per day.

11.6 Conclusion

Our survey found weak evidence that schools' participation in the EU School Milk Subsidy Scheme, to which the Top-Up contributes, affects children's total milk consumption. The effect on children's total milk consumption was small, at 0.1 pints per day, and only weakly statistically significant.

Our survey also found that children in non-participating schools drank quite a lot of milk. Adjusting for the socio-economic characteristics of the school area and the mix of pupils responding to our survey, children in non-participating schools consumed 0.79 pints of milk on average per day.

This average masks some variation in rates of milk consumption across pupils. In both participating and non-participating schools, a minority of pupils drank very little milk. The available evidence suggests that the gains in milk consumption due to schools' participation in the SMSS occurred particularly among children who would have consumed a considerable amount of milk had their school not participated.

The next section considers the plausibility of these survey results in light of the evidence from other surveys of children's diet. It then considers the health benefits from the additional milk consumption the EU School Milk Subsidy scheme can be said to create on the basis of our survey findings.

12 The Effect of Schools' Participation on Child Health

To assess the effect of schools' participation in the SMSS on the health of their pupils, we must consider

- How much milk children would drink were their school not to participate in the SMSS
- How much additional milk children would drink were their school to participate in the SMSS
- The health benefit of this additional milk consumption

Information on the first and second points is provided by our survey of school children's milk consumption (section 11). This found that children in schools that participated in the EU SMSS drank 0.1 pints more milk per day on average than children in schools that did not participate. Since milk consumption has been shown to have several positive health effects (section 5), we would expect this moderate increase in milk consumption to have some effects on child health.

The section below summarises the level of nutrients obtained from milk by students in schools that both did and did not participate in the SMSS. We find that, while there is a meaningful nutritional value to the additional milk consumed under the SMSS, the average level of milk consumed in schools that did not participate in the SMSS was in any case adequate to supply the recommended intake of key nutrients such as calcium.⁵⁹

12.1 Effect of the EU School Milk Subsidy Scheme on Dietary Quality

The average increase in milk intake by 0.1 pints per day found in the survey of school children's milk consumption⁶⁰ (section 11) would increase the level of nutrients in children's diets by the amounts seen in Table 12.1 and Table 12.2. The additional milk drunk under the SMSS provides a meaningful nutritional contribution (row three in Table 12.3). The contribution of the additional milk drunk under the SMSS to children achieving the reference nutritional intake (RNI) for macro and micronutrients varied between 1.5% (boys) and 1.8% (girls) for energy to 23% for vitamin B₁₂.

⁵⁹ This section was substantially written by Dr. Susan New of the University of Surrey.

⁶⁰ This finding was significant only at the 10% level ($P < 0.093$).

Table 12.1: Effect of an additional 0.1 pints/56.8ml of milk per day on macronutrient intake

Milk type	Energy (kJ)	Protein (g)	Fat (g)	Carbohydrate (mg)
Skimmed	79.52	1.87	0.06	2.84
Semi-skimmed	93.60	1.87	0.91	2.84
Whole	132.0	1.82	2.21	2.73

Table 12.2: Effect of an additional 0.1 pints/ 56.8ml of milk per day on micronutrient intake

Milk type	Calcium (mg)	Magnesium (mg)	Potassium (mg)	Zinc (mg)	Vitamin B ₂ (µg)	Vitamin B ₁₂ (µg)
Skimmed	68.1	6.8	85.2	0.23	0.097	0.23
Semi-skimmed	68.1	6.2	85.2	0.23	0.102	0.23
Whole	65.3	6.2	79.5	0.23	0.097	0.23

The additional milk contributed 12.4% towards the RNI of calcium, which has particular importance for the bone structure (Table 12.3). However, for milk consumption to have a lasting effect on the skeleton, studies suggest that intakes need to be in the range of approximately 300 ml per day. The contribution of the SMSS towards achieving the RNI is positive, but it may have no health impact if the level of 300 ml of milk per day is not reached.

Table 12.3: Contribution of 0.1 pints/ 56.8 ml to the reference nutrient intake (RNI) in children aged 5-11years

Milk type	Energy (MJ)	Protein (g)	Calcium (mg)	Magnesium (mg)	Zinc (mg)	Vitamin B ₂ (µg)	Vitamin B ₁₂ (µg)
EAR/RNI ¹	8.55 ^B 7.51 ^G	28.3	550	200	7.0	1.0	1.0
Contribution to RNI (%)	1.5 ^B 1.8 ^G	6.6	12.4	3.4	3.3	10	23

Notes:

¹ EAR – estimated average requirement for energy; RNI – reference nutrient intake for other nutrients

^B Boys, ^G Girls

The contribution of the additional milk consumed by children due to their schools' participation in the SMSS must, however, be viewed in the context of the amount of milk drunk by children in the schools that do not participate. Our survey found that, on average, children in schools that did not participate in the SMSS drank 0.79 pints of milk per day.⁶¹ The contribution of this milk consumption to children's intake of key nutrients would be considerable. This can be seen by multiplying the contributions of 0.1 pint per day in Table 12.3 by 7.9. Thus, in non-participating schools, children are on average receiving around 100% of their RNI of calcium, 80% of their RNI of vitamin B₂ and over 100% of their RNI of vitamin B₁₂ from their milk consumption.

12.2 Conclusion

On the basis of the survey of schoolchildren, the benefits of a school's participation in the SMSS appear small. This is particularly because children in schools that did not participate in the SMSS drank quite a lot of milk. Children in these schools consumed, on average, enough milk to supply their entire recommended nutritional intake (RNI) of calcium.

Our survey did find some health benefit of schools' decision to participate in the SMSS: the positive contribution of the additional 0.1 pints consumed is shown in Table 12.3. The earlier discussion in section 5 highlighted the overall importance of milk in the diet for children's and young people's nutritional intake. However, it also suggests that a substantial part of the nutrients are attained through other beverages and foodstuffs as well.

Our survey findings do contrast somewhat with evidence from national surveys of the dietary habits of British schoolchildren. National surveys have shown that, on average, fat and sugar consumption are high and intakes of key micronutrients are falling below recommended levels. There is also a trend for fizzy and soft drink consumption to rise at the expense of other more nutritious beverages such as milk and fruit juice.

Despite our survey finding of adequate milk consumption on average in schools that do not participate in the SMSS, there may be cause for concern about those children who consumed less than the average amount of milk. However, there were 'low milk consumers' in both schools that did and did not participate in the SMSS. Further, a school's participation in the SMSS did not appear to affect the proportion of such low milk consumers in a school. Programmes of a different type, perhaps involving free school milk or medical inspections, may be necessary to reach those pupils whose consumption of milk appears worryingly low.

⁶¹ Note that the figure of 0.79 pints per day is an adjustment of the 0.76 pints per day figure in the raw data. The adjustment to 0.79 pints assumes that the socio-economic characteristics of the children in the non-participating schools are the same as those in the schools that did participate in the SMSS.

13 Alternative Interventions to Improve Children's Health

The UK government intervenes in free markets in many ways to promote healthy eating and behaviour among children.⁶² One might also argue that it should intervene in further ways. A discussion of the full range of actual and possible interventions is clearly beyond the scope of this study.

Instead, we now describe four types of intervention the government makes directly in schools: the School Fruit and Vegetable Scheme, the Food in Schools programme, additional measures stemming from a package announced in March 2005, and school physical education. A concluding section considers whether these interventions could be alternative uses of the funds currently spent on the School Milk Top-Up, and whether the organisation of these schemes might suggest improvements to the organisation of the National Top-Up.

13.1 The School Fruit and Vegetable Scheme

After local pilots, the SFVS was rolled out region by region across England. The national rollout was completed in autumn 2004 and the SFVS now provides a free piece of fruit or vegetable to close to two million children aged 4-6 in LEA-maintained primary and infant schools every school day.⁶³ The SFVS is accessible in all LEAs but school participation is optional, though highly encouraged by the DH, and currently over 97% of eligible schools participate. The DH has committed £77m to this scheme over the two years 2004-2006.

The scheme's objectives are to improve child health, reduce the future risk of cancer and cardiovascular diseases, and reduce socio-economic health inequalities.⁶⁴ The nutritional contents of fruit and vegetables have been shown to contribute to child health and reduce risks of asthma, bronchitis and cancer. Introducing more fruit and vegetables in children's diets is also thought to help tackle child obesity. The DH is also aware that people from lower-income areas suffer a greater risk of cardiovascular disease and reportedly eat less fruit and vegetables than people in higher-income areas.⁶⁵

⁶² Probably the government's largest intervention in food markets is its exemption of most foods from value-added tax (VAT). This makes food more affordable for poorer families. VAT is levied on some 'treat foods', however, such as confectionery (chocolate), savoury snacks (crisps) and fizzy drinks.

⁶³ The fruit is handed out for free to all children of a class regardless if some pupils are aged below four or over six.

⁶⁴ Cardiovascular disease is the main cause of death in England, accounting for more than one death in three.

⁶⁵ People from more deprived areas have been shown to suffer a significantly greater risk of strokes and other cardiovascular diseases.

Thus, the SVFS can contribute to alleviating these inequalities in diet and health.

13.2 The Food in Schools Programme

The Food in Schools (FiS) website⁶⁶ describes the programme as a joint venture between the Department of Health (DH) and the Department for Education and Skills (DfES). It further states that “a whole range of nutrition-related activities and projects are being developed as part of the programme, to complement and add value to existing healthier food initiatives in schools.”

The DfES strand is encouraging primary and secondary schools to develop whole school food policies. These link what is taught across the curriculum with the food provided for children to eat at school, to ensure that consistent messages about healthy food choices run throughout all aspects of school life. The DfES strand of FiS is also helps primary teachers develop their knowledge of diet and nutrition as well as cooking skills. Local food partnerships are set up where expert secondary food technology teachers support and train their primary colleagues.

The DH strand of the FiS programme piloted eight projects aimed at evaluating new sustainable ways to assist schools to provide a wide range of healthy foods and drinks to pupils. Projects undertaken in 2003/04 included:

- Healthier Breakfast Clubs project: evaluated various plans to encourage healthy eating and targeting children who usually do not have breakfast, by involving the community and parents.
- Healthier Tuck Shops project: aimed to investigate how schools can make tuck shops healthier.
- Healthier Vending Machines project: piloted ways to improve the nutritional content and quality of food and drinks provided in vending machines in schools, by consulting schools, children and the vending industry.

The results of all eight pilot projects have been brought together in a Food in Schools Toolkit to assist schools in providing a wider range of healthier foods for pupils. This Toolkit, which is available to schools across England, was launched in March 2005.

13.3 Measures announced in March 2005

In March 2005 the Secretary of State for Education and Skills, Ruth Kelly, announced a package to improve school meals. According to the DfES press

⁶⁶ <http://www.foodinschools.org/>

release of March 30 2005⁶⁷, this package was worth £280m over three years. This commitment comprised £220m of new funding grants direct to schools and local education authorities to ensure they can transform school meals, and £60 million from the Big Lottery Fund and the Department for Education and Skills to enable a new School Food Trust to give independent support and advice to schools and parents to improve the standard of school meals

The press release explained 'transforming school meals' as requiring primary schools to spend a minimum of 50p on ingredients per pupil per day, and secondary schools a minimum of 60p per pupil per day, as well as providing increased training and working hours for school cooks.

The press release also mentions further measures including tough minimum nutrition standards developed by an expert panel. This panel was the independent School Meals Review Panel, which was commissioned in May 2005 to recommend updated standards for school lunches. The Panel has members from a variety of professional backgrounds, including field and academic dieticians and nutritionists, head teachers, governors and support staff, and catering and industry professionals.

A consultation on the Panel's recommendations was launched on 3 October 2005.⁶⁸ The consultation will close on 31 December 2005 with the final standards being published early in 2006 and becoming mandatory from September 2006.

The March 2005 press release also stated that Ofsted would review the quality of school meals as part of regular school inspections from September 2005, and perform detailed inspections with nutritionists of the nutritional content of school food in a sample of schools in every local education authority.

As an example of Ofsted's new school inspection regime, we found (on Ofsted's website) two school reports conducted since September 1st 2005.⁶⁹ Both reports contained an annex with a standardized form entitled "Inspection Judgements." The questions about school food contained in this standardized form were:

- o Under 'Personal development and well-being', the criterion 'The extent to which learners adopt healthy lifestyles', rated on a four-point scale.
- o Under 'The extent to which schools enable learners to be healthy', the criterion 'Learners are encouraged and enabled to eat and drink healthily', rated either Yes or No.

⁶⁷ http://www.dfes.gov.uk/pns/DisplayPN.cgi?pn_id=2005_0044

⁶⁸ The recommendations and the report can be found on: www.dfes.gov.uk/consultations.

⁶⁹ These were a report on Belle Vue Primary School conducted on September 29 and 30 2005, at <http://www.ofsted.gov.uk/reports/index.cfm?fuseaction=summary&id=103828>, and a report on Garstang High School conducted on October 5 and 6 2005, at <http://www.ofsted.gov.uk/reports/index.cfm?fuseaction=summary&id=119747>.

13.4 Physical Education in Schools

Expanding physical education in schools would be a further intervention to increase child health. Physical education not only counteracts obesity, but also, like calcium consumption, tends to increase bone strength. Thus, increased participation in school sport represents a fairly close substitute for increased milk consumption.

Government targets imply that the time school pupils spend on physical education should expand greatly between 2003 and 2008. By 2006, the government intends that 75% of school children in England spend a minimum of two hours each week on high quality PE and school sport (DfES 2003). By 2008 this must rise to 85%, and by 2010 the ambition is to have young people accessing at least 4 - 5 hours of sport a week.

However, statistics available for the amount of time pupils spend on sport suggest that many schools fall below this standard. Recent surveys (reported in DfES (2005)) found the percentage of young-people reaching this standard to be 62% (in 2004) and 69% (in 2005).

The UK government has contributed considerable funding to the targeted increase in school physical education. The government has committed to investing £1.5 billion on school PE between April 2003 and April 2008, in addition to the PE component of schools' individual budgets. This level of government funding for school sport suggests that an expansion in time spent on PE is a fairly urgent government priority.

13.5 Conclusion: What do we Learn from Alternative Interventions

The quality of meals in state schools, however, seems to be tightly constrained by the level of funding available for them. For example, *The Economist* (2004) stated that

Of a typical £1.20-1.30 charged for a primary-school meal, labour costs account for 55p, equipment another 5p, administration charges up to 15p and profit 8p, according to Paul Kelly of Compass, a leading catering company. That leaves barely 40p for the ingredients. By contrast, a prison would spend 60p (per adult). The Dragon School in Oxford, a top junior school in the private sector, spends 75p per child and a hospital 90p.

The House of Commons Select Committee on Health (2004) also reports that some schools spend as little as 40p on the ingredients of a school meal.⁷⁰ While one would expect a meal for a child in a primary school to cost less

⁷⁰ House of Commons Select Committee on Health (2004) p.37.

than one for an adult, overall these comparisons give some cause for concern over the level of expenditure on ingredients in primary-school meals.

Thus, while the Food in Schools programme may make some useful contributions to new policies to increase the nutritional value of food available in schools, the low level of funding available for school meals appears to severely constrain their quality.

The descriptions above of other government interventions in schools suggest four lessons for the National Top-Up and school milk programmes in general:

- The general thrust of government policy is to inform children rather than subsidise their consumption of healthy foods. For example, the School Fruit and Vegetable Scheme (SFVS) ends after age 6, when children have been exposed to various fruits and vegetables; it does not continue to higher ages.
- It is unusual for goods to be provided to children on a subsidised basis that requires schools to solicit and keep accounts of parental payments. For example, the SFVS provides produce to children for free.
- It is unusual for goods to be provided to children aged up to a particular birthday, thus requiring teachers to track pupils' birthdays (as in the Free Milk for the Under 5 programme). School meal grants apply to all children in primary and secondary school while fruit and vegetables are supplied to all children in a given school year.
- Vending machines are fairly common in schools and can be adapted to vend milk and other healthy items.
- Both school sport and school meals are government priorities for improvement. While additional funds have been devoted to school sport and meals, it is not clear that sufficient funds are available.

These points suggest ways in which the School Milk Subsidy scheme could be made more efficient. In particular, this report recommends that the funds devoted to the Top-Up be redirected to the programme 'Free Milk for the Under 5s' so that nursery children continue could receive either free fruit or milk up to the end of the school year in which they turn 5, rather than up to their fifth birthdays, as at present.

These points also suggest alternative uses of the funds currently devoted to the Top-Up and the UK's contribution to the EU SMSS. In particular, the government is setting up school meal nutritional standards and has a clear but ambitious target for an expansion of school physical education by 2006. While we do not recommend that funds from the Top-Up be diverted to these programmes, this would be an option.

14 The Efficiency of the Top-Up Subsidy

This section lists the administrative costs associated with the EU School Milk Subsidy. These costs are shown in Table 14.1. It is likely that the Top-Up causes only some of these administrative costs. Section 7.2 discusses whether the Top-Up benefits the UK through triggering inflows of funds from other EU countries.

Table 14.1: Administrative Costs of the EU School Milk Subsidy Scheme and National Top-Up					
Item	Location	Employees	Average Wage (£)	Total (£)	Due to Top-Up (£)
Employees	RPA Exeter	2.85	20,000	57,000	
	RPA Inspectorate	2.5	20,000	50,000	
	RPA CFCO	1.2	20,000	24,000	
	LEAs	35	20,000	700,000	
School Admin	Schools			5,027,400	804,384
Total				5,858,400	804,384

Rows 1-4 of Table 14.1 describe the demands of the SMSS on employee time. Those within the RPA are discussed in section 6.4.2, while section 8.2 discusses demands on LEAs. We assume the annual cost to the government of each employee, including wages, office space and pension benefits, is £20,000, which we consider conservative.

The Top-Up probably increases these labour costs only slightly. Without the Top-Up, we estimate 16% fewer schools would submit claims to their LEAs (see section 9.2), but most LEAs would continue to submit claims to the RPA, which would still have to process and check them. RPA inspectors might then have to make slightly fewer visits to schools. Overall, however, the effect of the Top-Up on these costs appears very small.

The fifth row of Table 14.1 covers schools' administrative costs. Schools absorb about 70% of the £7.2 million in combined EU and Top-Up subsidy, or roughly £5 million (see section 9.3). Since the Top-Up increases state schools' participation in the SMSS by 16%, we attribute 16% of this £5m cost to the Top-Up.

To the extent that schools use some of these funds to pay for milk that some parents fail to pay for, £5m overstates schools' true administrative costs. However, our estimate of the cost of the Top-Up, at £804,000, would understate the true cost of the Top-Up if the Top-Up provokes more parents to pay for school milk in schools that would have participated in the SMSS even without the Top-Up. Thus, overall we consider the £804,000 estimate of additional administrative cost created by the Top-Up to be reasonable.

15 Overall Evaluation of the Top-Up

This section discusses in a general manner the rationale, efficiency and effectiveness of the Top-Up and the EU School Milk Subsidy overall. Readers are directed to other sections for more detail on specific points.

The rationale for a government programme to provide milk at a price in schools is not convincing (see section 7). Such a programme would add little to the actions of the private sector, in particular the supermarket sector, which is highly efficient in providing milk at low prices and in processing customers' payments. If the government is concerned that some parents are too unwilling to provide milk to their children at home, it is not clear that these parents would be willing to send regular payments to their children's schools to pay for school milk.

The efficiency of the Top-Up subsidy, and the EU School Milk Scheme overall, appear low (see section 14). In particular, schools' mechanisms for tracking payments are much less sophisticated than those the private sector employs. Thus, total administrative costs associated with the combined subsidies equal 82% of the combined spending of the EU subsidy and of the Top-Up. We conclude from this that the combined Top-Up and EU subsidy is an inefficient programme. We calculate that the Top-Up alone creates £804,000 in extra administrative cost, equal to 57% of the Top-Up funds spent.

A by-product of the inefficiency of the combined Top-Up and EU subsidy is that the average price at which schools sell subsidised milk to parents exceeds the price at which supermarkets sell milk, albeit in larger containers. For subsidised milk to be more expensive than non-subsidised milk rather undermines the rationale of the subsidy programme.

Our survey of schoolchildren gives a picture of the effectiveness of the combined Top-Up and EU subsidies in increasing children's milk consumption. This survey finds that schools' decision to participate in the SMSS increased their pupils' milk consumption by 0.1 pints per day on average. However, it also found that children in schools that do not participate in the SMSS drink 0.76 pints of milk per day on average. Thus, the effect of schools' participation in the SMSS on the quality of children's diets would appear to be small.

There would be some rationale for programmes of free school milk. Such programmes would ameliorate a problem of parental failure to provide children with milk, perhaps through neglect or poor information. The appropriate extent of free school milk programmes then depends on how common is parental neglect. National surveys (see Table 5.3) show calcium intake to be sufficient among most children aged 4-10 but insufficient among most children aged 11-18. This would be consistent with parental neglect being rare, but teenagers commonly making poor decisions. We believe the appropriate response to this evidence would be limited programmes of free

milk targeted to certain areas or to pupils at a small range of ages, together with informational campaigns aimed at teenagers.

Survey evidence of poor diet among teenagers (see section 5.2) might justify further investigation into policies aimed at teenagers. Evaluating policies towards teenagers' diets would appear to be beyond the terms of reference for this study (see section 1), however. Further, any such evaluation would require research tools (including surveys of teenagers and secondary school teachers and heads) not envisaged for this study.

Briefly, however, we do not recommend a programme of free milk for teenagers, for three reasons:

- o Teenagers have poor diets not because they cannot afford milk or do not have access to it, but because they do not want to drink it or are not aware of its health benefits. Thus, simply providing free milk might not solve the problem of poor diets because teenagers might refuse to drink the milk.
- o Free milk for teenagers could be a rather wasteful programme if teenagers refuse to drink the milk.
- o In general we do not believe taxpayers should be asked to pay for teenagers' poor decision-making. Rather, we suggest that for a society to have acceptable tax rates, policy must place considerable emphasis on teenagers taking responsibility for their own lives.

For the reasons above, we view the Top-Up to the EU School Milk Subsidy as a poor use of government funds. This view informs our recommendations for the future of the Top-Up, which are given in the Executive Summary.

References

- Abrams SA., (1994). "Calcium metabolism in girls: current dietary intakes lead to low rates of calcium absorption and retention during puberty." *American Journal of Clinical Nutrition* 60, 739-743.
- Ballem et al (2000). "Beverage choices affect adequacy of children's nutrient intakes." *Archives of Paediatric and Adolescent Medicine* 154, 1148-1152.
- Bonjour, J. P., Carrie, J. L., Ferrari, B. (1997). "Calcium-enriched foods and bone mass growth in prepubertal girls: a randomised, double blind, placebo controlled trial". *Journal of Clinical Investigation* 99, 1287-1294.
- Bonjour JP., Chevalley T., Ammann P., Slosman D., Rizzoli R. (2001). "Gain in bone mineral mass in prepubertal girls 3.5 years after discontinuation of calcium supplementation: a follow-up study." *Lancet* 358, 1208-1212.
- Cadogan, J., Eastell, R., Jones, N., Barker, M. (1997). "Milk intake and bone mineral acquisition in adolescent girls: randomised controlled intervention trial." *British Medical Journal* 315, 1255-1260.
- CEAS Consult CEAS Consultants Ltd, Centre for European Agricultural Studies (Imperial College, University of London) and Institute for the Management of Dairy Companies, Technische Universität München (1999). *Evaluation of the School Milk Measure, Report for DGVI European Commission*, http://europa.eu.int/comm/agriculture/eval/reports/schoolmilk/index_en.htm.
- Chan, G. M., Hoffman, K., McMurray, M. (1995). "Effects of dairy products on bone and body composition in pubertal girls." *Journal of Paediatrics and Child Health* 126, 51-556.
- Devine, A., Prince, R. L., Bell, R. (1996). "Nutritional effect of calcium supplementation by skim milk powder of calcium tablets on total nutrient intake in postmenopausal women." *American Journal of Clinical Nutrition* 64, 731-737.
- Department for Environment, Food and Rural Affairs (2001). *National Food Survey 2000*. The Stationery Office. London.
- Department for Education and Skills (2003). *Learning through PE and Sport: A guide to the Physical Education, School Sport and Club Links Strategy*, available at <http://www.teachernet.gov.uk/teachingandlearning/subjects/pe/nationalstrategy/nslearningpe/>
- _____ (2005). *2004/05 School Sport Survey Report*, available at http://www.teachernet.gov.uk/_doc/9045/2004-05SchholSportSurveyReport.doc
- Department of Health (1989). *The Diets of British Schoolchildren*. Report on Health Social Subjects 36. Her Majesty's Stationery Office, London.

Department of Health (2004). *Healthy Start: Government Response to the Consultation Exercise*, at

<http://www.dh.gov.uk/assetRoot/04/07/25/52/04072552.pdf>

Du, X.Q., Greenfield H., Fraser DR., Ge KY., Liu ZH., He W. (2002). "Milk consumption and bone mineral content in Chinese adolescent girls." *Bone* 30, 521-528.

The Economist (2004). Article "Eat up your greens", December 2nd.

Fox KR., Riddoch CJ. (2000). "Charting the physical activity patterns of contemporary children and adolescents." *Proceedings of the Nutrition Society* 59, 497-504.

Garrow J.S., James WPT. (2000). *Human Nutrition and Dietetics*. 10th Edition. Churchill Livingstone, London.

Gregory J., Lowe S., Bates CJ et al. (2000). *National Diet and Nutrition Survey: Young People Aged 4-18 years*, Volume 1.

Grenby et al. (2001). "Dental caries-protective agents in milk and milk products: investigations in vitro." *Journal of Dentistry* 29, 83-92.

Health Education Authority (1997). *Eight guidelines for a healthy diet*. Abingdon. Crown copyrights.

Heaney R.P. (2001). "The Dairy Controversy: Facts, Questions, and Polemics." In: *Nutritional Aspects of Osteoporosis '2000* (4th International Symposium on Nutritional Aspects of Osteoporosis, Switzerland, 1997). Eds. P. Burckhardt, B. Dawson-Hughes and RP Heaney. Challenges of Modern Medicine. Ares-Serono Symposia Publications, Academic Press pp155-164.

House of Commons Select Committee on Health (2004). *Obesity*, Vol.1, at <http://www.publications.parliament.uk/pa/cm200304/cmselect/cmhealth/23/23.pdf>

Iuliano-Burns S., Whiting S.J. et al. (1999). "Levels, source and seasonality of dietary calcium intake in children and adolescents enrolled in the University of Saskatchewan Paediatric Bone Mineral Accrual Study." *Nutrition Research* 19, 1471-1483.

McNaught P. and Chan GM. (2002). "Dairy products' effect on body fat and bone composition in children." *Journal of Bone and Mineral Research* 17, S459.

Merrilees MJ et al. (2000). "Effects of dairy food supplements on bone mineral density in teenage girls." *European Journal of Clinical Nutrition* 39, 256-262

Murphy, S., Khaw, K. T., May, H., Compston, J. E. (1994). "Milk consumption and bone mineral density in middle age and elderly women." *British Medical Journal* 308, 939-941.

New SA, Bolton-Smith C, Grubb DA, Reid DM (1997). "Nutritional influences on bone mineral density: a cross-sectional study in premenopausal women." *American Journal of Clinical Nutrition* 65, 1831-1839.

New S.A., Robins S.P., Campbell M.K., Martin J.C., Garton M.J., Bolton-Smith C., Grubb D.A., Lee S.J., Reid D.M. (2000). "Dietary influences on bone mass and bone metabolism: further evidence of a positive link between fruit and vegetable consumption and bone health?" *American Journal of Clinical Nutrition* 71, 142-151.

Petti et al. (1997). "The effect of milk and sucrose consumption on caries in 6 to 11 year old Italian schoolchildren." *European Journal of Epidemiology* 13, 659-664.

Policy Commission on the Future of Farming and Food (2002). *Farming and Food: a sustainable future*. Available at <http://archive.cabinetoffice.gov.uk/farming/pdf/PC%20Report2.pdf>

Renner E.M., Hermes (1998). "Bone mineral density of adolescents as affected by calcium intake through milk and milk products." *International Dairy Journal* 8, 759-764.

Royal College of Physicians (2000). *Osteoporosis clinical guidelines for prevention and treatment*.

Rural Payments Agency (2004). *IM(L) 20 A guide to the EU School Milk Scheme*, accessed at <http://www.rpa.gov.uk/rpa/rpaweb.nsf?open> on 10/31/2004/.

Sandler, R.B., Slemenda, C.W., LaPorte, R.E., Cauley, J.A., Schramm, M.M., Barresi, M.L., Kriska, A.M. (1985). "Postmenopausal bone density and milk consumption in childhood and adolescence." *American Journal of Clinical Nutrition* 42, 270-274.

Scott-Russell A., Dennison E., Cooper C. (2003). "Epidemiology and public health impact of osteoporosis." In *Nutritional Aspects of Bone Health*. Eds. New S.A., Bonjour J.P. Royal Society of Chemistry, Cambridge, UK.

Teegarden D., Lyle R.M., McCabe R. (1998). "Dietary calcium, protein and phosphorus are related to bone mineral density and content in young women." *American Journal of Clinical Nutrition* 68:749-754.

Walker A., Gregory J., Bradnock G., Nunn J., White D. (2000). "National Diet and Nutrition Survey: Young People Aged 4-18 years, Volume 2." *Report on the Oral Health Survey*. Her Majesty's Stationery Office, London.

Annex 1 Share of Schools Claiming by LEA

The figures in this annex all refer to the autumn term of 2003.

Figure A1.1: North West, Share of schools claiming by LEA.

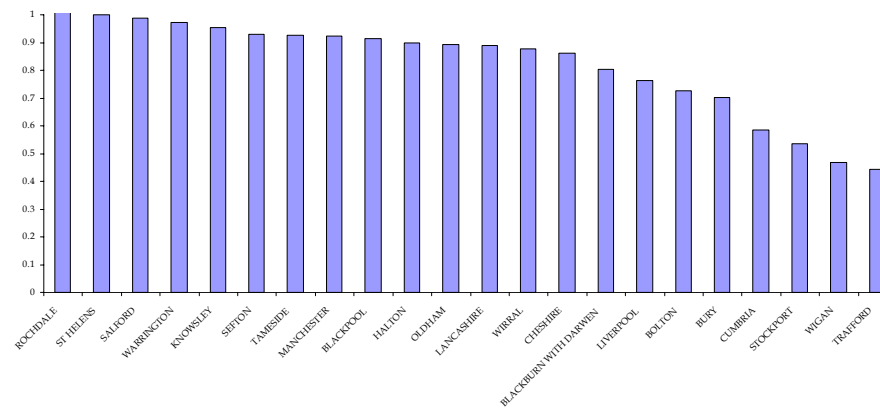


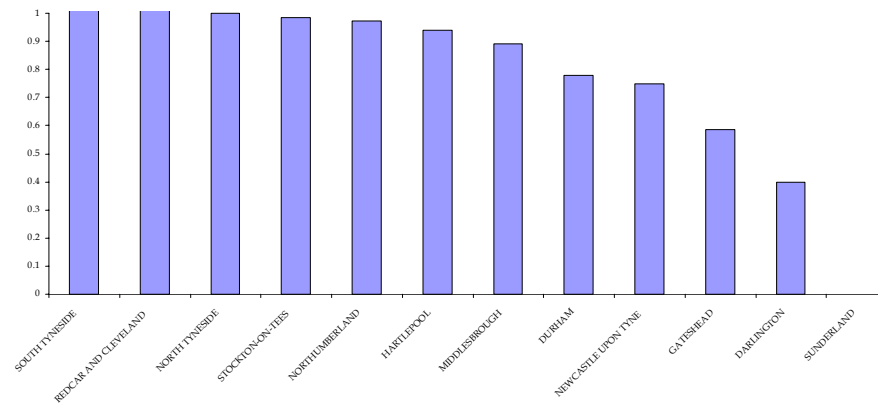
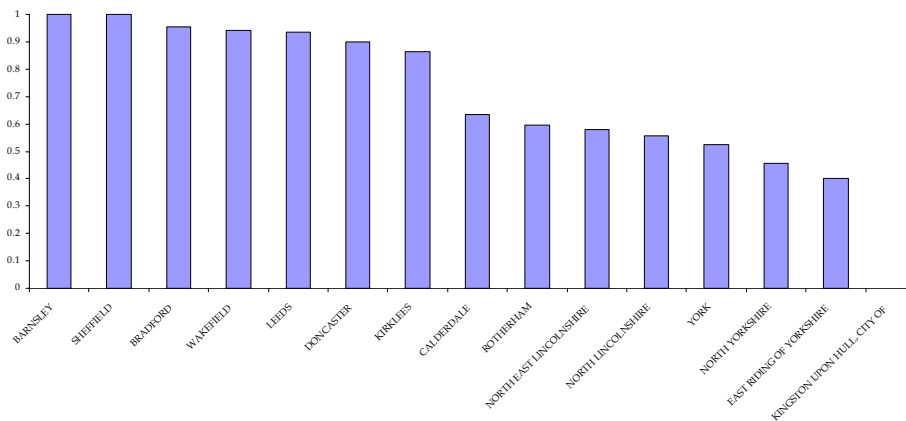
Figure A1.2: North East, Share of schools claiming by LEA.**Figure A1.3: Yorkshire and the Humber, Share of schools claiming by LEA.**

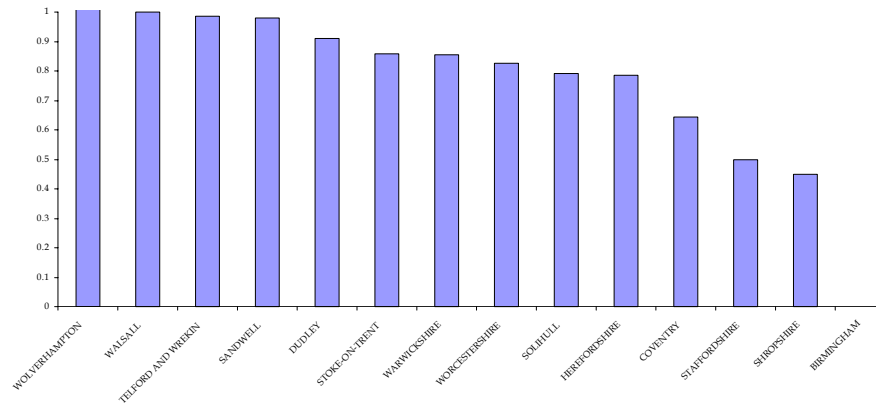
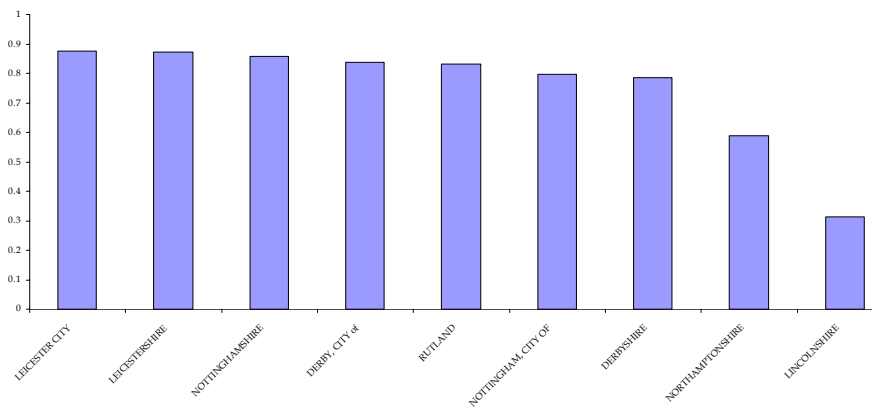
Figure A1.4: West Midlands, Share of schools claiming by LEA.**Figure A1.5: East Midlands, Share of schools claiming by LEA.**

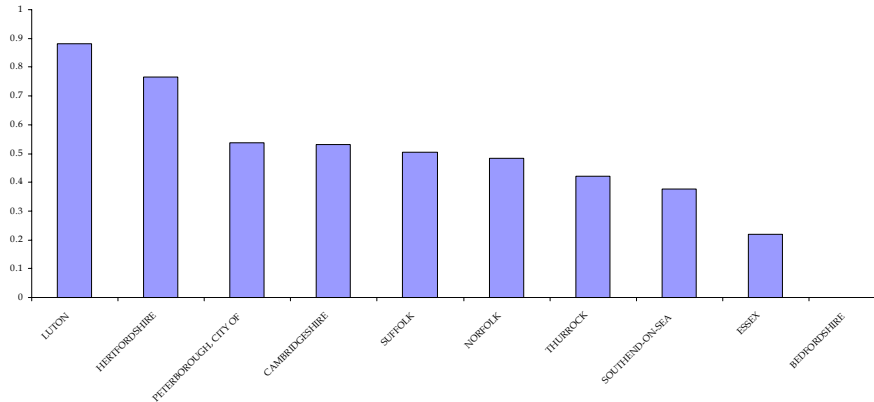
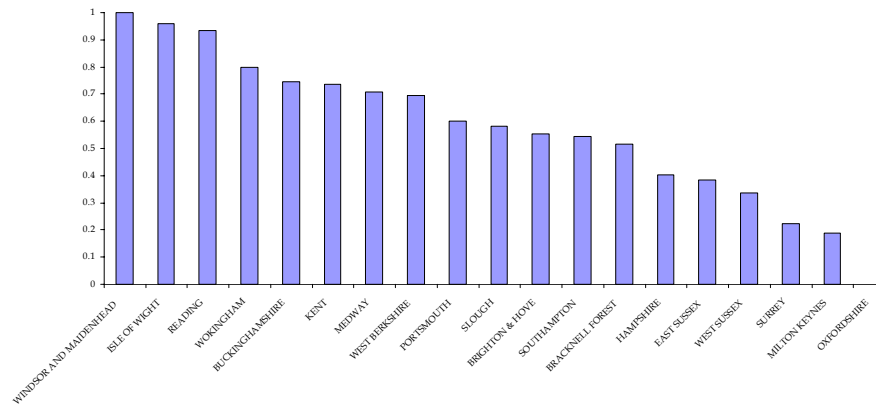
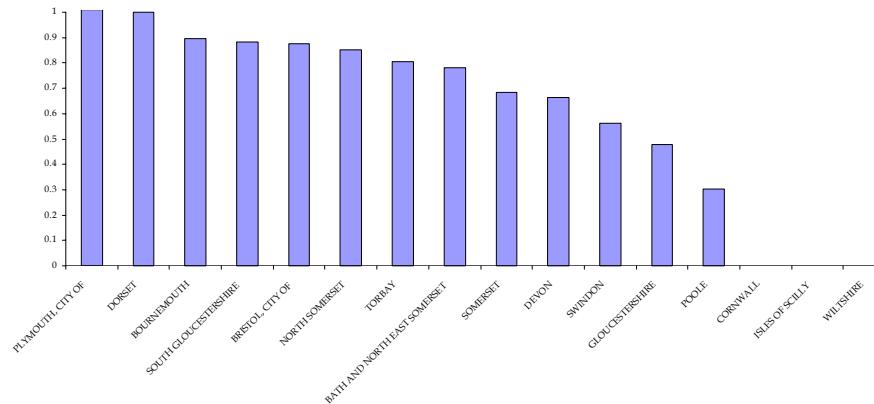
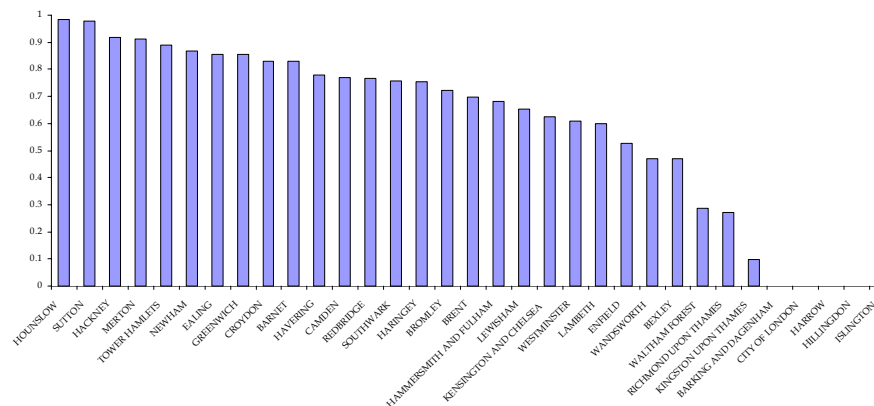
Figure A1.6: East of England, Share of schools claiming by LEA.**Figure A1.7: South East, Share of schools claiming by LEA.**

Figure A1.8: South West, Share of schools claiming by LEA.**Figure A1.9: London, Share of schools claiming by LEA.**

Annex 2 The Fontainebleau Funding Mechanism

Defra gave us the following explanation of the rules governing the UK's contribution to EU funds.

ΔA = change in total EU expenditure

ΔB = change in EU expenditure in UK

$0.18\Delta A$ = change in UK gross contribution to EU

ΔC = change in UK rebate = $0.67(0.18\Delta A - \Delta B)$

Thus, the change in the UK's net position after the Fontainebleau rebate =

$$\Delta B - 0.18\Delta A + \Delta C = 0.33(\Delta B - 0.18\Delta A)$$

The National Top-Up triggers a higher EU expenditure that is spent entirely within the UK. Thus, for this EU spending, $\Delta A = \Delta B$.

Therefore, for an additional £1 of EU spending that occurs entirely in the UK, the UK's net position increases by

$$0.33(0.82\Delta B) = £0.27$$

Thus, according to these rules, the UK's net benefit from additional EU spending that occurs within the UK is only 27% of this spending. The UK bears the cost of the remaining 73% of the spending.

Annex 3 Questionnaire Sent to LEAs

School Milk Subsidy Scheme: Evaluation Survey

This survey is part of an evaluation of the National Top-Up to the EU School Milk Subsidy in England. Please write in the shaded areas.

- LEA: _____
- Name of Respondent: _____
- Position: _____
- Telephone: _____
- E-mail: _____

- *How much employee time does your LEA spend administering the School Milk Subsidy Scheme? Please express your answer as a fraction of a full-time person-year.*

full-time person-years are spent administering the scheme each year.

Anything else you would like to clarify:

- *How much does it cost your LEA to provide milk free to children whose families receive Income Support or similar benefits?*

The LEA £ incurs additional cost each year.

- *How much additional cost does your LEA incur due to the subsidy scheme in other ways? For example, include any additional payments your LEA makes to pay school caretakers overtime to supervise deliveries.*

The LEA incurs additional cost each year.

Please explain the nature of these costs:

- *Does the arrival of milk delivery vehicles at schools cause health and safety concerns? (Tick one box only)*

- ☐ Yes
- ☐ No

If yes, what steps have you taken to alleviate these concerns?

- *What is your overall impression of the School Milk Subsidy Scheme, taking into account its benefits and costs? (Tick one box only).*

- ☐ The scheme is worthwhile; the derived benefits exceed its implementation costs.
- ☐ The scheme is neither worthwhile nor wasteful; its derived benefits roughly equal its implementation costs.
- ☐ The scheme is wasteful since its implementation costs exceed the benefits derived.

- *In 2003, the school milk subsidy contributed £6.7 million to the cost of school milk in England, £5.3 million of which came from EU funds and £1.4 million from UK funds.*

Do you feel the School Milk Subsidy Scheme is a good use of UK funds (£1.4 million), or could they be better spent on alternative projects to improve children's health? (Tick one box only).

- ☐ Funds are well spent
- ☐ Funds could be better spent on alternative projects

If you believe better uses for these funds exist, please list these briefly:

Please save this form before sending it as an attachment to
schoolmilk@londecon.co.uk

Annex 4 Questionnaire for School Heads

We sent letters to school heads inviting them to complete the following survey online. We also sent the survey as an e-mail attachment to some schools that reported encountering problems using the survey website.

Survey on Experience of the Subsidised School Milk Programme

Section 1: School Characteristics	
School name	
Local LEA	
How many pupils attend your school?
Local Authority	
Does your school participate in subsidised school milk for children?	Yes <input type="checkbox"/> (please answer questions 1-10) No <input type="checkbox"/> (please answer questions 11-13)

Section 2: Characteristics of the Subsidised School Milk Programme	
1) What is the typical size of milk serving you give pupils?	1/3 pint <input type="checkbox"/> Other, please specify.....
2) What price do you charge parents for the milk? pence/serving
3) What price do you pay for this milk?	To a supplier £/kilolitre..... Or To your LEA £/kilolitre.....

Section 3: Impact of the School Milk Programme	
4) Do children drink or waste the milk?	All milk is drunk <input type="checkbox"/> Less than 10% is wasted <input type="checkbox"/> More than 10% is wasted <input type="checkbox"/>

5) Roughly, what are your school's annual administrative costs from the programme?	£/year.....
6) Would your school continue to participate if the price of subsidised milk increased by 10 percent?	Yes <input type="checkbox"/> No <input type="checkbox"/>
7) Would your school still participate if the subsidy were removed entirely?	Yes <input type="checkbox"/> No <input type="checkbox"/>
8) Has your school's participation in the programme had any unanticipated effects, either beneficial or detrimental?	Please describe any beneficial effects.... Please describe any detrimental effects.....
9) Do you think LEAs or government could run the programme more efficiently?	Yes – please describe how..... No <input type="checkbox"/>
10) Do you feel the £1.5 million spent on the National Top-Up to the school milk subsidy is well spent? Or do you think these funds could be better spent elsewhere in the education sector?	Yes, money well spent <input type="checkbox"/> No, funds could be better spent elsewhere <input type="checkbox"/> (please describe).....

Thank you for your time and co-operation. Please return this survey to London Economics in the envelope provided.

Section 4: Reasons for not participating in the School Milk Programme	
11) Why does your school not participate in this programme?	I am unaware of the programme <input type="checkbox"/> My LEA does not participate in this programme <input type="checkbox"/> There is no demand from parents

	for this programme <input type="checkbox"/> Our administrative costs for participating are prohibitive <input type="checkbox"/> Other reasons – please describe.....
12) Would you participate in the scheme if you could buy the milk 10% cheaper?	Yes <input type="checkbox"/> No <input type="checkbox"/> (Please specify why).....
13) Do you feel the £1.5 million spent on the National Top-Up to the school milk subsidy is well spent? Or do you think these funds could be better spent elsewhere in the education sector?	Yes, money well spent <input type="checkbox"/> No, funds could be better spent elsewhere <input type="checkbox"/> (please describe).....

Annex 5 Questionnaire for School Children

We would like to ask you about how much milk you drink. Your answers will help us think about how schools should provide food and drink. Please answer the questions as truthfully as possible by ticking the relevant boxes.

1) Are you

A girl ☐

A boy ☐

2) How old are you?

..... years

3) Does drinking milk often make you feel sick or unwell?

Yes ☐

No ☐

The next three questions are about what you do at home.

4) On a normal day, how many bowls of cereal do you eat?

I rarely eat cereal ☐

I eat cereal but have less than one bowl per day ☐

One bowl per day ☐

Two bowls per day ☐

Three or more bowls per day ☐

5) If you eat cereal, do you have milk with it?

I rarely have milk with cereal ☐

I have milk with my cereal about half the time ☐

I usually have milk with cereal ☐

6) On a normal day, how many glasses of milk do you drink at home?

- I rarely drink glasses of milk ☐
- I drink glasses of milk, but less than one per day ☐
- One glass per day ☐
- Two glasses per day ☐
- Three or more glasses per day ☐

The last question is about how much milk you drink at school.

7) Do you drink milk at school?

- No, not usually ☐
- Yes, but less than one (1/3 pint) carton per day ☐
- Yes, usually one carton per day ☐
- Yes, more than one carton per day ☐

Thank you for your time and co-operation.

Annex 6 Milk Producers' Questionnaire Responses

Dairy UK

- 1) *What do you see as the Government's objectives for the National Top-Up?*

To provide a cost effective supply of subsidised school milk to primary school children at subsidy rates that reflect pre – 2001 changes to EU support rates, thus ensuring the maximum benefit to parents and children.

- 2) *To what extent do you think the National Top-Up achieves these objectives?*

Given governmental budgetary targets, we believe that the National Top up is an extremely effective measure.

- 3) *To what extent do you think the programme effectively reaches the target population? What could be done to increase the number of schools that participate?*

Around 1.3 million primary school children benefit from milk schemes (DH Welfare & EU subsidised Scheme) – we estimate that around 80% of primary school children do not currently benefit from the EU Scheme. The Dairy Sector actively promotes the availability of the EU Scheme (with annual promotions, latterly part funded by the EU, such as School Milk Week – annual budget c. £100,000) and the activities of the School Milk Project funded by the Milk Development Council and dairy companies.

We would like to see more promotion from government/RPA and closer liaison between these bodies and LEAs to encourage individual LEAs to promote the Scheme to schools within their areas of operation. Currently there are very significant differences between LEAs in the level of individual support/participation in the provision of school milk in primary schools.

- 4) *Do you have any studies of participation? (Please indicate)*

From analysis of government /RPA figures and from work undertaken by the School Milk Project. The information is not incredibly detailed, but does reveal that c. 80% of children are not currently benefiting from the Scheme.

- 5) *To what extent do you think the £1.5 million spent annually on the National Top-Up is an efficient use of funds for increasing consumption of milk? Do you think the money used in alternative ways would achieve higher impacts (targeting other products, using promotion campaigns, for example)?*

Maintenance of the cost effective supply of milk is of crucial importance. However, we would not object to a small proportion of these funds being expended on promotional activities, as long as these were done in consultation with dairy companies and were complimentary to existing work financed by dairies and the MDC.

Pressure/persuasion and information from government on LEAs to utilise the Scheme could be done in such away as to be very cost effective, i.e. using existing communication paths and the internet and would not necessarily need to tap into any of the Top-Up.

We would wish to see the maintenance of the provision of milk to children based on the nutritional benefits of the product. Other budgets exist to deal with targeting other products, such as DH initiatives.

6) *To what extent do you think the National Top-Up is successful in increasing milk consumption? To what extent do you think that price is an important factor in increasing school milk consumption?*

The National Top-Up successfully maintains a cost effective subsidy provision, cushioning against Commission change to subsidy rates which could have led to a reduction of Scheme usage from 2001 onwards. The maintenance of a cost effective supply of milk, keeping costs down to parents is very important. Milk is not price insensitive and therefore price changes are important to the uptake under the Scheme. Significant cost increases to parents cannot benefit the take up of milk provision in schools and could lead to a drop off in consumption.

7) *To what extent do you think the National Top-Up is successful in promoting overall health/dietary habits in children? Do you think there are better ways of doing so?*

The modest cost of the National Top-Up is in our eyes a cost effective measure in assisting the promotion of healthy diets/habits in children. The dietary contribution of milk to primary school aged children is significant. Of course, the top up itself is not a health promotional scheme in its own right, but a support for milk provision. As we mentioned above, we would like to see more "promotion" of the availability of subsidised milk in schools, but are aware of budgetary constraints.

8) *To what extent does the subsidy help prevent competition from alternative drinks (soft drinks, fruit juices)?*

The option of other products is always available in schools. We do not see the EU subsidised scheme and Top up as "preventing" competition, but as a useful tool in promoting the consumption of a nutritionally worthwhile

product. The competition provided by possibly less nutritious beverages/products is far more prevalent in secondary schools.

9) *To what extent the programme benefits the dairy industry in general.*

The overall levels of primary school milk consumption are not at a volume that significantly benefits the industry in overall financial terms. Provision of milk under the Scheme represents around 0.7% of the total volume of the liquid milk market in the UK.

However, we do recognize and support the important role played by the Scheme in encouraging milk consumption in future generations, thereby the benefit to the industry is in developing "tomorrow's customers".

10) *If parents want their children to receive milk in schools, do you see a reason why the parents should not pay its full cost themselves?*

This depends on the overall diet/health/welfare strategy of the UK/EU and raises issues of state involvement in nutrition/health and welfare – other UK state schemes concerning child welfare and nutrition exist, i.e. DH "Welfare Foods Scheme" and its "Healthy Start Programme". We would not wish an established EU based scheme to be curtailed and we would certainly not wish to see UK government seeking the termination of this European wide scheme.

The UK has a duty to ensure that this benefit is available to all relevant beneficiaries. Indeed, the Defra websites states of the Scheme, "It requires Member States to make available subsidised milk to primary and nursery schools wishing to participate. But participation is entirely a matter for the school or Local Education Authority. The subsidy is available on a number of milk and milk products but the mandatory elements are whole and semi-skimmed milk (plain and flavoured) and whole and semi-skimmed milk plain yoghurts. The UK pays aid only on the mandatory elements."

11) *Do you have any other concerns about the Top-Up programme or suggestions for its improvement?*

We would wish to see the maintenance of the existing Top up and, indeed, see resource put into promoting the availability of the subsidy to primary school children. Given the relatively modest level of expenditure on this area by government we would wish to see its retention, and if at all possible, extension.

1) *What do you see as the Government's objectives for the National Top-Up?*

To provide milk to primary children at a reduced rate ensuring maximum benefits to parents and children

2) *To what extent do you think the National Top-Up achieves these objectives? (Effectiveness of the programme).*

Majority of LEA's are participating in a subsidised scheme but reduction in administration would ensure greater uptake within those LEA's

3) *To what extent do you think the programme effectively reaches the target population? What could be done to increase the number of schools that participate?*

Around 1.3 million primary school children benefit from subsidised milk schemes, with an estimated 80-90% of primary school children not participating/benefiting from the EU scheme. The Dairy Industry actively promotes the availability of the EU Scheme annually through School Milk Week and the activities of the School Milk Project funded by the Milk Development Council and dairy companies.

Reduction in administration along with changes of legislation surrounding the free meals issue would encourage more LEA's to participate. Along with regular communication from RPA and other governing bodies (DH/DfES)

4) *Do you have any studies of participation? (Please indicate)*

Information that we provide through our School Milk Project highlights success stories within particular LEA's, however there are still an estimated 80-90% of primary school children not benefiting from a subsidised scheme. As a project we are having success with Independent schemes where the LEA and schools do not claim the subsidy, and have reduced administration.

5) *To what extent do you think the £1.5 million spent annually on the National Top-Up is an efficient use of funds for increasing consumption of milk? Do you think the money used in alternative ways would achieve higher impacts (targeting other products, using promotion campaigns, for example)? (Efficiency of the programme).*

A small proportion of these funds could be expended on promotional activities that would link in with existing work undertaken and financed by dairies and the MDC. Could benefit from the introduction of cheese as an additional product.

Again by reducing the administration of the scheme and making it more simple (e.g. fruit scheme) would encourage greater take up. Allowing schools to claim direct rather than through an additional body that incur a charge, could also increase uptake

6) *To what extent do you think the National Top-Up is successful in increasing milk consumption? To what extent do you think that price is an important factor in increasing school milk consumption?*

The maintenance of a cost effective supply of milk, keeping costs down to parents is important to ensure that consumption does not drop.

7) *To what extent do you think the National Top-Up is successful in promoting overall health/dietary habits in children? Do you think there are better ways of doing so?*

The National Top-Up is a cost effective way of delivering healthier products to children but little is done re the promotion of this healthier option. Budget restrictions will obviously come into play here. Promotions linking the dairy industry along with DH/DfES and RPA would give a more consistent message.

8) *To what extent does the subsidy help prevent competition from alternative drinks (soft drinks, fruit juices)?*

Alternative products are available in schools depending on the 'mind set' of that individual school. We would wish to see the maintenance of the provision of milk to children based on the nutritional benefits of the product.

9) *To what extent the programme benefits the dairy industry in general.*

Removal of surplus from market, and engagement of new milk drinkers at a young age creating a milk drinking habit.

10) *If parents want their children to receive milk in schools, do you see a reason why the parents should not pay its full cost themselves?*

This depends on socio economic factors, the overall diet/health/welfare strategy of the UK/EU and raises issues of state involvement in nutrition/health and welfare. We would not wish an established EU based scheme to be curtailed or to see UK government seeking the termination of this European wide scheme.

11) *Do you have any other concerns about the Top-Up programme or suggestions for its improvement?*

We would wish to see the maintenance of the existing Top up and if at all possible it's extension along with resources being put into promotion of milk to primary children and the health benefits of this product. The reduction of administration surrounding the scheme is absolutely necessary to ensure its success.

The NFU⁷¹*1) What do you see as the Government's objectives for the National Top-Up?*

The NFU sees the main objective of the National Top-Up as providing a cost effective supply of subsidised rates that reflect pre - 2001 changes to EU support rates, thus ensuring the maximum benefit to parents and children. Defra, DfES and DH agreed to top up the subsidy to its original level in England, up to a maximum total expenditure of £1.5m each year. However, this means the scheme is only operated at the minimum limit and only allows primary age children to benefit.

2) To what extent do you think the National Top-Up achieves these objectives? (Effectiveness of the programme).

Given governmental budgetary targets, the NFU believes that the National Top up is an extremely effective measure. However, only some authorities top up the subsidy, this often leads to big problems and the withdrawal of milk programmes when the money runs out or policy changes occur. Such top up schemes are often age restricted to the under 7s, which means it is almost impossible to expand to the 11s without adverse political repercussions.

3) To what extent do you think the programme effectively reaches the target population? What could be done to increase the number of schools that participate?

Around 1.3 million primary school children benefit from milk schemes (DH Welfare & EU subsidised Scheme) – the NFU estimate that around 80% of primary school children do not currently benefit from the EU scheme. Many teachers and parents do not even realise that this EU subsidy exists. Furthermore, there often seems to be no mechanism in place within Local Education Authorities to ensure that this message is received in schools and passed on to parents. The NFU would like to see more promotion from government/RPA and closer liaison between these bodies and LEAs to encourage individual LEAs to promote the Scheme to schools within their areas of operation.

The dairy sector actively promotes the availability of the EU Scheme (with annual promotions. Latterly, this has been part funded by the EU, such as School Milk Week – annual budget c. £100,000) and the activities of the School Milk Project funded by the Milk Development Council and dairy companies.

4) Do you have any studies of participation? (Please indicate)

No.

⁷¹ As answered by Emma Rutter, NFU Dairy Adviser, January 2005.

5) *To what extent do you think the £1.5 million spent annually on the National Top-Up is an efficient use of funds for increasing consumption of milk? Do you think the money used in alternative ways would achieve higher impacts (targeting other products, using promotion campaigns, for example)? (Efficiency of the programme).*

Maintenance of the cost effective supply of milk is of crucial importance. However, we would not object to a small proportion of these funds being spent on promotional activities, as long as these were done in consultation with dairy companies and were complimentary to existing work financed by dairies and the MDC.

Pressure/persuasion and information from government on LEAs to utilise the Scheme could be done in such a way as to be cost effective, i.e. using existing communication paths and the internet and would not necessarily need to tap into any of the Top-Up.

The NFU would wish to see the maintenance of the provision of milk to children based on the nutritional benefits of the product. Other budgets exist to deal with targeting other products, such as DH initiatives.

6) *To what extent do you think the National Top-Up is successful in increasing milk consumption? To what extent do you think that price is an important factor in increasing school milk consumption?*

The National Top-Up successfully maintains a cost effective subsidy provision, cushioning against Commission change to subsidy rates which could have led to a reduction of Scheme usage from 2001 onwards. The maintenance of a cost effective supply of milk, keeping costs down to parents is very important. Milk is not price insensitive and therefore price changes are important to the uptake under the Scheme. Significant cost increases to parents cannot benefit the take up of milk provision in schools and could lead to a drop off in consumption.

7) *To what extent do you think the National Top-Up is successful in promoting overall health/dietary habits in children? Do you think there are better ways of doing so?*

The modest cost of the National Top-Up is a cost effective measure in assisting the promotion of healthy diets/habits in children. The dietary contribution of milk to primary school aged children is significant. Of course, the top up itself is not a health promotional scheme in its own right, but a support for milk provision. As previously mentioned, we would like to see more "promotion" of the availability of subsidised milk in schools, but we are aware of budgetary constraints.

8) *To what extent does the subsidy help prevent competition from alternative drinks (soft drinks, fruit juices)?*

The option of other products is always available in schools and there is no way, without political and financial support, that milk as a generic product could ever compete with the promotion of big brands, such as Schweppes/Coca Cola, especially in secondary schools. Therefore, the NFU does not see the EU subsidised scheme and Top-Up as preventing competition, but as a useful tool in promoting the consumption of a nutritionally worthwhile product.

9) *To what extent the programme benefits the dairy industry in general.*

The overall levels of primary school milk consumption are not at a volume that significantly benefits the industry in overall financial terms. Provision of milk under the Scheme represents around 0.7% of the total volume of the liquid milk market in the UK.

However, the NFU does recognise and support the important role played by the Scheme in encouraging milk consumption in future generations, thereby the benefit to the industry is in developing its customers of tomorrow.

10) *If parents want their children to receive milk in schools, do you see a reason why the parents should not pay its full cost themselves?*

The UK has a duty to ensure that this benefit is available to all relevant beneficiaries. Indeed, the Defra website states of the Scheme, "It requires Member States to make available subsidised milk to primary and nursery schools wishing to participate. But participation is entirely a matter for the school or Local Education Authority. The subsidy is available on a number of milk and milk products but the mandatory elements are whole and semi-skimmed milk (plain and flavoured) and whole and semi-skimmed milk plain yoghurts. The UK pays aid only on the mandatory elements." The NFU would be concerned if the lack of available funding discouraged low income households from allowing their children to have school milk.

The NFU would not wish the established EU based scheme to be curtailed and we would certainly not wish to see UK government seeking the termination of the European wide scheme.

11) *Do you have any other concerns about the Top-Up programme or suggestions for its improvement?*

The NFU would wish to see the maintenance of the existing Top up and, indeed, see resource put into promoting the availability of the subsidy to primary school children. Given the relatively modest level of expenditure on this area by government we would wish to see its retention, and if at all possible, extension.

Annex 7 Full Response of Stephanie Spiers, Chair of Milk For Schools

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Submission and Recommendations School Milk Subsidy Scheme Evaluation 2005

School Milk An International Perspective: Globally 73 countries have school milk integrated into child feeding programmes. The UK's child anti-poverty measures are monitored by the UN. School milk provision falls into this area. The UN Food and Agriculture Organisation founded International World School Milk Day to encourage school milk provision. Such provision is supported by the European Union and the WHO. All UK children as 'European Citizens' are eligible beneficiaries of the EU SMSS – access to this benefit is to be encouraged. The 3rd European School Milk Conference (Sweden 2003) proposed: A School Milk Plan for Europe: 1. All school children should have access to milk; 2. High awareness of the benefits of school milk; 3. Full utilization of the EU school milk incentive programme; 4. Creation of an International School Milk Information Centre. Currently it is estimated the UK, is 80% below this baseline benchmark for provision in primary schools and 75% below in secondary – and uptake is not uniform in all regions.

Obstructions to the SMSS Achieving Intended Outcomes:

- This scheme is obstructed by conflicting legislation and bad practice
- The Education Act 2002's free milk clause acts as an obstruction to subsidised uptake by LEAs i.e. if they don't provide any milk they avoid paying for free milk – this loophole is utterly ridiculous
- The Rural Payments Agency fails to provide a claims service for individual opted out schools despite acknowledgment that they should be doing so – important as the school catering system is collapsing
- LEAs are allowed not to participate – thus obstructing access to the SMSS to schools – e.g. Oxfordshire

- Head teachers are allowed not to participate – e.g. Staffordshire less than 50% - introduction blocked
- Secondary schools are not allowed to participate at all – 23% loss of uptake when they were withdrawn
- Claimants are not allowed to claim all the subsidised elements on offer e.g. cheese products

Despite The Above Mentioned Obstacles This Scheme Flourishes And Is Tremendously Important:

- It underpins all the FREE milk schemes – the DH's Welfare Foods Under Five Scheme – the FREE Education Act milk for Income Support etc children provided by responsible LEAs – FREE milk in special schools – Welsh Assembly FREE milk for the under sevens – FREE milk in some Scottish schools
- On top of this the SMSS supports subsidised milk available in primary and some middle schools where beneficiaries are permitted access – low uptake is not because of low requirement it is because of systematic obstruction of access – issues we have twice had to refer to the EU in the last twelve months
- Since subsidy administration privatisation uptake to this scheme has been greatly enhanced – around 40 LEAs have switched to agency assistance – there's been an upswing in free nursery class uptake and even in FREE Income Support provision in some counties as a result of agency intervention. Agency milk is also refrigerated: an important factor.
- The dairy sector are to be congratulated for their financing of 15 school milk facilitators which have improved uptake in a great number of England and Wales LEAs. – the WHO funds 50 similar facilitators
- DairyUK now organises a **School Milk Week** annually in October, which demonstrates their recognition of the importance of this market to the dairy sector recovery: this promotion is EU finance supported.
- The subsidy aid figures do not properly reflect the true situation over the last few years as they do not take into account the decline in the school population. We should properly nurture those we have left.

How This Scheme Could Contribute to Government Objectives:

- Support for school milk market development was a recommendation of the Curry Report
- School milk programmes, as part of sustainable development of the dairy sector through rural regeneration, are being used in other countries – e.g. China

- Child anti-poverty policy could benefit from better integration of this scheme into the school feeding programme (that is when the DfES actually produces a proper – child health based – school feeding programme: at present the inadequate ‘profit driven’ system has failed, is in melt down and collapse) 25% of teenage girls are known to be calcium deficient – 3.5 million UK children are living in poverty – 15% when monitored were found to be suffering from malnutrition
- Obesity in children could possibly be reduced if semi-skimmed school milk replaced non-nutritional soda drinks sales in schools – it is accepted that global fizzy pop giants have moved in to fill the school milk gap.

Why School Milk Should be Subsidised by the British Government

- Britain is an European Member State - The SMSS is an EU citizenship benefit
- Britain has almost 50% of its school age children living in poverty.
- To its shame Britain has a significant percentage of children malnourished/at nutritional risk/suffering from multiple nutritional deficiencies - National Nutrition Survey – including vitamin A & calcium
- Significant numbers of NGO’s are calling for the return of FREE school milk for ALL children and FREE school meals (breakfasts and dinners) for ALL children because of the poverty witnessed in our schools
- Save the Children says one region has over 100,000 children only able to eat twice a day. 33% of children go to school without food, in some areas poverty is so persistent children are on free meals throughout their entire childhood. Not all deprived children can have free meals - 50 children in every secondary school go hungry all day 5% of the total school population every day have no food at mid day - some schools give these children bread. Most ignore the situation.
- There is a national NGO led campaign on going in Scotland for free school milk and free school meals
- Wales has already acted and brought in free school milk and free school breakfasts
- The Dept for Health’s obsession for its free fruit scheme is questionable: although free fruit is welcomed it should not overshadow the ‘balanced diet’ message. The necessity for strong bones, sound teeth and adequate growth rate should be better supported – it is deplorable that the DH’s ‘Healthy Start’ aims to obstruct free milk access: it begs the question of the motivation of the proposer of such an extremist policy
- History shows in 1996 the withdrawal of the secondary element etc. led to a 23% drop in uptake – prices more than doubled as a result and excessive profits were made – (Is this exploitation?) e.g. currently 300ml = 46p unsubsidised in secondary it SHOULD be 250ml = 20p subsidised

Recommendations for Improvement

- ALL school milk should have to be REFRIGERATED and served chilled
- A clear country wide decision by the Govt. to switch to semi-skimmed school milk would be welcomed in many quarters – at the very least a choice should be offered between whole and semi-skimmed
- All schools should be obligated to offer subsidy access to all pupils – not to just catered ones
- All Free meals entitled children should have free milk daily as an obligation on the provider – not just a drink option available for a small number of children once or twice a week and not age restricted to 7 or 9
- All children under five should have daily free milk provided as an obligation on the day-care provider – (NB MFS will be monitoring ‘Healthy Start’ for any EU regulation infringement violation)
- The secondary school milk subsidy should be reinstated immediately
- Claimants should be allowed to claim the cheese subsidies immediately
- Those taking school milk should not be denied a pudding – milk must not be a dessert option
- The RPA should immediately provide individual school claims facilities
- Head teachers must not be able to block school milk subsidy access
- All LEAs must either provide school milk themselves or ensure agency provision immediately.
- A withdrawal of all carbonated soda drinks from schools would be welcomed
- Equality of opportunity for all children to benefit from school milk should be provided

BIG PICTURE RECOMMENDATIONS:

- Introduce FREE school milk and FREE school meals for ALL children immediately.
- Have a Minister placed in overall charge of an integrated SCHOOL FEEDING PROGRAMME to include – free milk – free water – free breakfasts – free fruit – healthy snacks – free quality meals – healthy vending etc., the School Feeding Programme to be ‘child health’ based and obligatory.

Milk For Schools is grateful for the opportunity to participate in this evaluation.

Stephanie M Spiers Chair of the Trustees Milk For Schools - Jan 2005

Sources:

Education Act 2002 512ZB; Rural Payments Agency; Malnutrition Advisory Group; MFS Research Survey Reports from 1996-2004; EU Annual Subsidy Aid Stats from 1995-2002; UNFAO School Milk Forum; UNFAO 3rd European School Milk Conference Proposal 2003; National Diet & Nutrition Survey; EU SMSS Regulations; DH Healthy Start Proposal; CPAG Child Poverty Stats; Save the Children Report 2004; LACA 2004; Borrow Dental Milk Foundation 2004 – WHO; National School Milk Administration Agency 2004.