



Analysis of the Impact of Decoupling on Agriculture in NI

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This paper presents analysis of the impact of the decoupling of direct payments as proposed in the Mid-Term Review (MTR) of CAP on the beef, sheep and dairy sectors in Northern Ireland. The FAPRI-NI modelling system produces baseline projections of key variables in the main agricultural sectors, which assume that current policies remain in place. The baseline projections (up to 2010) provide a benchmark against which various decoupling scenarios can be compared and evaluated.

The EU system of direct payments (DP), where premia are paid on a per head basis for livestock and a per hectare basis for crops, influences farmers' production decisions. If the current system of DP was decoupled, production levels would be expected to adjust downwards, to reflect the underlying profitability of alternative enterprises. However, in practice, decoupled payments may continue to exert a partial influence on production. In other words the administrative act of disassociating payments with units of production may in itself not be sufficient to totally break the link between payment and production levels. There are a number of reasons why, in a behavioural sense, decoupled payments may continue to exert an influence on production levels. For example, some farmers may use decoupled payments to smooth income streams, while the security of decoupled payments may reduce their financial risk levels or enable them to obtain bank loans more easily. Furthermore, the MTR decoupling proposal stipulates the need to maintain statutory standards of food safety and animal welfare, and to keep land in good agricultural condition in line with environmental requirements, which implies some link with production.

The precise production decisions that will be made by recipients of decoupled payments as proposed in MTR are currently unknown. Therefore, in the analysis that follows, a number of scenarios, regarding the possible production impacts of decoupled payments on prices, production and sectoral and aggregate receipts, are considered. The other MTR proposals are not considered in this analysis.

The baseline and decoupling scenarios

- 1) *Baseline (no de-coupling)*. The baseline projections to 2010 are produced under the assumption that current policies (including future changes to these policies that have already been agreed) prevail throughout the projection period. The baseline projections therefore reflect the production impact of direct payments agreed under Agenda 2000.

- 2) *Decoupling Scenarios*. Each of these scenarios assumes that full decoupling, as proposed under the MTR takes place, i.e. all current direct producer payments for arable crops, beef and sheep (and planned future dairy payments) are replaced with a single, decoupled payment per farm from January 2004. To calculate the value of the decoupled payment per farm the average numbers of livestock and hectares of crops which attracted direct payments for the years 1999, 2000 and 2001 is multiplied by the appropriate direct payment rates established under Agenda 2000. There may be a production response to the decoupled payments. The level of this response is unknown. Each of the decoupling scenarios, therefore, assumes a different rate of production response as follows:
 - Scenario A:* assumes there is no production response to the decoupled direct payments. Producers base their production decisions on the basis of market returns alone;

 - Scenario B:* assumes that 30 per cent of the decoupled direct payment generates a production response; and,

 - Scenario C:* assumes that 60 per cent of the decoupled direct payment generates a production response.

In the analysis that follows the decoupling scenario projections are compared against the baseline (no decoupling) projections. The models captured the full affects of the decoupling scenarios by 2010. Consequently, the percentage changes from the baseline for each scenario are presented for the year 2010.

Impact of the Decoupling Scenarios

The Beef Sector

Under all the decoupling scenarios, projected EU suckler cow numbers and beef and veal production fall, while the projected cattle reference price rose, relative to the baseline in 2010 (see Table 1). The fall (relative to the baseline) in projected suckler cow numbers and beef and veal production levels results from the decoupling of direct payments, which removes the production enhancing impact of these payments. The price rise is a direct consequence of the fall in beef and veal production.

Table 1. The Beef Sector: Percentage Changes from the Baseline (no decoupling) in 2010

	Decoupling Scenarios		
	Scenario A	Scenario B	Scenario C
EU:			
Total cows	-6.5	-4.5	-2.4
Suckler cows	-16.2	-10.9	-5.9
Beef & veal production	-5.1	-3.5	-1.9
Cattle reference price	+15.1	+9.9	+5.2
NI:			
Total cows	-10.8	-7.2	-3.5
Suckler cows	-21.6	-14.3	-6.9
Clean marketings	-8.4	-5.5	-2.7
Steer price	+15.0	+9.9	+5.2

Note: Scenario A – assumes there is no production response to the decoupled payment.
 Scenario B – assumes that 30 % of the decoupled direct payment generates a production response.
 Scenario C – assumes that 60 % of the decoupled direct payment generates a production response.

The projected reductions in EU suckler cow numbers and beef production under the decoupling scenarios (particularly Scenario A) are substantial. However, it is important to note that the projected suckler cow numbers and beef production levels are greater than those observed in the early 1990s (see Appendix, Figure 1) and they return to levels approaching those observed at the time of the MacSharry reforms implemented in 1992.

When the decoupled payment is assumed to generate a production response (Scenarios B and C) this dampens the negative production effect and the positive price effect of decoupled payments that are not assumed to generate an associated production response. The higher the degree of production response assumed, the closer the projections are to the baseline of no decoupling (see Table 1).

Analogous to the EU analysis, decoupling exerts a negative impact on NI suckler cow numbers and marketings and a positive impact on the NI steer price. The magnitude of the price impact is comparable to that in the EU for 2010. The decoupling projections for NI steer price (presented in Figure 3) indicate that during the initial part of the project period the prices fall relative to the baseline. This short term negative price impact is explained by the increase in the numbers of beef heifers coming on to the market as farmers adjust their production plans.

As NI producers are more dependent on direct payments than the EU average, NI suckler cow numbers decline proportionately more than the EU average (see Table 1 and Figure 2). Under Scenario A suckler cow numbers in NI are projected to be 231,000 in 2010, compared to 318,000 in 2000 and 269,000 in 1990. There is a larger relative decline in total cow numbers in NI than in the EU, since suckler cows make up a higher proportion of total cows in NI. When a degree of production response is assumed for decoupled payments, the negative production effect and the positive price effect are dampened in the NI projections.

The Sheep Sector

The decoupling of direct payments leads to a decline in projected EU ewe numbers and sheepmeat production levels (see Table 2 and Figure 4). The fall in EU sheepmeat production triggers a rise in the EU sheepmeat reference price (see Table 2). The projected fall in EU ewe numbers and sheepmeat production and the consequent rise in the EU sheepmeat price are not as pronounced under the decoupling scenarios (Scenarios B and C) that assume an associated production response.

Table 2. The Sheep Sector: Percentage Changes from the Baseline (no decoupling) in 2010

	Decoupling Scenarios		
	Scenario A	Scenario B	Scenario C
EU:			
Ewes	-7.2	-4.9	-2.6
Sheepmeat production	-7.6	-5.2	-2.8
Sheepmeat reference price	+20.6	+13.5	+7.0
NI:			
Breeding ewes	-11.8	-7.9	-4.1
Finished sheep & lambs marketings	-11.3	-7.4	-3.8
Avg. producer price of sheep & lambs	+23.3	+15.1	+7.8

Note: Scenario A – assumes there is no production response to the decoupled payment.
 Scenario B – assumes that 30 % of the decoupled direct payment generates a production response.
 Scenario C – assumes that 60 % of the decoupled direct payment generates a production response.

Breeding ewe and sheepmeat marketings also decline in NI under each of the decoupling scenarios, relative to the baseline (see Table 2 and Figure 5). Again, the decline in numbers is more severe in NI compared to the EU average. This is partly explained by the fact that returns to the sheep sector in southern regions of the EU are boosted by sheep-milk production. Consequently, direct payments are a lower proportion of returns to sheep in these regions.

The decoupling projections for the NI sheepmeat price (presented in Figure 6) indicate that in the early years of the projection period, the prices fall relative to the baseline. Again this reflects the greater numbers of breeding animals entering the sheepmeat market as farmers adjust their production plans. The price impact of decoupling under each of the scenarios is more positive in NI, compared to the EU average (see Table 2). Sheepmeat exports from NI primarily go to Northern Europe (GB, RoI and France). Compared to Northern Europe, producers in Southern Europe are less dependent on direct payments and thus, there is a smaller projected decline in production in the latter. The decline in production has a greater positive effect on price in the countries of Northern Europe.

The Dairy Sector

Decoupling the modest dairy premium, which does not come into effect until 2005, exerts little impact on production and prices in the dairy sector (see Table 3). Under the decoupling scenarios, milk production continues to be governed by EU milk production quota levels. Consequently, milk production and dairy cow numbers in both the EU and NI, under each of the scenarios, remain relatively unchanged compared to the baseline. Cross-price effects result in a marginal increase in the EU and NI dairy milk price of 0.1 per cent.

Table 3. The Dairy Sector: Percentage Changes from the Baseline (no decoupling) in 2010

	Decoupling Scenarios		
	Scenario A	Scenario B	Scenario C
EU:			
Milk production	0.0	0.0	0.0
Dairy cows	0.0	0.0	0.0
Dairy milk price (3.7% fat)	0.1	0.1	0.0
NI:			
Milk production	0.0	0.0	0.0
Dairy cows	0.0	0.0	0.0
Producer's milk price	0.1	0.1	0.1

Note: Scenario A – assumes there is no production response to the decoupled payment.
 Scenario B – assumes that 30 % of the decoupled direct payment generates a production response.
 Scenario C – assumes that 60 % of the decoupled direct payment generates a production response.

NI Sectoral and Aggregate Receipts

Sectoral market receipts (excluding direct and decoupled payments) for the beef sector under each of the decoupling scenarios exceed those for the baseline by 2010 (see Table 4 and Figure 7). The positive price effect more than compensates for the drop in production. In 2010, compared to the baseline, projected beef market receipts are 3.9 per cent higher under Scenario A, 2.8 per cent higher under Scenario B and 1.8 per cent higher under Scenario C.

Table 4. NI Sectoral Market Receipts: Percentage Changes from the Baseline (no decoupling) in 2010

	Decoupling Scenarios		
	Scenario A	Scenario B	Scenario C
Sectoral market receipts:			
Beef	+3.9	+2.8	+1.8
Sheep	+8.6	+6.4	+3.7
Dairy	+0.1	+0.1	0.0
Aggregate total receipts minus variable costs	+6.5	+4.8	+3.0

Note: Scenario A – assumes there is no production response to the decoupled payment.
Scenario B – assumes that 30 % of the decoupled direct payment generates a production response.
Scenario C – assumes that 60 % of the decoupled direct payment generates a production response.

The long run positive price effect in the sheep sector that results from decoupling more than compensates for the drop in production. Market receipts for the sheep sector exceed those in the baseline from 2005 onwards (see Figure 8). The lower the percentage of the decoupled payment that is assumed to generate a production response, the higher the level of sheep market receipts. In contrast, market receipts from the dairy sector are relatively unaffected by decoupling (see Figure 9).

The impact of the decoupling scenarios on aggregate (i.e. combined NI beef, sheep and dairy sectors) total receipts (including market receipts and other receipts such as direct or decoupled payments) minus total variable costs is presented in Figure 10 and Table 4. Under each of the decoupling scenarios, NI aggregate total receipts minus variable costs are higher relative to the baseline throughout the whole of the projection period. The positive impact of decoupling is greater the lower the percentage of the decoupled payment that is assumed to generate a production response. By the end of the projection period (2010), aggregate total receipts minus variable costs under Scenario A are 6.5 per cent higher than the baseline. This amounts to £39 million.

The positive impact of decoupling on aggregate total receipts minus variable costs can be attributed to several factors. As outlined earlier, decoupling improves market receipts in the beef and sheep sectors. In addition, total other receipts are higher under each of the decoupling scenarios compared to the baseline. This reflects the fact that the decoupled payment per farm is fixed according to the level of production in the reference period

(average of 1999 to 2001). Given that baseline beef and sheep production levels are projected to fall (relative to the reference period), the total value of decoupled payments will exceed the value of direct (coupled) payments across the projection period. Therefore, 'other receipts' paid to the beef and sheep sectors under the decoupling scenarios exceed the 'other receipts' paid in the baseline. Although the opposite is the case in the dairy sector, this sector contributes only a small amount to total 'other receipts', compared to the beef and sheep sectors, and therefore, the overall impact of decoupling on total 'other receipts' is positive. Finally, total variable costs decline under the decoupling scenarios in accordance with the drop in livestock numbers.

It must be noted that the upward projected price movements resulting from reductions in beef and sheep production depend on the assumption that current levels of EU protection from world market trade continue. If the European Commission decides to cut levels of export subsidy support then beef prices would respond less positively under the decoupling scenarios. Another important assumption made in this analysis is that the OTMS continues.

Conclusions

- The decoupling of direct payments exerts a significant impact on the NI beef and sheep sectors. When the decoupled payments are assumed not to generate an associated production response, projected livestock numbers and production levels in the beef and sheep sectors fall, while projected producer prices for steer and lambs rise, relative to the baseline. The decoupling of direct payments removes the production enhancing impact of these payments. The projected longer run producer price rise is a consequence of the fall in livestock numbers and in beef and sheepmeat production.
- When the decoupled payments are assumed to generate an associated production response, the negative production effects and the positive price effects are dampened in comparison to the projections produced under the assumption that decoupled payments generate no associated production response.
- While it is possible that decoupled payments will not generate an associated production impacts, it is unlikely that this will be the case. Particularly in the short run, many producers may treat decoupled payments as if they are partially coupled. As they become

acquainted with the system of decoupled payments, however they may start to disregard this payment in making production decisions. The precise production impacts of the decoupled payments proposed in MTR are currently unknown.

- NI is more dependent on direct payments than the EU as a whole and this means a greater decline in projected livestock numbers in the NI beef and sheep sectors is observed compared to projections for the EU, when decoupling occurs.
- The beef breeding cycle is longer than that for sheep, consequently, production and prices adjust more swiftly in response to decoupling in the sheep sector. As beef producers are more dependent on direct payments than sheep producers, beef cow numbers show a greater proportionate decline than ewe numbers. There may also be a shift from beef to sheep production.
- While decoupling exerts a considerable negative impact on production, the projected beef cow numbers by 2010 are not unprecedented. It is worth noting that when the decoupled payments are assumed to generate no associated production response, EU production approximates pre-MacSharry reform levels.
- NI cattle and sheepmeat prices are projected to rise considerably (in the longer run) in response to the decline in production arising from decoupling. As already noted, this price impact is strongly dependent on import/export assumptions made at the EU level. In the analysis it is assumed that non-EU imports are restricted by import tariffs and quotas agreed at the Uruguay Round Agreement on Agriculture and thus, imports only rise by a limited amount under each of the decoupling scenarios. It is also assumed that the European Commission does not cut export subsidies in order to prevent prices from rising, except in circumstances where the total budget set aside for export tariffs is exceeded. If these trade assumptions are changed, projected prices, production levels, and hence market receipts would change significantly.
- It is possible that the current WTO round will reduce the level of tariffs and export subsidies. Any reductions in agricultural protection would dampen the positive price affects of reduced EU production.
- Currently there are no direct payments linked to milk production, however, a dairy premium is due to be introduced in 2005 and this direct payment is accounted for in the

analysis. EU milk production quota levels and a protected internal EU market govern milk production, and consequently, decoupling exerts little impact on projected dairy cow numbers and commodity prices.

- The gain in beef and sheep producer market receipts, due to the higher commodity prices, exceeds the loss attributable to lower production. Hence, the overall effect of each of the decoupling scenarios on total market receipts is positive, relative to the baseline. Dairy market receipts remain approximately the same relative to the baseline under the decoupling scenarios. In addition, using 1999 to 2001 as the reference period means that total 'other receipts' under each of the decoupling scenarios, exceeds those in the baseline. As a consequence, decoupling improves aggregate total receipts minus variable costs in NI.
- Although farmers in NI would benefit from improved levels of total receipts as a result of decoupling it is likely that beef processors and firms selling agricultural inputs would be worst off.
- Decoupling could have an important impact on the quality of beef produced in NI. Under each of the scenarios it is projected that beef cow numbers decline, relative to the baseline, while dairy cow numbers remain relatively unchanged. As a result, one of the implications of decoupling is that there would be a greater proportion of beef animals bred from dairy cows. This could have a detrimental effect on the overall quality of beef produced in NI. On the other hand, decoupling payments from production re-orientates farmers' decisions towards market incentives. The removal of direct (coupled) payments causes price premiums, which are available for better quality beef animals, to become a larger proportion of the returns to beef production. Farmers, therefore, may become more responsive to price signals relating to beef quality as a result of decoupling. The age of animals at slaughter is also likely to change as a result of decoupling.

Appendix

Beef Sector Projections Under Baseline (No Decoupling) and a Range of Decoupling Scenarios

Figure 1: EU Suckler Cows

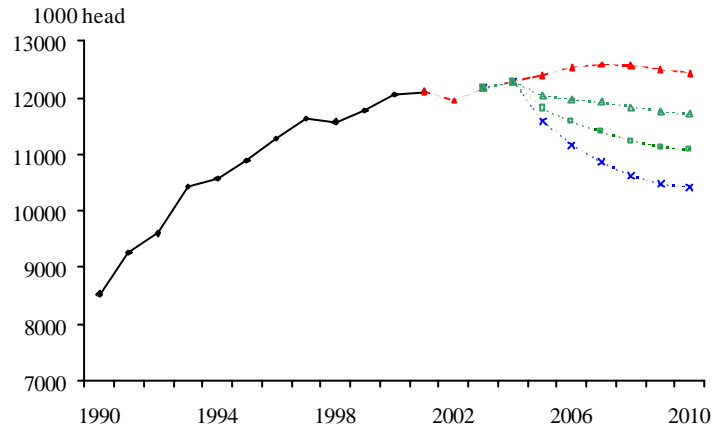


Figure 2: NI Suckler Cows

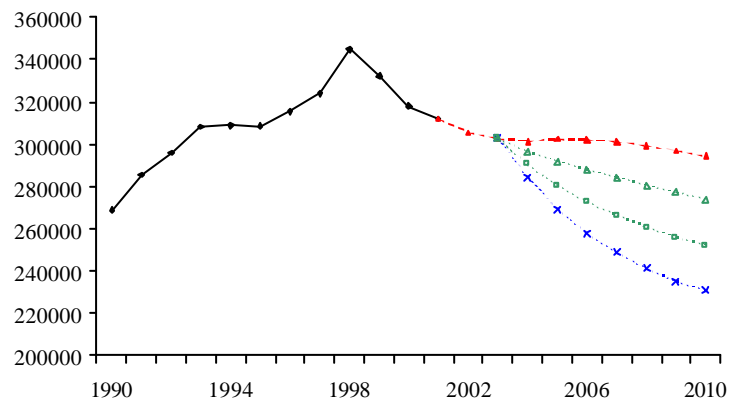
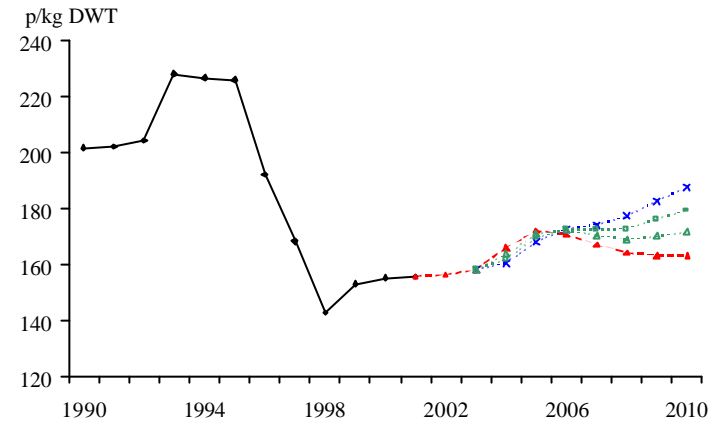


Figure 3: NI Steer Price



Key

- Historic
- - -▲- - - Baseline projections
- · · × · · · Scenario A: no production response to the decoupled direct payment
- - -□- - - Scenario B: production response is attributable to 30% of the decoupled direct payment
- - -△- - - Scenario C: production response is attributable to 60% of the decoupled direct payment

Sheep Sector Projections Under Baseline (No Decoupling) and a Range of Decoupling Scenarios

Figure 4: EU Ewes

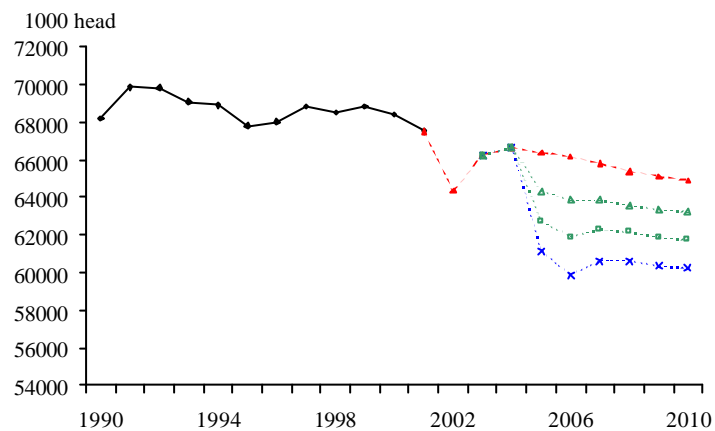


Figure 6: NI Average Producer Price of Sheep and Lambs

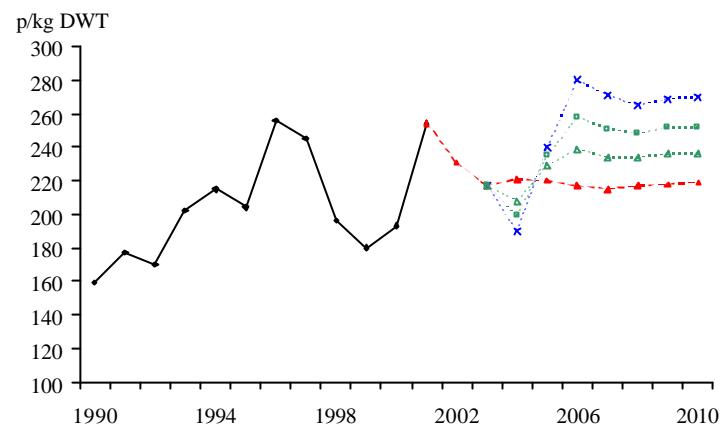
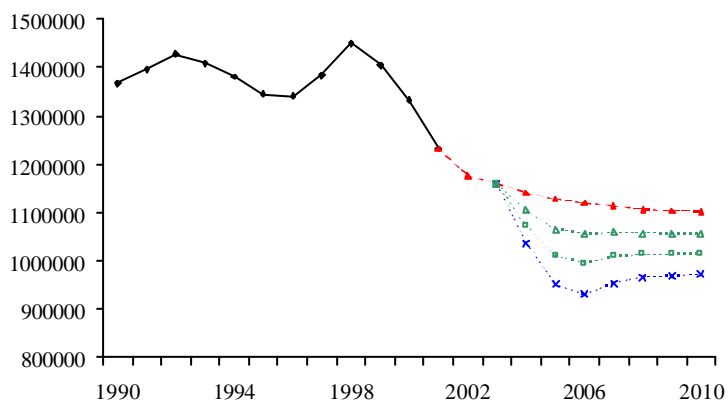


Figure 5: NI Breeding Ewes



Key

- ◆— Historic
- - -▲- - - Baseline projections
- · · · ·×· · · · · Scenario A: no production response to the decoupled direct payment
- - -□- - - Scenario B: production response is attributable to 30% of the decoupled direct payment
- - -△- - - Scenario C: production response is attributable to 60% of the decoupled direct payment

NI Sectoral Market Receipts Projections Under Baseline (No Decoupling) and a Range of Decoupling Scenarios

Figure 7: NI Beef sector market receipts

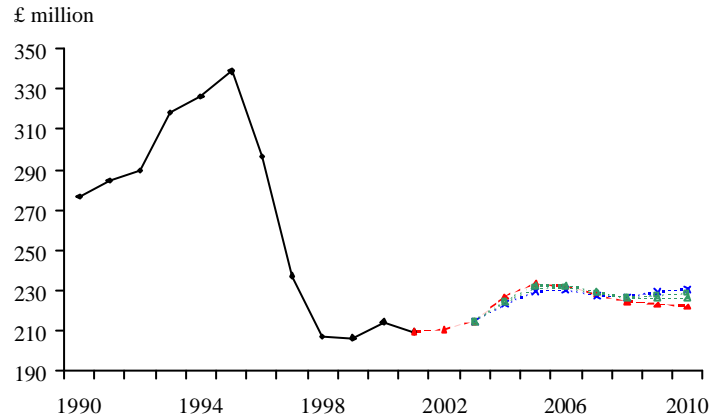


Figure 9: NI Dairy sector receipts

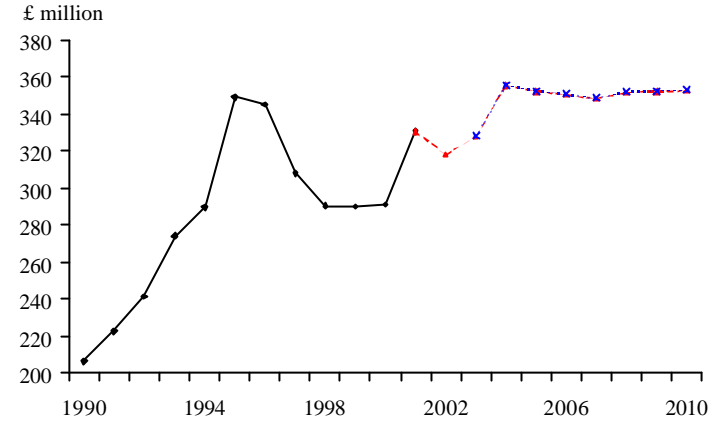
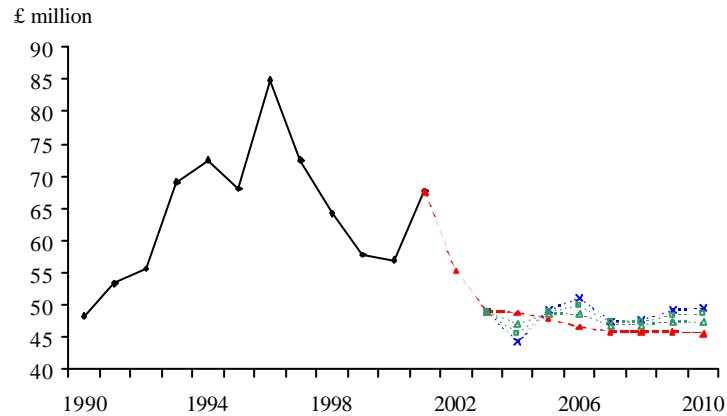


Figure 8: NI Sheep sector market receipts

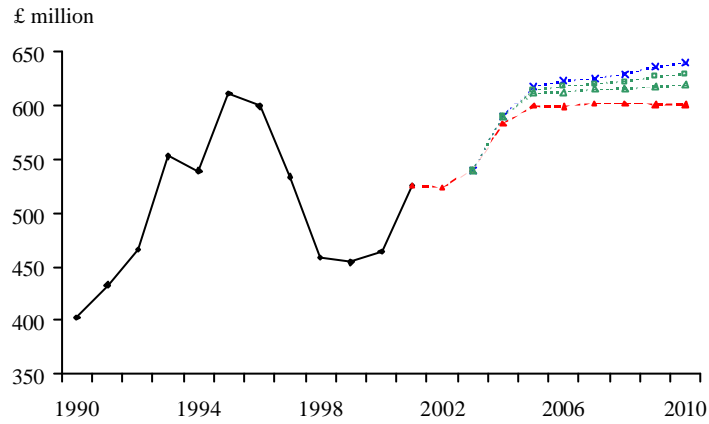


Key

- Historic
- - -▲- - - Baseline projections
- ...*... Scenario A: no production response to the decoupled direct payment
- ...□... Scenario B: production response is attributable to 30% of the decoupled direct payment
- ...△... Scenario C: production response is attributable to 60% of the decoupled direct payment

NI Aggregate Total Receipts Minus Variable Costs Projections Under Baseline (No Decoupling) and a Range of Decoupling Scenarios

Figure 10: Aggregate Total Receipts Minus Variable Costs Projections



Key

- Historic
- ▲- Baseline projections
- Scenario A: no production response to the decoupled direct payment
- ◇- Scenario B: production response is attributable to 30% of the decoupled direct payment
- △- Scenario C: production response is attributable to 60% of the decoupled direct payment