

Farm level adjustment to policy reform

**Recent experiences in Australia
and New Zealand**

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Australian & NZ policy reform

Australia and NZ have had experiences with producer adjustment to major policy reforms

Sector wide deregulation in NZ:

- with reforms of other sectors, macro reform

Industry based policy reform in Australia:

- trade liberalisation
- domestic support arrangements

Experience shows farmers can adjust to substantial reduction in market support:

- no LT income support to compensate
- ST decoupled, transition assistance was provided
- market forces key driver of adjustment

Australian & NZ policy reform

Policy reform creates adjustment pressures:

- market returns, ex rates can affect the impact & response
- some producers choose to exit the industry
- others make changes to off-set income effects

Two case studies to show the experiences:

- dairy deregulation in Australia (2000)
- deregulation of NZ sheep & beef sector (mid-1980's)

Both examples of rapidly introduced reforms:

- Australian dairy reform occurred 'over-night'
- NZ livestock reform occurred over 3 years
- producers adjusted – scale & productivity improvements, diversification, off-farm income

Australian case study – dairy deregulation

Adjustment issue caused by domestic policy reform:

- end all support policies over-night – July 2000
- price support for fluid milk & manufacturing milk

Substantial structural adjustment before deregulation:

- farm numbers decline 37% in 10 years to mid-1980's
- then phase down of support for export sector
- 33% decline in farms numbers over next 15 years

Fluid milk sector enjoyed high levels of support:

- fixed farm gate price, 100-150 % above world price
- facing big adjustment pressures
- overnight, incomes to fall by more than 25%

Pre-reform industry adjustment

Pre-deregulation adjustment not just farm retirements

On-farm adjustments in scale & productivity:

- bigger herds, more land – increased output per farm
- improved per cow milk yields – pasture improvements, supplementary feeding, livestock genetics

Average herd size – 95 head in mid-1980's to 170 head by 1999-00

Milk output per farm – 310,000 litres in mid-1980's to 840,000 litres by 1999-00

Cow milk yields – 3,335 litres/head in mid-1980's to almost 5,000 litres/head by 1999-00

Adjustment assistance for the dairy industry

Generally Australian policy reforms are phased-in:

- continued assistance at declining levels
- producers warned – time to adjust
- transition assistance for ‘overnight’ dairy deregulation

Govt response was A\$1.8 billion restructuring package:

- decoupled producer assistance of A\$1.63 billion – fixed grants based on 1998-99 production
- quarterly grants over 8 years – banks convert to lump sum
- industry specific exit package

Grants based on relative exposure to support arrangements:

- approximate loss of 2-3 years of ‘regulated’ income
- funded by levy on milk consumers

Industry adjustment to deregulation

Deregulation accelerates industry adjustment process:

- > 1,000 farms exit in 1st year – 8% decline
- average exit rate of 2% before deregulation
- after 3 years 2,234 farm exits – 17% decline

Impact in export sector off-set by strong world prices:

- in 2nd year Vic farm numbers fall 6.4%
- average Vic exit rate in 1990's was 1.2%
- improved asset values – opportunity to exit?

Milk production declines 3% in 1st year:

- poor season, farm exits in fluid milk regions – NSW, Qld
- production recovers in 2nd year
- major drought in 3rd year

Adjustment to Australian dairy deregulation

	Number of dairy farms			Production per farm	
	<i>number</i>	<i>change</i>	<i>% change</i>	<i>'000 litres</i>	<i>% change</i>
1995-96	13 888	- 278	-2.0	627	8.3
1996-97	13 753	- 135	-1.0	657	4.7
1997-98	13 478	- 275	-2.0	700	6.6
1998-99	13 156	- 322	-2.4	774	10.5
1999-00	12 888	- 268	-2.0	842	8.8
2000-01 *	11 837	-1 051	-8.2	891	5.9
2001-02	11 048	- 789	-6.7	1 020	14.5
2002-03 *	10 654	- 394	-3.6	969	-5.0

**Drought*

On-farm adjustment to deregulation

Has been significant on-farm adjustments:

- increased milk output to off-set income effect
- per farm output up 6% in 1st year, 14% in 2nd year

Output growth from scale expansion, improved productive performance of cows & land:

- average herd size increases, land purchases
- running more cows
- improved feed inputs & per cow milk yields

How did producers use the restructuring assistance?

- producer survey – SE Qld, Nth NSW, West & Nth Vic

Producer survey – use of DSAP grants

	Market Milk	Manufacturing Milk
	Regions	Regions
	%	%
DSAP as lump-sum	82.6	80.5
DSAP to - farm develop, debt	96.9	76.7
- off-farm investment	9.8	11.2
- non-farm use	17.5	7.8
- quarterly payment	7.6	19.8
DSAP for farm development:		
- herd expansion	15.5	7.8
- pasture, irrigation	44.5	21.6
- land purchase	15.5	31.6
- equipment	44.5	23.5

Producer survey – response to deregulation

	Market Milk	Manufacturing Milk
	Regions	Regions
	%	%
Larger herd	51.1	40.3
- due to deregulation	81.2	23.5
Carrying capacity	52.1	44.0
Acquired land	26.6	34.4
Grain supplements	24.5	30.4
Diversify	25.6	12.0
Off-farm income	27.7	27.2
Increased debt	47.5	60.8

Adjustment & financial performance

ABARE surveys show effect on farm incomes:

- initially 21% fall in average price received by fluid milk producers – output growth offsets price impact
- increased cash costs – feed, debt repayments, labor
- increased debt to fund farm developments

Dairy producers have adjusted to a major policy reform:

- restructuring grants used rationally

Industry retirements means less small scale farms:

- land switches to new agricultural activities
- sales of cows & land to other dairy farmers

NZ case study – rise & fall of farm assistance

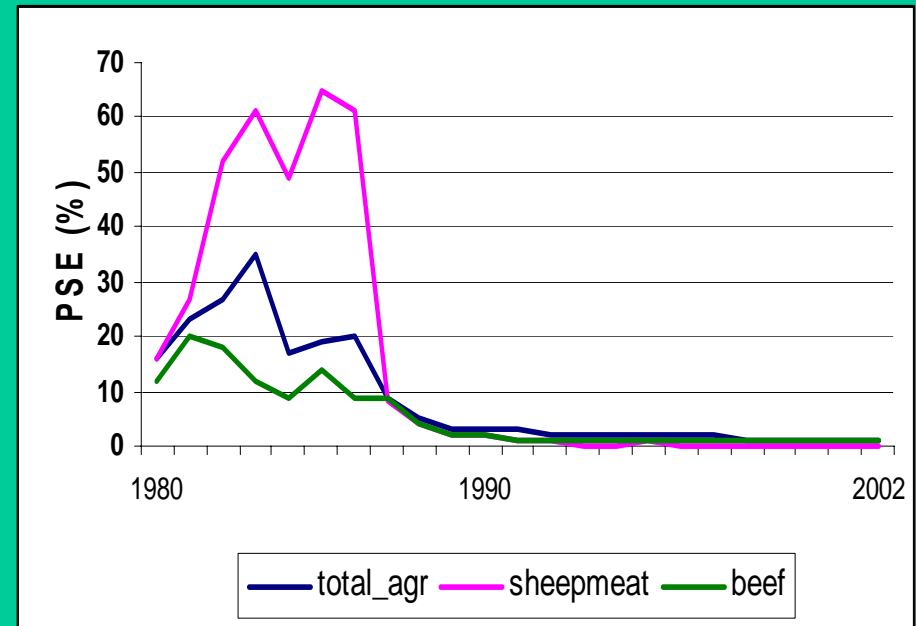
Very little assistance before
mid-1960s

BoP crises led to objective of
increasing farm production
& export revenues

New programs introduced:

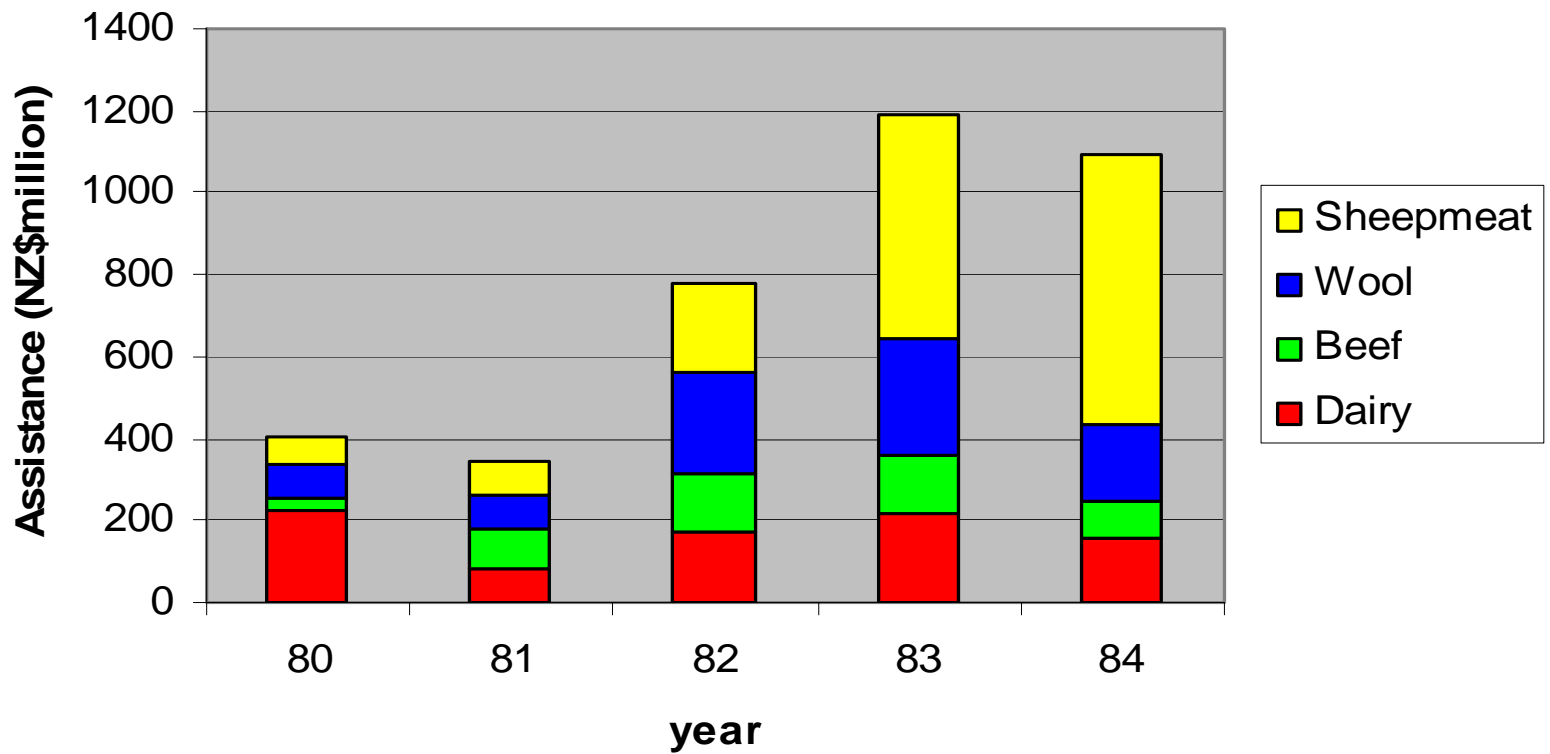
- stabilize/support prices
- input subsidies
- tax concessions
- grants for land development
& stocking

All programs withdrawn over
1984-90 period



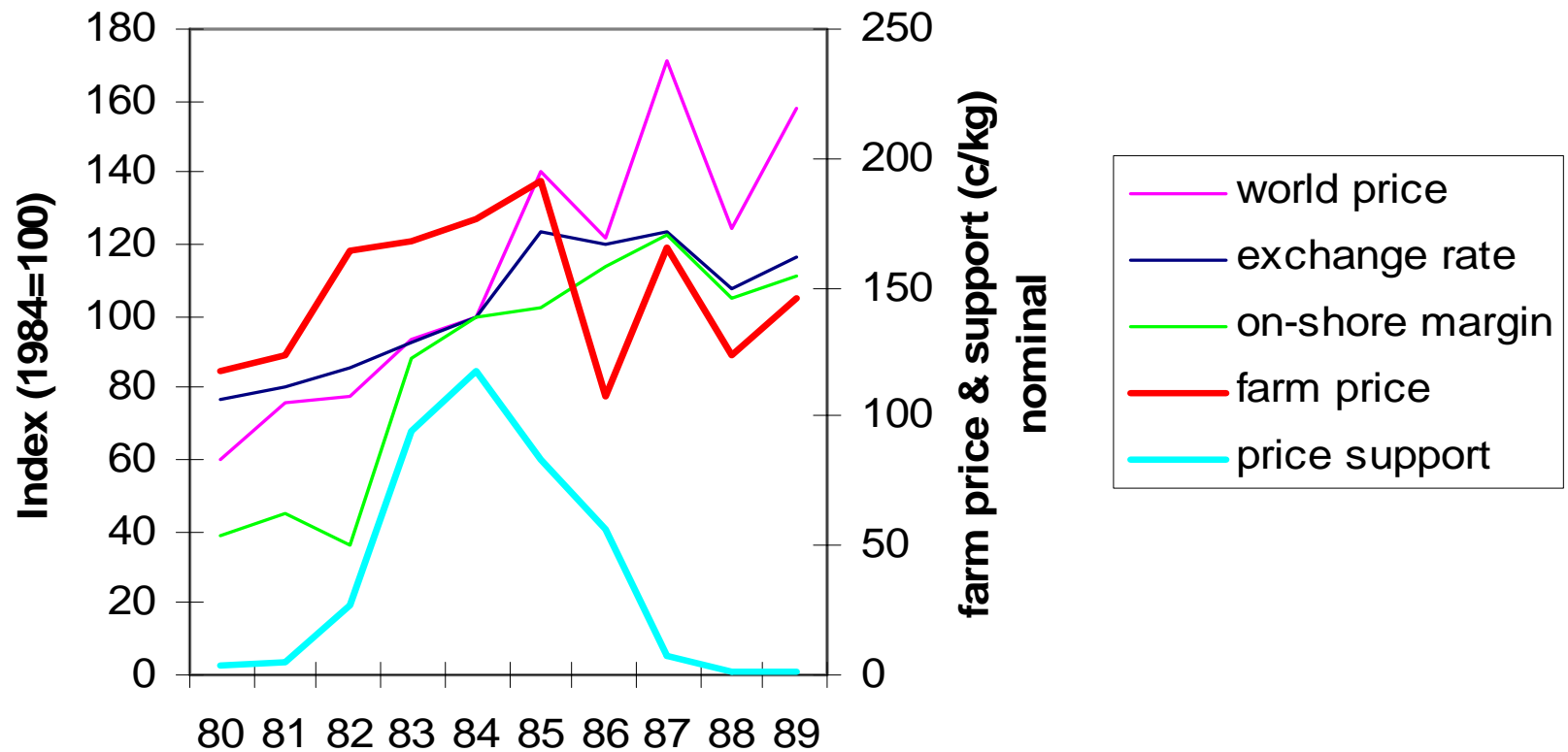
NZ sheep & beef farms heavily supported

**Assistance to Pastoral Agriculture:
Pre Deregulation**



Policy reform affected industry returns

Decomposition of Farm Prices over the adjustment period: Lamb



Adjustment in the NZ livestock sector

Major change in livestock numbers over 1984-90 period:

- reduced sheep inventories – down 14%
- higher beef cattle inventories – up 9%

Some diversification into new enterprises:

- deer numbers rose from 0.2 to 0.8 million
- goat numbers rose from 0.15 to 1.20 million

There were changes in livestock outputs:

- sheep meat production down 19%, wool down 14%
- beef production up 10%
- but total agricultural output did not decline

NZ reforms affected non-factor markets

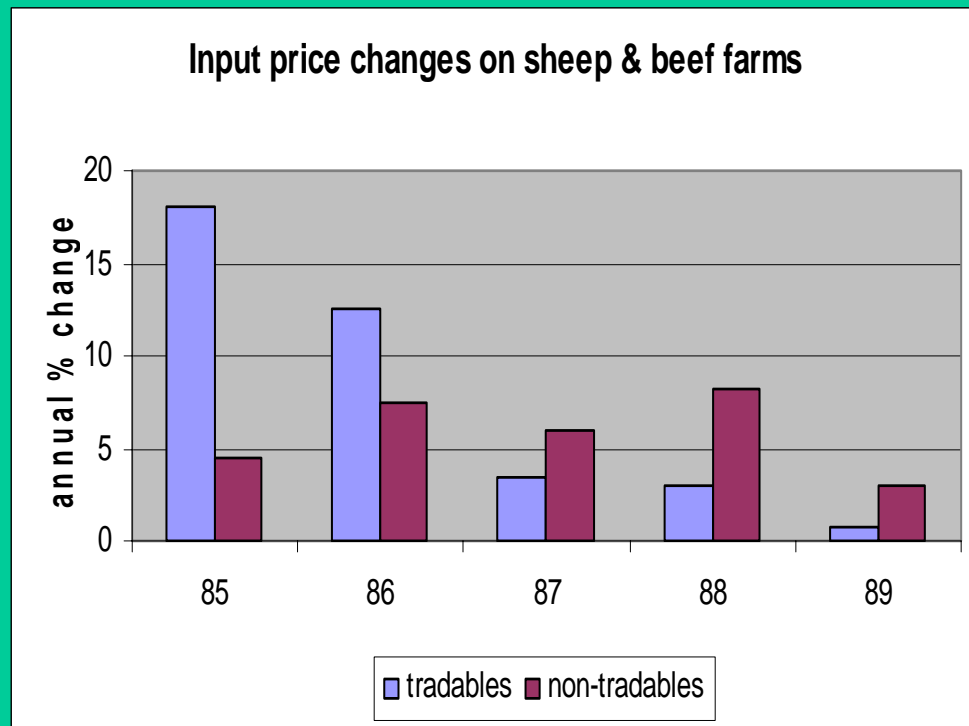
Input subsidies removed –
off-set by reduced input
price inflation

Inflation pressures arrested
by late 1980s:

- lower prices of non-tradable inputs

Tariff reductions & end of
import licensing:

- rapid fall in prices of tradable inputs



NZ reforms led to factor market adjustments

Significant changes in NZ land use over 1984-90 period:

- switching from sheep/beef to dairy, deer, horticulture
- retirement of marginal land
- land prices fell – especially in sheep regions

Farm capital investment declined substantially:

- higher interest rates – increased cost of servicing debt
- fall in agricultural capital stock – new investment insufficient to off-set depreciation

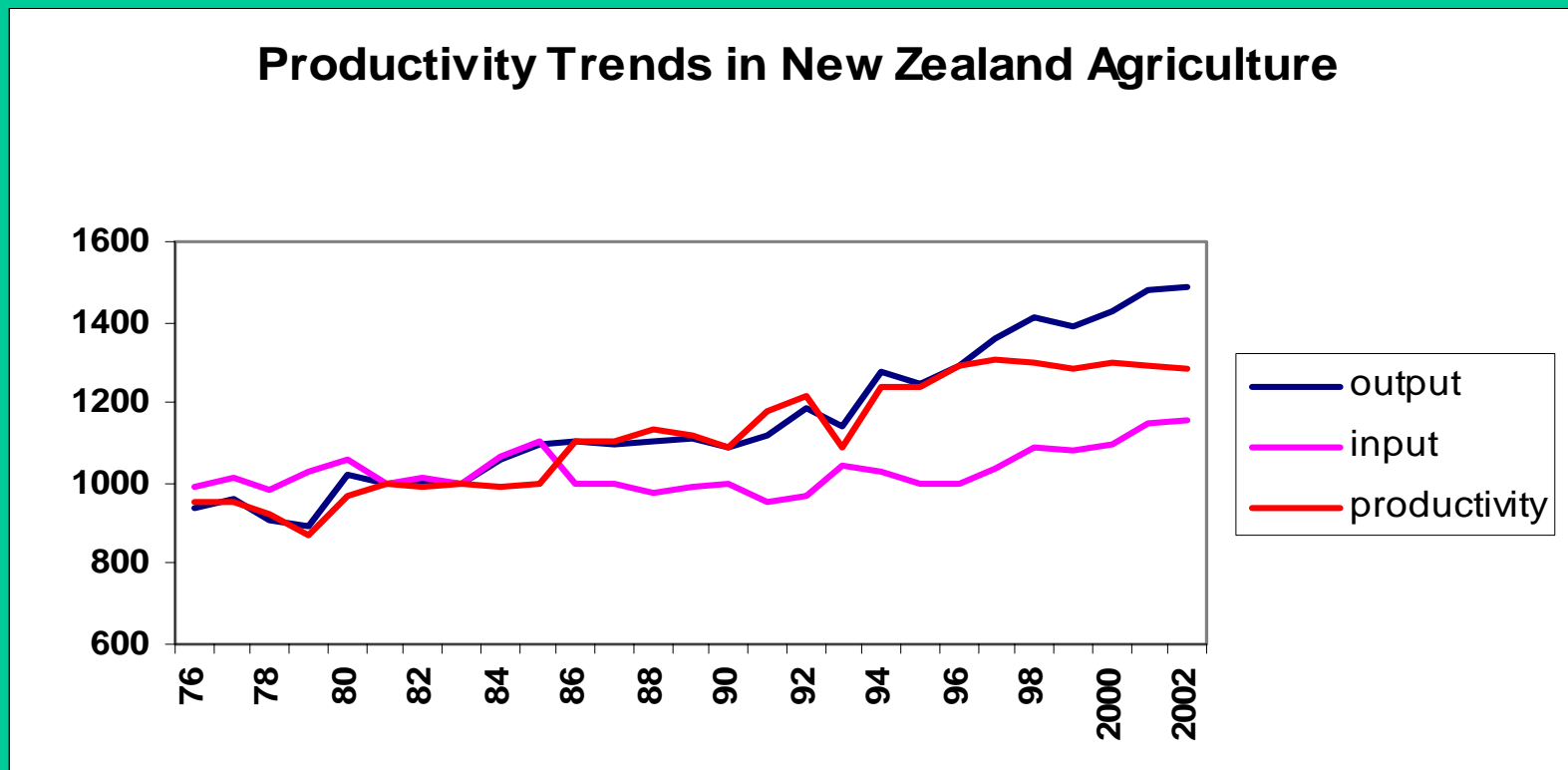
Decline in farm numbers & reduced labor inputs:

- farmer retirements & less paid employees
- big decline in young farmers – higher debt, lower equity
- in many regions farmers < 30 y.o. down by 50%

NZ productivity growth has accelerated

During the adjustment period the level of input use declined but agricultural output remained unchanged

TFP growth accelerated from 1.0% in 1976-84 to 2.0% in 1984-90 and 2.3% in 1990-97



Adjustment assistance for NZ reforms

Farmers not protected by existing social welfare benefits:

- short term transition assistance over 1986-89 period
- *Special Assistance to Farming* program
- grants equivalent to unemployment benefits – targeted at farmers in financial difficulties

Exit Grant scheme introduced in 1988 – assistance for non-viable producers to retire from farming

Debt/equity issue – rising interest rates, falling land values:

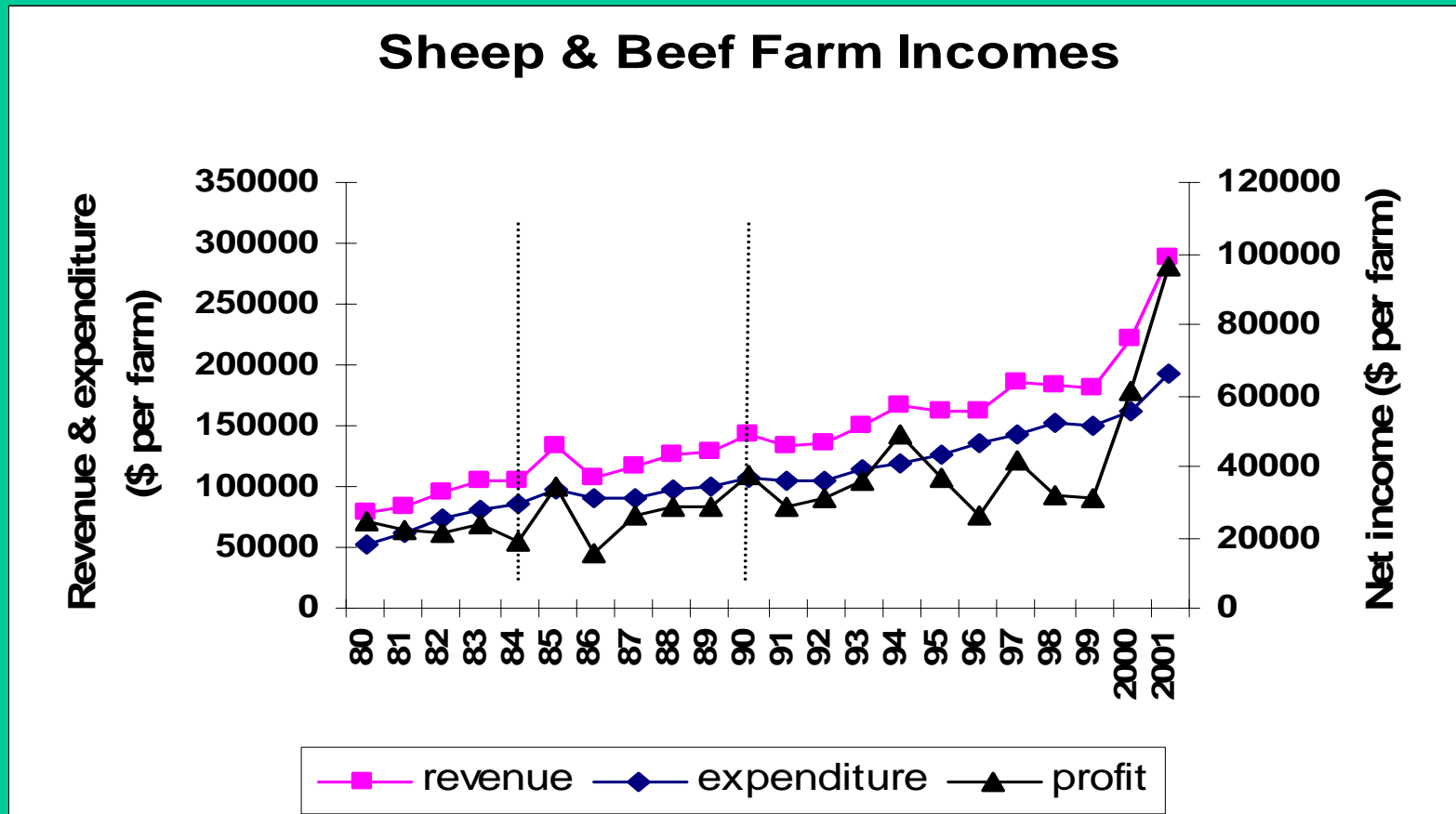
- loan discounting scheme by Govt owned bank
- 20% of farm debt written off, 5% of farms were sold

Govt funding for rural counselling services

Reforms & other factors affect farm income

Livestock incomes improve in 1st year of reforms:

- then 55% decline in 2nd year & 67% rise in 3rd year
- impact of ex rates, changes in world price & production



Concluding comments

In both cases farmers adjusted to a major policy reform:

- substantial reductions in assistance
- policy reform was quick – Australian dairy reforms occurred over-night, NZ livestock reforms over 3 years

Policy reform not painless but negative impacts on farm incomes were transitional:

- ST decoupled targeted assistance provided
- designed to facilitate adjustment
- no LT income support payments as compensation

Market forces drove producer adjustment response

- farmers aware of likely price & income effects
- market returns, ex rates affect adjustment to reforms

Concluding comments

Producers made decisions based on their future viability:

- some choose to exit the industry
- others made on-farm changes to off-set impact of reform

Australian dairy farmers adjusted by:

- increased scale of production
- improved feed inputs to raise farm productivity

New Zealand sheep & beef farmers adjusted by:

- diversification
- increased productivity & innovation
- environmental benefits from reduced chemical inputs & retirement of marginal land