

Abatement costs

An international trade and
macroeconomic perspective

August 7 2008



Starting point

- ▶ Kyoto is the correct context for understanding potential abatement costs

- ▶ Frame of reference exclusively CP2 and with regard to
 - international arrangements
 - NZ perspective
 - systemic/high level abatement costs

Kyoto has good and bad points

- ▶ Big plus: spatial location of reduction doesn't matter
 - Reduction in global abatement cost through trade

- ▶ Downside: emission source doesn't matter
 - Countries can shuffle responsibility for emissions between sectors
 - Sectoral subsidies increase distortions
 - Increased global and local abatement costs
 - Minimises **political cost** not overall cost

- ▶ **I claim downside is a major deadweight abatement cost for New Zealand** (inc.) and the rest of the world due to international trade distortion

- ▶ Second, I claim it is **THE** major abatement cost for NZ inc. due to trade distortion

Assumptions behind my claim

- ▶ The rest of the world including Annex 1 will shield sensitive sectors including agriculture from most of its emission reduction responsibility
 - and NZ does not (and ideally should not!)

- ▶ NZ exports dominated by agriculture
 - not necessary to support my first claim

- ▶ Agriculture will be a net buyer of emission reductions as will NZ inc.
 - not necessary to support my first claim

Intuition: claim 1

- ▶ In first best world (NZ)
 - Imports increase, exchange rate adjusts, export prices increase, imports decrease, small terms of trade decline
- ▶ More likely outcome (NZ)
 - Imports increase, **export returns decrease**, exchange rate adjusts, **export prices may increase**, imports decrease, larger terms of trade decline
 - Income reduced, no abatement gain, deadweight cost
- ▶ Globally: rise in protection = deadweight cost

Global deadweight costs

- ▶ Protection of sensitive sectors already costly
 - Dairy prices 10% lower than they should be
 - Meat prices 4% lower than they should be
 - Inefficient production
 - Unnecessarily high livestock emissions

- ▶ We have to admit costs to mitigate climate change (will be net beneficial) – but not deadweight costs

- ▶ These results not necessarily restricted to agriculture or NZ

Other considerations

- ▶ Potential for sectoral “preferences” could reduce buy in by developing countries (and others)
- ▶ If protected sectors are emissions inefficient then the preferential treatment will produce dead weight losses
- ▶ Reduced returns to investment in abatement technologies

Intuition: claim 2

- ▶ Observation around mitigation policies of Annex I countries and existing trade policies
 - i.e. preferential treatment to agriculture

- ▶ Resource endowments and comparative advantage matters
 - Agriculture continues to dominate NZ exports (perhaps more an assumption than intuition)

- ▶ Existing modelling work on the ETS can also supply some intuition

Claim 2: Modelling results suggest maybe

Infometrics				
	Scenario 6 Base, \$100/t	Scenario 9 Higher world price	Scenario 13 Methane abatement	Scenario 14 Nitrous abatement
GDP	-1.5%	-0.1%	-1.3%	-1.4%
Consumption	-2.2%	-1.4%	-2.0%	-2.1%
CO2 reduction	-16.4%	-15.4%	-16.4%	-16.4%

NZIER			
	ETS 2025	90% indefinite free allocation	20% agriculture abatement 10% abatement elsewhere
GDP	-2.1%	-1.2%	-1.9%
Consumption	-3.0%	-2.7%	-2.7%
CO2 reduction	-10.4%	-1.2%	-4.2%
Global CO2 reduction (kt)	52,769	52,817	55,682

► Analysis incomplete!

Implications for negotiations

- ▶ Negotiating position must be informed by a systemic global perspective and recognise potential for large distortions
 - Sector specific or micro-level abatement costs could pale in comparison to global allocative inefficiency

- ▶ NZ needs to push for sectoral agreements or mandated sectoral responsibilities, especially in agriculture where we are, *a priori*, likely to be in the cold
 - Possibly an intensity based approach could solve

- ▶ Recognising that this is a TALL order

Relative abatement potential matters

